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CRIME AND INSANITY*

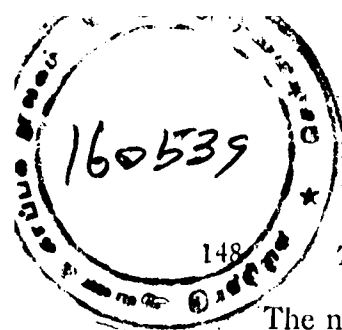
By G. R. PARASURAM, B.A., M.R.C.P.E.

Dipl. Psych. (Edin.)

Member, Royal Medico Psychological Association.

There is struggle for life both in the animal and the vegetable kingdoms. In this struggle the fittest survive. There are various ways by which this survival is effected. Every individual animal and plant maintains itself against the competition of the rest of the organic world both by offensive and defensive methods. Some animals owe their safety to their speed and agility in escaping pursuit. Some repel by their strength and formidable weapons; some have got defensive armour; some have got a bad odour; some have got an acrid taste of their body. Some escape on account of their colour. Some conceal in inaccessible haunts. Some lead a parasitic life. Some have got enormous powers of reproduction. Some have got very high intelligence. All these factors come into play in the competition for life. In addition to all these, a very successful method of supplementing their natural powers is the living in communities. Man whose natural powers are few, has come to occupy the highest position he holds, mainly because of his communal life, where specialisation of a very high order is possible. On account of this specialisation, he is able to conquer the rest of the organic world.

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The main aim of life is perpetuation of the species. With this object in view, man has developed certain instincts. It is highly necessary for the perpetuation of the species, that reproduction must go, on and on. That is the first instinct, the reproductive instinct. But for man to reproduce, it takes some time. He has to live and grow till then. That necessitates the preservation of man till the period of reproduction. There arises the self-preserved instinct. Apart from these two instincts, there arises in man, a third instinct, the social instinct the object of which also is the propagation of the species. This instinct makes the man look to the good of the community. He works in unison with the rest of mankind. He has to live in society and has to work for the benefit of the society.

He is tied to society by certain bonds, that is by inhibition, control and self-denial. He is not like the man in the desert island, who could do anything he pleases. For the benefit of the community, he has to do certain things and refrain from doing certain things. This restraint is the beginning of the conflict between the social instinct and the other two instincts. Independent action on the part of man, eventually leads to the disintegration of the race. Here arises certain "must nots." (See the Ten Commandments). Though, originally all the three instincts were meant for the same end, that is, propagation of the species, from a very early time, the social instinct of conduct was directly antagonistic to the reproductive and self-preserved instinct. The social instinct wants the other instincts to play a subordinate part. Social conduct says: "Sacrifice the individual": the self-preserved conduct says: "No." Of these instincts, the social instinct, being of

less antiquity than the others, is naturally weak. Though weak, its importance cannot be exaggerated as practically that, is the main thing which can successfully perpetuate the species. Hence, normally, the social instinct calls to its aid the self-preserved instinct; and uses it as a weapon against itself. It is this way: The tendency of man is to be anti-social on account of the influence of the self-preserved instinct. But, criminal law says: "Being anti-social, is a crime and crime should be punished." Punishment hurts the man and works against self-preservation. Man is afraid of punishment. So, the self-preserved instinct says: "Deter from crime," that is; "Don't be anti-social. It is to your own interest that you do not fight the social instinct. Conform yourself to society."

Crime consists of acts forbidden by law, that lead or tend to lead directly or indirectly to destroy or injure society. To the extent the social instinct is developed, to that extent crime is diminished. When the social instinct is of a very high order, there is no crime. Look at the example of bees and other insects, where instinctive desires are brought into complete harmony with the needs of the social state. The mothers are idle, doing nothing but producing children and taking enough nourishment. Once their business is finished, they exit. The fathers work, earn and protect, taking only their share of food. As individuals, they do not exist for themselves. They exist for the community.

Insanity and mental disorder are supposed to be identical. They are not. Insanity is much more than mental disorder. According to Mercier, it is disorder of the process of adjusting of self to surrounding circumstances, primarily manifested in disorder of conduct not necessarily of mind. There may be much disorder of

mind, not amounting to insanity. The disorder of mind may be at various levels. Only when the highest level of the mind is affected, does it constitute insanity.

In disorder of feeling, there may be elation or depression. In Agorophobia (fear of open spaces), however much the man knows it is unfounded, he cannot overcome it. Though painful and distressing, this is not insanity, because he has insight into his condition. He has the intelligence to understand (a function at a higher level) that it is unreal, and he takes measures to counteract it. So are the victims of obsessions, with certain extraordinary irresistible impulses compelling them to do certain acts, which they look upon with abhorrence. Because he has insight, he seeks for help to prevent him from acting up to that impulse.

When the highest level of mind and conduct are disordered, insanity exists and here the test is lack of insight. May be that the higher functions are not able to control the lower functions, which run riot, still that they try to correct and control, is enough to prove that the higher levels are still intact, and insanity is not present. Even with a very strong impulse to commit a crime, (he would have committed the offence left to himself), the man with obsessions, has got sufficient intelligence to report himself to the police in time, to prevent his committing the crime as he knows it is a crime.

It is not sufficiently recognised that in very many cases of insanity, disorder of conduct is the first sign and not impairment of mental function. In such cases, an act due to disorder of conduct only, is considered criminal and the man punished; and plenty of instances can be quoted, where the criminal was recognised as insane after conviction in prison, when the mental disorder had

shown itself fully. It is worth while remembering this, when examining criminals, with a view to settle the question of their sanity.

In some criminals, the act is entirely due to a morbid irresistible impulse over which the patient has no control. In true insanity, the insane person does not recognise that either mind or conduct is disordered. "He regards his feelings, judgment and acts as the normal response to his surroundings, for, in him the disorder is in the faculties of judgment and choice, and the rectifying faculties being themselves disordered, rectification is no longer possible."

There are several ways in which the highest functions of mind and conduct are disordered. Disorder of mind and conduct are usually proportionate to each other with exceptions. This disorder may invade whole mind in every department feeling, will, intellect, action, etc., even to total abolition. Or, it may be one faculty or part of a faculty only, feeling of well being only—or limited as in the field of judgment to a single delusion, leaving the judgment in other fields quite efficient.

It may also vary in depth. Only the main ends that he ought to pursue (judgment) may not be known, leaving him competent in his choice of ways and means; or it may involve his faculties so deeply that he is deprived of ordinary functions, like eating and drinking.

Its duration may vary from a few seconds to a life time. In connecting insanity to crime, all these variations have to be borne in mind. Crimes may be committed as a result of insanity, lasting only few seconds or more and he may never do it again. Crime may result from insanity widespread, affecting every faculty, or from

a single isolated delusion and it may not result from a profound distortion of intellect, feeling and desire.

But, it is in other factors when crime is committed by the insane, that we look for the origin of crime. The insanes are as likely as not to commit crimes as the sane people and they are no more exempt from punishment than sane people, unless the crime was a direct outcome of insanity. There are certain special qualities in the insane that favour the production of crime.

A very useful and simple classification of crime will be :

- (1) Crimes of acquisitiveness
- (2) Crimes of violence.
- (3) Sexual offences.

Taking mental diseases without going into a detailed classification, which is not necessary for our present purpose, we can distinguish two main groups. (1) The organic cases, in which the mental deterioration accompanies varying degrees of organic disease of the central nervous system and (2) those cases where the disorder is not due to any organic disease, but due to purely psychological causes.

In the first group we can place General paralysis of the insane, senile Dementia and Alcoholic insanity. In the second group, we can place the pure psychoses as Dementia Præcox, Paranoia and maniac depressive or the Psycho-neuroses like Hysteria and anxiety neurosis.

Mental deficiency is altogether a separate entity.

Now, we will proceed to take G.P.I., which is a pathological entity. It is a disease of the nervous system, with distinct physical and mental symptoms and due to the invasion by the Spirochaeta Pallida. It is one of the

manifestations of syphilis. The characteristic mental symptom is a progressive dementia, a failure of the higher functions of the brain in the inverse order of their evolution especially those functions concerned with the adaptation of the individual to his surroundings. A very characteristic symptom of this disease and the earliest to appear is a tendency to criminal conduct. According to the French school of Psychiatry, the initial stage is called (La Periode medico Legale). The crimes in later stages, are not common, as most of them are already in asylums.

The commonest type of crime in this disease is the acquisitive crime, carried out in a silly way. He will steal objects useless to him, in the presence of others, or he may forge cheques for huge sums of which he is not possessed. Sometimes these crimes may be committed with a mixture of skill and ineptitude. The acquisitive crimes are always committed by patients of the optimistic or exalted type.

The crime may take place long before delusions of exaltation are apparent and need not be related to the delusions, or may take place in the latter stages, when there are no delusions. Their emotional state is very unstable, and they are easily led away. They explain the motive for the crime, and the next minute give a different explanation. A man who stole a piece of bread from a shop, when asked, said he was drunk, which he was not. Further conversation led to the statement that he was a hard-working man and a T. T. Then he said he wanted to take it to the children as he was a poor man. He contradicted himself by saying he was in business and that he had a lot of money. Lastly he did not know why he stole, and it must have been a joke. This type of crime is also common in Dementia Præcox.

Crimes of violence compared to the acquisitive crimes are rare in G. P.

Homicide in G. P. may be divided into 3 groups :

(1) Those where the crime is incidental to the pursuit of an acquisitive or at least an expansive end.

(2) Those where the crime is due to an excessive reaction against external resistance or irritation.

(3) Those crimes which depend on a primary homicidal impulse.

Most cases of violence here fall under group (1). These crimes may almost even in details resemble ordinary crime committed by a sane person and the resemblance exaggerated by his subsequent conduct. But the physical examination of the patient would reveal the presence of his disease. Such crimes may also be due to excessive and out-of-place resentment and irritation. The soldier that had won all the medals in the war would necessarily attack a number of persons who are holding back his decorations. Generally the delusional resentment is short-lived. Sometimes, it may persist for a long enough time to lead to more or less well-conceived acts of violence. A patient offered as a present to his friend, who was getting married, his generative organ, which he believed to possess exceptional qualities. The friend, of course, refused to have it. Soon after this, the patient became impotent, committed a cold-blooded calculated murder on his friend in the insane belief, that the friend had substituted an inferior organ. Due to the excessive irritation caused by the snoring of a neighbouring patient, one patient killed him. In this group may be placed the cases who do violent acts under the influence of absurd suggestions. A paralytic, having heard that death by

strangulation did not occur under 9 minutes, immediately tried to test the accuracy of the statement by chocking a child. In acquisitive crimes and crimes of violence of the first two groups, the disease is of the exalted type.

The homicidal instinct is still rarer and is found in the paralytics of the depressed type only. In such cases, there will often be found an abetting factor such as alcohol or other poisons, senility or the menopause.

To complete this survey of homicide in paralytics, it is to be noted that a man, realising the onset of brain failure and consequent inability to earn a livelihood, may kill his children to save them from want, and may also kill himself—a very rare thing.

Sexual impulses persist and are even exaggerated in the early stages, and lead to crimes of lust, indecent exposure, or grave sexual assaults. But, major offences are very rare. A few of these patients might commit arson.

What are the underlying conditions determining the character of conduct in this disease? Only two kinds of crime come into play here—the common acquisitive crimes, and the rarer violent crimes. "In comparing these two types of crimes, we note that the former are always related to the optimistic form of the disease and the latter, so far as they depend on primary homicidal impulses, also suicidal acts, are related to the melancholic form. Impulses of acquisitiveness are the expression in conduct, as the delusions of exaltation are the expression in thought, of an optimistic emotional tone. Also homicidal and suicidal impulses, and hypochondriacal and persecutory delusions, are manifestations of a depressed pessimistic affective tone. Further, we have to note that, as in all other forms of insane crimes, the impulse is the

earlier and the more constant expression of the emotion, while the corresponding disorder of thought is later in appearing or may not appear at all. We also see that in the majority of cases of G.P., the prevailing emotion is one of optimism and hence, we find a preponderance of the self-acquisitive crime and a rarity of other forms of crime. It is therefore in the conditions which determine the emotional tone in the disease, that we have to look for the source of its conduct disorders, and not on the character or distribution of morbid changes in the brain, which may only determine the quality of excess of the prevailing emotion depression or elation. In normal bodily health, the sane people feel a sense of well-being and satisfaction. Their emotional tone is one of optimism. With a normal healthy physical constitution, the insane have this feeling of well-being, of optimism, exaggerated. That is exactly what we find in the majority of G.P. cases, which is typically a disease of the prime of life. In the early period, they enjoy good health and even to an advanced stage, the sexual glands exercising a potent influence on the emotions, retain their activity. Elation is the natural affective tone."

It leads to impulses, tending to crimes of self-acquisitiveness and delusions of exaltation. And conversely, clinical observation has proved, that in the depressed type there is often visceral disturbance and premature senility and consequent depression and pessimism leading to homicidal and suicidal impulses or delusions of persecution.

In senile insanity in contrast with the above, it occurs at an age of the organism when its vital energy is waning and when the general health is not all that is to be desired. We get a pessimism born of age and tiredness. Depres-

sion is the prevailing mood, and the impulses that originate here tend to homicide and suicide.

The features of senile murder vary according to the degree of disorder of intellect. In profound dementia, it may be due to a sudden impulse without any evidence of past or present delusions. In these cases, there is great confusion of thought and they leave only a vague memory of the crime. If there are delusions, their source, as well as the sudden impulse, is the same disorder of the organic functions.

Some cases may show evidence of more or less deliberation and their details may be remembered when the intellectual enfeeblement is of recent date, so that, it still allows the reflection of the morbid organic state to take shape in delusions which are rudimentary. There may also be corresponding hallucinations, especially of hearing, which abet the crime.

One form of senile murder is that associated with delusions of marital infidelity. In these cases there is always hallucination. He hears voices which tell him the miserable tales of his wife's unfaithfulness and goad him on to murder. The persistence in an exaggerated and morbid form, of sexual instinct in old age, leads to crimes of lust. Here again when it occurs early, only conduct is disordered with little enfeeblement of mind. The only evidence of a morbid condition may be a failure of self-control. Crimes other than homicidal and sexual, are of little importance in these cases.

Alcohol is a poison that produces insanity just like any other poison, whether the poison be vegetable, mineral or animal. All these produce either temporary (functional) or permanent organic disease of the brain.

The insanity produced by alcohol varies with the dose of alcohol. It may be a fatal dose and the man dies in coma. Short of this condition in which mind and conduct are abolished, it produces mental confusion and inefficient movements according to the dose. The first effect is an increase of agility and smartness with decrease of prudence. His speech and action look clever but they are inappropriate. He does a clever thing in a foolish way. On the motor side, the crude movements are exaggerated with a corresponding diminution in finer movements. Later, speech gets thick and the movements—buttoning a coat, holding a cigarette, etc., become more and more difficult. His mind gets more deeply affected and in this stage, different people display their wares in different ways, showing without doubt that the signs of insanity are only partially due to drink and that they are also due to the nature or character of the person drunk. One may be simply stupid, dazed and incapable of much feeling and appreciation and his conduct is much slow. He stares idly without attention or understanding. Another is complaining and weeping, another quarrelsome, another morose, another brags, another gets very much excited.

Depending on this nature, the crimes committed while drunk, differ in their nature also. Besides simply being drunk and disorderly, various other offences are committed.

In the crimes of the drunken insane, the patient repeats the same offence every time. The same features even up to details characterise the crime everytime it is committed. A drunken woman every time she was committed, the crime was that of stealing a bacon.

Alcoholism is insanity. But very few cases are certifiable. And so far as crime is concerned, it is a most potent contributory cause. Ordinary casual intoxication is not an important factor in grave crime. The impulses liberated in the temporary dementia of drunkenness are largely determined as regards character and direction by the state of the organic life, and since that stage is ordinarily healthy in the average drinker, the impulses are more likely to be impulses of acquisitiveness or normal sexual impulses. Of course, trivial external stimuli in these people may produce an exaggerated effect on the emotional tone and provoke a violent and aggressive reaction. Further, as in G. P. I., these people are easily amenable to absurd suggestion. It was proposed in joke, when four people were drinking, that the most intoxicated man should be hanged and hang him they did. It sometimes happens that after a theft or sexual assault, an obscure realization of possible consequences may lead to murder in an unintelligent effort to escape detention.

Pathological drunkenness develops in people who are specially susceptible to alcohol, characterised by a marked predominance of symptoms of intoxication, which depend mainly on interference with higher mental functions resembling very closely the type of disordered consciousness which develops in epilepsy. This special susceptibility may be due to hereditary influences like insanity in the family, epilepsy, head injuries, chronic alcoholism or other mental diseases. The majority of serious crimes due to alcohol are committed in a dream state of drunkenness supervening on chronic alcoholism. The characteristic form of crime is murder and that of wife or mistress with an entire absence of conscious motive and with partial or complete amnesia and fre-

quently followed by suicide. The most common and characteristic form of alcoholic crime with conscious motive is homicide relating to ideas of sexual jealousy. A steady drinker for 25 years developed attacks of delirium with tremours and hallucinations. When drunk, he became irritable and questioned his wife's chastity. After a big bout, he became restless and after a few hours stabbed his wife. Some hours later he developed delirium and was hallucinated. He talked about his wife's conduct, about his bodily condition, saying that his inside was taken out and that half his penis was cut off. Later on he gave a coherent history, but his delusions about his wife were there. The morbid beliefs of this patient in the delirium, ideas of wife's unfaithfulness, of sexual mutilation, and of visceral disorders, form a delusional triad distinctive of chronic alcoholism.

If we observe crimes in other insanities characterised by sexual jealousy, we find that alcohol is always a contributory factor. The delusions rapidly disappear in alcoholics on the cutting off of supplies. But not so in other progressive diseases. The organic disorders of chronic alcoholism tend not only to generate homicidal impulse, but also to give it a distinct colouring and direction. Homicidal jealousy, in any disease has the same organic basis, an initial phase of emotional irritability increase of sexual desire, decrease of sexual power and later, suspicions of marital misconduct. Rationalisation, delusions and hallucinations come next. In women, this jealousy more often tends to suicide. Terrible hallucinations play the essential part in crime due to delirium tremens.

We have in alcoholism a disease of the nervous system, alimentary system and sexual glands. Their

nature and distribution show a corresponding disorder of emotion and intellect. Mental symptoms result from (the special intelligence which the brain has of the disorder of the particular organ—Maudsley), from a pessimistic and malignant emotional tone with suicidal and homicidal impulses and with a specific colouring of morbid impulse and morbid thought in harmony with the special influence of the poison on the digestive and sexual glands. Mental disorders are thus "the psychic signature of the morbid bodily state—in conduct and thought."

Law does not excuse the drunkard for his offence, but in serious crimes where severe punishment comes in, intention is taken into consideration and hence, criminals of this class are not unduly punished. Some authorities considered that a first offender should receive a punishment of such severity as to make him think twice before he reduces himself to this state of incapacity.

Maniac depressive insanity consists of attacks, of maniacal excitement, or melancholic depression of varying intensity, occurring as isolated episodes in the patient's life, or in frequent recurrence or in alternation. It does not usually tend to dementia. The attacks are extreme oscillations in a permanently unstable and fluctuating temperament which is in itself the source of criminal conduct. Mania is not associated with grave criminality. Homicidal impulse is alien to exaltations, and hence, there is no murder unless it be accidental as in thwarting a maniac who only brags. Barking dogs seldom bite. When a crime is committed in a confused depressive mood, the patient when mentally clear or in excitement refused to believe in the reality of the act. A melancholic

woman put her children into the well, in her maniacal state she believed the children were alive.

In the morbid emotional state of melancholia, there is a hypochondriacal element which causes the man to commit murder. The homicidal tendency is often associated with a suicidal tendency and is an extension or transformation of the latter tendency. The destructive impulse in melancholia is not a protest as in other forms of insanity, but it is an acceptance so that "the impulse is suicido-homicidal and not homicido-suicidal." There is no vindictiveness in the melancholic homicide. He kills his wife out of misplaced pity, because he does not want her to suffer later from want or care. The source of this emotional difference may be some dissimilarity in the extent or nature of the underlying organic disorder or a larger admixture of a pure psychogenic element in melancholia. This difference is interesting in its relation to crime as indicating comparatively minor degree of anti-social significance that attaches to melancholia.

Most of what has been said above apply to the exhaustive psychosis or toxic insanity. In lactational insanity, the child is killed by the mother, who remembers nothing about it afterwards. This amnesia is probably due to the unconscious repression of the painful memory of the crime. Such repressed memory in the process of revival undergoes perversions and a pseudomemory created, in a form to exculpate the patient. A woman killed her child and had lost her memory. On revival of memory, she attributed the crime to her husband.

The explanation for the majority of crimes, especially homicidal in dementia præcox is that "very sudden impulses not explicable even to the patient interrupt the

inner connection of psychic events". This is due to the failure of functional co-ordination which isolates the will from other conscious activities. Here, conduct shows a complete lack of harmony with his emotions and thoughts. The tendency to abrupt irrelevant action which may lead to violence is characteristic of this insanity in all its stages. This morbid impulsiveness is a very early episode in the disease. One form of crime in this disease may be due to easy amenability to absurd suggestion. A man murdered the girl he was engaged to, because, he saw an example of such a case in a newspaper. Crime may be due to hallucinations in these cases as in other diseases. In some cases of murder in the early stage of the disease, crime committed in a state of marked confusion may occasionally produce amnesia. The fits in the early stages of D. P. should not be mistaken for epilepsy. Here again, when crime is committed in the early stage of the disease and the man recovers, it will be difficult to find out the true source of the crime. D. P. is the commonest type of insanity where homicidal impulses are directed against the parent. (Oedipus complex). Of course there may be other types in these cases.

The next class of insanes contributing to crime are the epileptics; not that all epileptics are insane. Invariably their crimes are crimes of violence. All epileptics are subject to lapse of consciousness. They do not know what they are doing and they have no memory of the act afterwards. In many cases, these acts are only equivalents of the convulsions. In a minority of these only are the acts criminal. There is sudden loss of consciousness, falling down, convulsions, coma, and deep sleep. Of these he remembers nothing when he awakes.

But this course of events is subject to variations. The fit may not be sudden, premonitions may occur. Patient may not note the change of his behaviour but others might. He may be moody or morose. Convulsions may not be universal or widespread or very severe. There may be only twitchings or pallor or turning of the eyes. He may not fall down. He may simply stand dazed.—*Petit-mal*.

The important period is the post-epileptic when automatic acts are done,—the period between the fit and the awakening. He retains no memory of such actions. These actions may or may not be criminal, but they are characterised by

“(1) All fits resemble one another in the way they begin and proceed, though they may differ widely in the extent to which they proceed. All major fits or minor fits or a combination of both, but differing in severity.

(2) Automatic action is more characteristic of minor epilepsy.

(3) When such action has followed one fit, the tendency is for such action to come in other fits also. This is fairly constant.

(4) Equally constant that such action is always of the same type in the same case. It has the same general character, not the same action.

(5) The action is usually the caricature of some normal action that is habitual to the criminal, normal action, but wanting in some essential element. If he has a pen in hand, he will go on writing, but forget to dip it in the ink. The woman with a needle will go on sewing without thread. The man that was walking will walk, but heedless of traffic.”

When a criminal act is alleged to have been done in the automatic stage of epilepsy, it has to be shown that the action was of a habitual character or resembles one that is habitual to the criminal. In that stage, man may pass urine—a normal habitual act, but will do it in public. A man cut a child's throat. He was subject to epileptic fits and in the automatic stage he had done acts of violence. Acting of cutting is habitual to a person though cutting of throat is not habitual to any one. The presumption was that he had done it in the post epileptic automatism. It is very difficult to find out cases of masked epilepsy. There are no fits, but at the time a fit is due, he may do some act which may be criminal of which he has no knowledge and about which he remembers nothing. In these cases the epileptic fit is transformed or modified into morbid action.

Atrocious and brutally violent crimes are committed and could be assigned to epilepsy, if there was a previous history of epilepsy. But when there is no history, such violent acts without sufficient motive or any motive are committed, it will be very difficult to prove the source of the crime. It is in these cases, that the expert should go very carefully into all the features of automatism and come to a conclusion whether the criminal act was epileptic or not. This is the kind of crime that is committed in the state of masked epilepsy. Such crimes are brutal and outrageous against persons that the criminal does not know and have no enmity done without motive.

Next in frequency the kind of insanity associated with crime is Paranoia. In this disease, “the patient believes that he is the subject of a plot to ruin him, torture him, to afflict him in various ways either bodily or mentally, a belief constantly associated with a vague mudd-

ing of thought, rendering him unfit to have clear ideas on the subject of a plot and leading him to all kinds of irrational, incoherent and inconsistent beliefs about it." The end will be a desperate deed, which will probably have little relation to the plot and may not counteract it if the plot were true. The paranoic may use violence not only against A, to whom he owes a grudge, but he may assault B, to whom he owes no grudge. Incidentally, such people use violence against persons of importance to bring their troubles to their notice. This is the class that plagues the authorities to death with complaints. They write voluminously.

In paranoia the incidence of criminality depends largely on the degree to which systematization of the delusions has taken place. The prevalence of crime in relation to this disease is much exaggerated. These people are already safe in asylums before the criminal period comes on.

A few words about mental defectives who are classified into idiots, imbeciles, feeble-minded persons and moral imbeciles.

In law an idiot is a person so defective in mind from birth or an early age as to be unable to guard himself from physical danger.

An imbecile is a person so defective in mind from birth or an early age (not amounting to idiocy) as to be incapable of managing himself or his affairs or if he is a child of being taught to do so.

A feeble-minded person is one so defective in mind from birth or an early age (not amounting to imbecility) as to require care, supervision and control for his own protection or for the protection of others or if a child

incapable of receiving proper benefit from instruction in ordinary schools.

Idiocy does not contribute much to crime for the simple reason that they are incapable of it. Feeble-minded persons do contribute. The history of such people will be that they are always soft; not up to much in school; unemployed for lack of intelligence and purpose to earn a decent living; an upbringing without opportunities to develop their capacity and not availing of the few opportunities offered. With the intellectual kink there goes a moral kink. Without a trade or anything good to offer to the public, lacking in intelligence to make work pay, deficient in self control, and with no real sense of morality, they easily take to crime of a petty nature.

Moral imbecile is a person who from an early age, display some permanent mental defect coupled with strong vicious or criminal propensities, on which punishment has little or no deterring effect. The crimes of these people are characterised by their variety, by their wantonness and unprofitableness, by the disregard for consequences, and by the absence of attempted concealment. They are as a class down right liars.

Cases of Encephalitis Lethargica with mental symptoms can conveniently be placed here.

Crime is a preponderance of self-regarding desires and action over social desire and action. It is the pursuit of self-gratification at the expense of the welfare of the society. The difference between the criminal and the law-abiding man lies in the fact, that in one self-indulgence over-powers the social instinct, in the other the social instincts take the upper hand—not the social instinct of a low order, where the man refrains from crime

for keeping the respect of our fellows, for such a man is only removed one degree from the actual criminal, who keeps away from crime for fear of going to jail, but that instinct which creates the inherent repugnance to injure others for self gain. It is the honesty that hates dishonesty, the desire to avoid injuring others in mind or body or estate, the sympathy that is pained by injury done to others, the instinctive aversion to any act that is injurious to the social fabric. Such a man withdraws from crime by internal reluctance and not by external coercion. When we succumb to self gratification and take a criminal course, it is either because our true social instinct is defective, or that we do not realise that the action we take is immoral. The first case is that of the ordinary criminal. The second stands on a different footing.

In the majority of cases, the three motives, *viz.*, the social instinct, the self-regarding instinct and the reluctance that all men have to incur the disapproval of their fellows, are sufficient to safeguard the indulgence of criminal conduct. But, this preponderance of anti-criminal motive may be opposed in various ways. It may be the desire for self-gratification and self-indulgence rises up to a pitch where it overpowers the other motives, *i.e.*, anti-criminal, or it may be that the restraining motives are so weak that they give way before self-indulgent desire of ordinary and normal strength. It is difficult to determine which of these two factors have led to criminal conduct.

It should be remembered that the sense of duty, a social instinct, is innate. Yet, in most cases, it is developed and increased by training and association in early life and that though the sense of duty and the desire to act up to

it is innate, the act dictated or forbidden by it is known by instruction and observation, not so much by innate preferences and aversions. Therefore, a person whose sense of duty has been acquired in a distorted form, might do certain acts from a sense of duty, acts which may be criminal, or if not criminal, at least not moral. A boy's training might lead him to believe that certain acts are quite moral; yet they may not be moral in the ordinary sense. Many public offences originate in this way. The law forbids an act which a person's conscience and training imperatively demand from him. In following dictates of conscience, he offends against law. Thus crime may be due to excessive strength of self-regarding desire or to a distorted sense of duty.

In insanity, there is an exaggeration of desire, desire to do things which may not be advantageous to the actor, but which he may abominate, repel and resist. Still constantly urged by some internal irrational compulsion, such impulses end in various crimes. It may be that the extraordinary desire is to steal, to poison, to kill, or to set fire. In these cases, the motive is not so much for gain as for the gratification in the doing of the act. Such a desire is sometimes morbid not only in this sense, but in the sense that it would bring no gratification to a normal man. Impulses of this kind may induce a man to commit suicide or gratify lust in some unnatural way. Insanity contributes to crime, not by increase of desire only, but also by diverting it into a criminal direction.

Secondly, crime may be due to a defect of sense of duty. Here insanity materially contributes to crime. One of the laws of insanity is that the highest developed and consequently last developed functions of the brain disappear first. The sense of duty, one of the last deve-

loped in man, disappears first in insanity. If it does not disappear, it is impaired. This loss of the sense of duty accounts for the majority of cases of crime. Sense of duty is partly innate and partly acquired through precept, exhortation and example; and if one cannot be blamed for a deficiency in the sense of duty, he cannot be blamed for a lack of sense of duty, because, such sense of duty has not been acquired, though this is not excusable in law. Hence, the question arises whether there should not be a modification in punishment in such cases also.

Crime may also arise from an abnormal development of the sense of duty, where a suicide feels he is unfit to live. His crimes are so stupendous that he, his friends, his country and mankind will suffer on account of his misdeeds, and the only way out is his death. Insanity may reduce the man to a state where the natural consequences of a crime are unforeseen and misapprehended. And idiot cut off a man's head to enjoy the fun of seeing the man's surprise when he awoke.

Recently a very interesting case was reported in which an inmate of an asylum assaulted his own doctor so that he may go to court and prove his sanity. He pleaded guilty, got a conviction and got his discharge from the asylum.

A word about criminal responsibility of insane and I am finished. Responsibility is liability to punishment. The law in India as it stands to-day is as follows: "Nothing is an offence which is done by a person who at the time of doing it by reason of unsoundness of mind is incapable of knowing the nature of the act or that he doing what is either wrong or contrary to law" Sect. 84, I. P. C.

This is practically the same as the law practised in England which originated in the answers to certain questions put by the House of Lords to a committee of His Majesty's Judges. Though these rules primarily referred to crimes by persons suffering from delusions they were in practice extended to include all forms of insanity and hence the words "by reason of unsoundness of mind."

If the law as it is to-day, is interpreted and applied in the strict sense, there will be many a man punished, who probably did not deserve it, but fortunately there is wide variation in the interpretation and application of the law.

The law mentions nothing about imperfectly developed conditions of insanity or border line cases. It is desirable in these cases, to recognise that the disease is a real handicap to the individual and that the criminal responsibility in such cases should be diminished proportionately and not altogether taken away.

It is also desirable that criminal acts done under uncontrollable irresistible impulses should be totally exempt from responsibility, even though the criminal knew the nature of the act and that what he was doing was wrong.

The French law is the most elastic. According to it there is no crime or misdemeanour when the accused was in a state of madness at the time.

Recently in one of the states of America a law has been passed where the power of declaring the question of insanity in a criminal has been taken away from the jury and handed over to a committee of experts. The jury simply gives the findings on the facts of the case.

ON THE EFFICACY OF SANOCRY SIN TREAT- MENT IN THE DIFFERENT TYPES OF PULMONARY TUBERCULOSIS.

AN ANALYSIS OF 84 CASES.

BY RAO BAHADUR M. KESAVA PAI, M.D.,
*Director, Tuberculosis Institute and Superintendent,
Tuberculosis Hospital, Madras.*

As a remedy for tuberculosis and for a number of other chronic diseases gold has been used in many of the ancient systems of medicine in India and other countries for centuries, mostly in its metallic, insoluble state, administered by mouth as a powder or as a confection in combination with other drugs. In soluble combination with Arsenic it has also been administered by modern physicians orally, but the use of the metal in organic solution by the intravenous route is of comparatively recent origin.

As a catalytic agent under the names of Triphal, Krysolgan, Aurophos, etc., it has been largely used by Continental physicians in the treatment of pulmonary tuberculosis, but the first rational application of gold therapy in pulmonary tuberculosis based on systematic research was by Moellgaard of Denmark, who about six years ago proved, by experiments on guinea pigs and later by clinical use in human subjects, that Sanocrysin had a definite therapeutic value in experimental as well as in natural tuberculosis in animals and in the pulmonary disease in human beings.

Moellgaard¹ considered that Sanocrysin which had no effect on a healthy animal in moderate doses but

produced reactions with improvement and recovery in tuberculous animals, acted by its chemical effect on the bacilli in the infected foci, directly killing them, splitting them up and liberating their toxins which secondarily produced an anti-bacterial effect by the usual immunizing response of the system as in tuberculin therapy. Moellgaard's hypothesis of the action of Sanocrysin seems to have been supported by the observation that the so-called 'Sanocrysin Shock' could be prevented by the initial or simultaneous administration of an anti-tuberculous serum prepared by the immunization of horses with defatted tubercle antigen or obtained from calves naturally or artificially infected with tuberculosis. In fact, Moellgaard considered that Sanocrysin shock was practically identical with 'Tuberculin Shock' and not a metallic poisoning. Madsen and Morch and some others seem to agree with Moellgaard in the above view.

Le Blanc,² Jessen³ and others do not however agree with Moellgaard and consider that Sanocrysin exerts a purely chemical action on the tissues including the tuberculous foci and that the antibacterial and anti-toxic action is quite secondary.

The chemo-therapeutic nature of the action of Sanocrysin has been questioned by others. It was found by later workers that smaller doses of Sanocrysin than those advocated by Moellgaard could be used with equally beneficial results. The severe reactions and risks of Moellgaard's method could moreover be avoided by the smaller dosage spread over a longer time. Begtrup-Hansen⁴, the advocate of the smaller doses, considers that the action of Sanocrysin is a biological one, resulting from the splitting up of tissue proteins and bacilli in the tuberculous foci; which indirectly promotes phagocytosis

and anti-bacterial immunity. According to this hypothesis it was necessary to spread the treatment over long periods of time to allow the system to develop an anti-bacterial immunity of the type similar to that obtained by vaccine treatment.

A good deal of experimental work has been done in Denmark and in other countries on the part played by Sanocrysin in the prevention and cure of tuberculosis. Cummins and Acland⁵, by experimenting on rabbits showed that the milder the infection the better the results of Sanocrysin therapy. Cummins considers that Sanocrysin shock is a sign of metallic poisoning and that where cautious dosage is employed, shock could be effectively prevented.

The consensus of clinical opinion is now in favour of smaller and more cautious dosage spread over large periods of time irrespective of the total quantity of Sanocrysin administered. The Danish workers gave Sanocrysin in doses of 25 to 100 cgr. at short intervals, a total of 6 gramme being administered in a few weeks. Workers in other parts of the world now employ doses of 10 cgr. or less slowly increased to about 50 cgr. at long intervals and have thereby not only prevented shock but obtained more consistently favourable results.

In South India Frimodt Moller⁶ working at the Arogyavaram Sanatorium has used Sanocrysin in the smaller doses with good results. Of 80 cases treated by him up to 1927, 48 or 60% benefited, but if only such patients as had a fairly complete course were reckoned the percentage of improvement was 66.

In the Madras Tuberculosis Hospital we have always begun with about 10 cgr. and carried the doses up to about 0.6 gramme, rarely exceeding this quantity as a

maximum. The total quantity injected into one patient has varied from 1 to 8.50 gramme the average case getting about 5 gramme. The intervals between the doses varied from one to two weeks depending upon the presence or absence of reactions.

Choice of cases for Treatment.—It is now generally thought that Sanocrysin is of greater value in the earlier exudative cases than in the later proliferative. This appears natural, since the chemical action of the drug will be more evident where the tuberculous foci are not shut off from the circulation by fibrous tissue. Frimodt-Moller considers that whilst the early exudative cases of not more than six months' duration give better results, the later proliferative cases accompanied by fresh exudative affection are also favourably affected.

During 14 months ending 31st July 1928, 84 cases have been treated with Sanocrysin at the Madras Tuberculosis Hospital of which 49 were of the exudative type and 35 of the fibro-caseous type, *i.e.*, cases where a certain amount of exudative change supervened on a fibrosing process. Most of the cases were in stage III with cavities, 13 cases only being in stage II and 71 in stage III. No special selection was made on the basis that Sanocrysin was of benefit in the pure exudative type of pulmonary tuberculosis. The results obtained are therefore of special interest (*vide* Tables I and II). Of the total number of 84 cases, 26 have been excluded in table 2, as these cases had either very little Sanocrysin given them, *i.e.*, less than 0.5 gramme altogether or were treated for less than one month a period too short to enable a decision to be arrived at regarding the efficacy or otherwise of Sanocrysin treatment. As a matter of fact most of these 26 excluded cases had just 2 or 3 of the initial doses

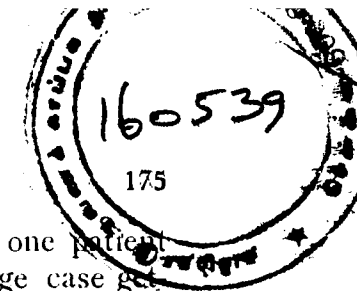


TABLE I.

	Exudative cases.					Fibro-caseous cases.				
	Total treated.	Arrested.	Much Improved.	Improved.	No benefit.	Total treated.	Arrested.	Much Improved.	Improved.	No benefit.
Stage II	12	7	3	2	...	1	1	...	...	...
Stage III	37	7	1	6	23	34	11	3	8	12
Total stages II & III.	49	14	4	8	23	35	12	3	8	12
		29%	8%	16%			34%	9%	23%	
			53% benefited.					66% benefited.		

TABLE II.

Excludes cases treated for less than one month and with less than 50 cgr. total quantity of Sanocrysin.

	Exudative.					Fibro-caseous.				
	Total.	Arrested.	Much Improved.	Improved.	No benefit.	Total.	Arrested.	Much Improved.	Improved.	No benefit.
Stage II	12	7	3	2	...	1	1	...	...	...
Stage III	19	7	1	5	6	26	11	3	8	4
Total stages II & III.	31	14	4	7	6	27	12	3	8	4
		45%	13%	23%			44%	11%	30%	
			81% benefited.					85% benefited.		

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of 5 to 20 cgr. and could not with fairness be included in the series. The period of treatment varied as a rule from 3 to 14 months though a few cases treated for 6 to 12 weeks have been included.

It will be observed from table II that whilst 58% of the cases in stage II became arrested and every case in that stage was benefited, 40% only of stage III cases were arrested and 78% benefited. Again whilst 81% of the exudative cases were benefited and 45% arrested, 85% of the fibro-caseous cases were favourably influenced and 44% arrested. These results definitely point to the fact that there is not any appreciable difference in the results obtained from Sanocrysin therapy in the two main types of the subacute form of pulmonary tuberculosis, *viz.*, the exudative and the fibro-caseous. They are in agreement with those obtained by Frimodt-Møller at Arogyavaram, but contrary to what is usually held by workers in some parts of Europe. At any rate there is nothing in them to show that one type of cases is far more amenable to Sanocrysin than the other. In the absence of other contra-indications therefore, every active case ought to be given the benefit of Sanocrysin therapy, especially where artificial pneumothorax is inapplicable as in bilateral implication.

The Effect of Sanocrysin on Tubercle Bacilli in the Sputum.—Of the 58 cases in table II 53 had tubercle bacilli in the sputum and of these 22 became T. B. negative after the treatment, *i.e.*, 41%. It must be mentioned that 8 of these 22 cases had artificial pneumothorax treatment as well and the disappearance of bacilli was most likely due to the collapse therapy. In any case 14 out of 45 cases lost their bacilli by Sanocrysin treatment alone, *i.e.*, 31%.

The Effect of Sanocrysin on cases of different degrees of Toxicity.—When judging the effects of Sanocrysin on cases with different degrees of constitutional disturbance, the maximum daily temperature before the commencement of treatment has been taken into consideration. The cases have been classified into those whose maximum never exceeded 100° F (Class 1), those whose daily maximum varied between 100° F and 101° F (Class 2) and those whose daily maximum was over 101° F (Class 3).—Of the 58 cases treated 23 belonged to class 1, 16 to class 2 and 19 to class 3. It will be seen from table III that under the three headings 70%, 56% and 42% cases respectively obtained remarkable benefit, *i.e.*, were either arrested or very greatly improved. It is therefore evident that Sanocrysin has a better effect in the milder and less toxic cases.

TABLE III.

	Arrested or much improved.	Improved.	No effect.
CLASS I—Maximum daily temperature below 100° F	16 70%	2	5
CLASS II—Maximum daily temperature between 100° F & 101° F	9 56%	5	2
CLASS III—Maximum daily temperature above 101° F	8 42%	6	5

Sixteen out of these 58 cases were under artificial pneumothorax treatment, so that excluding these cases which probably benefited by the collapse therapy and not by Sanocrysin. Table IV gives the results for Sanocrysin Treatment by itself.

TABLE IV.

	Arrested or much improved.	Improved.	No effect.
Class I—Max. below 100° F	11 65%	1	5
Class II—Max. between 100° F & 101° F.	6 55%	3	2
Class III—Max. above 101° F	5 36%	4	5

It will be seen that whilst 65% cases had remarkable benefit in the mild types and 55% in the moderately toxic types, 36% only had similar benefit in the more toxic types. The highly febrile cases of pulmonary tuberculosis are evidently less benefited by Sanocrysin than the milder cases.

The Effect on Body weight in Sanocrysin Treatment.—As in artificial pneumothorax treatment it has been noticed that there is a temporary fall of weight in Sanocrysin treatment in the earlier stages of the course of injections. As the patient's condition improves the weight again begins to increase. Nine of the cases in the series lost weight in spite of more or less improvement by the treatment.

The Accidents and Complications of Sanocrysin Therapy.—As in Tuberculin treatment, the early days of Sanocrysin therapy witnessed a number of accidents including the so-called 'Sanocrysin Shock' or 'Tuberculin Shock'. Such accidents are now known to have been due to excessive dosage and have been successfully avoided by the employment of smaller doses at longer intervals. The anti-tuberculous serum of Moellgaard has in fact not been used in any cases of my series. As will be seen in Table V the usual complications were observed. Fever followed the injection in 39 cases,

being high and attended with rigor in 4 cases. As a rule it subsided by the evening of the day of injection. Albuminuria occurred in 8 cases being severe and persistent in 3, necessitating the stoppage of Sanocrysin treatment. Vomiting was observed in 7 cases and occurred soon after the injection. Haemoptysis as a direct result of the Sanocrysin was seen in 5 cases only, though a much larger number had it in the usual course but not directly due to Sanocrysin. Enteritis was fairly common and a number of vague symptoms like giddiness, throat pain, joint pains, chest pains, etc., were observed in a few cases. Stomatitis of a rather persistent type with ulceration especially below the tongue at the fraenum resulted in 3 cases and there were 2 cases of pigmentative dermatitis, one of which was general, all over the body, and the other over the dorsum of both the feet.

TABLE V.

Complications of Sanocrysin Therapy in 84 Cases.

Complications.	No. of cases.	Remarks.
Fever	39	High with rigor in 4.
Albuminuria	8	3 severe and persistent.
Vomiting	7	
Enteritis	6	Blood passed in 2 cases.
Haemoptysis	5	Not severe.
Stomatitis	3	
Dermatitis	2	
Throat pain	1	
Cough	1	
Giddiness	1	
Joint pain	1	
Chest pain	1	
Gastric pain	1	

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THE TUNING FORK TESTS FOR HEARING

BY P. V. CHERIAN, F.R.C.S.E.

*Ear, Nose and Throat Surgeon, General Hospital,
Madras.*

The tuning fork tests are very important in Otology as aids to diagnosis. They help us to find out the degree of deafness and more important than that to localise the pathological changes causing deafness. They enable us also to determine whether the cause of impaired hearing is in the sound conducting or in the sound perceiving apparatus, *i.e.*, the middle ear or the Internal Ear. These tests are still more important in that, they alone can help us to determine accurately the result of treatment. In making use of the tuning fork tests we must examine the power of perception for the waves of sound passing from the air to the Tympanic Membrane as well as its perception through the cranial bones. The tuning fork generally used for the purpose is, one with 256 vibrations per second. It should ordinarily be provided with a flattened disc shaped end to enable it to be closely applied to the Mastoid region.

The three most important Tuning Fork tests are

1. Weber
2. Rinne
- and 3. Schwabach.

We shall now examine these tests assuming that the deafness is unilateral.

Weber. When a vibrating tuning fork is placed on the ver-tex, part of the sound goes directly to

the Labyrinth or Internal ear. This is known as Direct bone conduction. Another part goes to the middle ear or tympanic cavity. This is known as Indirect bone conduction. From this indirect bone conduction part of the sound goes to the Labyrinth inwards and the other part is reflected outwards. If the external auditory meatus on one side is closed with the finger, part of the sound instead of being reflected outwards is directed inwards and the sound is consequently heard better on that side. The same phenomenon happens with wax in the ear and all diseases of the external and middle ear including perforations of the drum. This is because the waves of sound are transmitted outwards through molecular movements of the ossicles and tympanic membranes and any interference with these movements results in increased hearing by bone conduction on the side, affected. When the tuning fork is heard better on one side by this test we say Weber is lateralised to that side. When Weber is lateralised to the affected side it is a sign of external or middle ear disease especially the latter.

The result is different with Internal Ear disease. Here when the vibrating Tuning Fork is placed on the skull the waves of direct bone conduction go straight to the Internal ear but as this, the sound perceiving apparatus, is diseased all the sound waves are not perceived. The same also applies to the part of sound waves reflected inwards from Indirect bone conduction. The normal side therefore gets more impressions of the sound waves. So here Weber will be lateralised to the sound side. Weber lateralised to the sound side is an indication of Internal Ear disease.

Rinne. This is a comparative test for air and bone conduction. When the vibrating tuning fork is held in

front of the ear-testing air conduction the sound waves go direct to the labyrinth or Internal ear. When it is placed on the Mastoid-testing bone conduction we have both direct and indirect bone conduction, as mentioned above in connection with the Weber test. We have seen before that part of the sound in this is reflected outwards and is therefore lost. So normally in this test air conduction is greater than bone conduction. This is known as Positive Rinne—(+R) *i.e.*, Normal Positive Rinne. Now if there is wax in the ear or the ear is closed or if the middle ear is diseased air conduction will be diminished because there is obstruction to it and bone conduction will be increased because part of the sound that is normally reflected outwards does not go out but goes inwards. This is called Negative Rinne (—R). Rinne negative's pathological. In diseases of the internal ear we get quite a different result. With the tuning fork in front of the ear all the waves are not perceived by the internal ear, as it is diseased. And when the fork is placed on the mastoid also there is diminished perception both for direct and indirect bone conduction. So in Internal Ear disease there is diminution both of air conduction and bone conduction. But all the same air conduction is longer than bone conduction, *i.e.*, this is a pathological positive Rinne. In a pathological positive Rinne the normal relation between air conduction and bone conduction is maintained.

To summarise in positive Rinne we can get the following

1. Air conduction longer than bone conduction= Normal Positive Rinne.
2. Air conduction and bone conduction are both diminished but air conduction is greater than bone

conduction the extent of difference between the two being as in the normal positive Rinne. This may be called a short positive Rinne and is found in mild affections of the internal Ear.

3. Both air conduction and bone conduction are diminished with difference longer than the normal positive Rinne. This may be called a long positive Rinne and is seen in cases of advanced disease of the external Ear.

4. There is yet another possibility where air conduction is normal and bone conduction is absent. This is called infinite positive Rinne and is seen only in hysterical patients.

In Negative Rinne we can get the following

1. Bone conduction increased and air conduction diminished but with very little difference between the two. This a short negative Rinne and is seen in mild affections of the middle ear.

2. Bone conduction increased and air conduction diminished with a much longer difference than above. This a long negative Rinne and is a sign of advanced middle ear disease.

3. Another condition we can imagine here is where bone conduction is present and air conduction is absent. This is Infinite negative Rinne and shows total unilateral deafness. Here on examination the bone conduction is really perceived by the opposite sound ear and the patient thinks he hears with the bad ear on account of wrong localisation.

4. Lastly here we may get a case where Bone conduction is increased and air conduction is diminished. But here both air conduction and bone conduction are

equal. This is known as ± 0 Rinne and is seen in some cases of combined middle and internal Ear deafness.

Schwabach.—This is a test based on the comparison of the bone conduction of the surgeon and the patient. The surgeon hears the tuning fork for the normal length of time on his skull *i.e.*, he has normal direct and indirect bone conduction. Now if a patient has wax in the ear or middle ear disease he will hear the tuning fork longer than the surgeon on his skull as has been shown before. So we say here that Schwabach is lengthened. Lengthened Schwabach is a sign of Middle Ear disease. If on the other hand the tuning fork is placed on the head of a patient with Internal Ear deafness—where the sound perceiving apparatus is not normal—he will hear it only for a shorter time than the surgeon. Here we say that Schwabach is shortened. Schwabach shortened is a sign of Internal Ear deafness.

Apart from the above three tests we can also test the patient's power of hearing high and low tone tuning forks. The low tones have very weak power of penetration and are long drawn out. Therefore for the brain, to perceive them they require a transmission apparatus which is provided by the tympanic membrane and the ossicles. Therefore in middle ear disease the patient will not be able to hear the low tone tuning fork. So we say that in middle ear deafness the lower tone limit is raised.

The higher tones have small elongations and great power of penetration. These are normally perceived and do not need the tympanic membrane and ossicles so much as the lower tones to transmit them, *i.e.*, they are easily perceived by the Internal Ear. So if the Internal Ear is diseased the power of perceiving high tones is

relatively bad compared to the low tones. Here we say that the upper tone limit is lowered.

To conclude let us take the left ear.

In middle ear disease here—

Weber is lateralised to the left

Rinne is negative

Schwabach is lengthened

Lower tone limit is raised

Upper tones are good

In Internal ear disease

Weber is lateralised to right

Rinne is positive

Schwabach is shortened

Lower tones good

Upper tone limit is lowered

In total deafness of the left side

Weber is lateralised to right

Rinne is infinite negative

Schwabach is shortened

Lower tones gone

Upper tones gone

MEMORANDA.

CASE OF CONGENITAL ABSENCE OF CERVICAL CANAL, WITH TUBAL AND UTERINE INFECTION.

A married Kavara (low Caste) woman aged about 20 years, resident of Palghat, was admitted into the hospital on 18th August, 1928, for unbearable pain in the pelvis.

On examination of the vagina by speculum it was found that there was no evidence of the existence of a uterus. Vagina itself was capacious and loose. Its dome had no trace of an opening leading to the uterine cavity. On the left upper corner there were two small folds of mucous membrane which hid no opening. In other respects it was normal. There was no discharge from the urethra and it appeared normal.

On bi-manual examination a small central pelvic tumour was detected. It was fairly freely moveable but very tender on pressure.

The general appearance of the patient was one of anxiety and pain. She was bent forwards and could scarcely walk.

The general development of this patient is almost normal except for her pubic hair and breasts which do not show the development proportionate to her age and condition of life.

On enquiring into the family history it was ascertained that she has an elder sister 25 years old with 3 children, and one younger 18 years old married 9

months ago. The latter has normal development and regular monthly periods. She has also two brothers younger to her.

Five years ago she was married. She lived with her first husband for a couple of months. He divorced her for reasons which the patient is not prepared to divulge. She was again married to a second husband four years ago with whom she is still living.

According to the patient once she noticed stains of blood on her cloth during the time she lived with her first husband, and this, she believes, was her first period. She saw once or twice similar stains during the last four years. But she is definite that she had never even for once the same sort of periods as other normal women have.

From the time she was first married she had been having pains in the pelvic region but it was not of a serious nature. It is only for the past two or three months she was unable to do any work.

It is rather difficult to get any definite history of gonorrhœa from the patient but I am led to think that she had it from her first husband from the scrappy statements I am able to elicit from her.

Operation was done on 20th. August, 1928. On opening the abdomen an enlarged, angry-looking, hyperæmic uterus—the size of a fairly big-sized mango—was seen. The right tube was very much thickened and it was adherent posteriorly to the uterus and the fimbriated extremity to the colon. The left tube was normal. Both ovaries appeared to be of normal size. The left had a small cyst.

Hysterectomy was performed with the complete removal of the right tube. The uterus had a closed and

dilated cavity containing about half an ounce of pus. The walls of the uterus were very thick and injected. There was no cervix or cervical canal. The lower end of the uterine cavity was conical in shape and perfectly closed round with muscle. There was absolutely no evidence of an existing canal being occluded. The muscle fibres of the lower pole of the uterus spread out and rested on the dome of the vagina. The anterior fibres were scanty and the posterior in fair quantity. The thickness of the so-called cervical portion was about the size of a pencil.

The patient is quite free from pain and is progressing well.

The interesting point in this case is that infection of a tube and the uterus itself has taken place by an uncommon route in the absence of a cervix and cervical canal. Though no bacteriological examination has been made the infection appears to me to be of gonococcal origin.

A. N. VERGHESE,
Assistant Surgeon, Palghat.

A RARE CASE OF SPONTANEOUS RUPTURE OF LUNG.

The patient was a young man of 19 years, admitted with a history of fever and cough for the last 10 months and occasional slight haemoptysis four months back. He used to have frequent night sweats and dyspnoea. His sleep was always a disturbed one. Five days prior to admission he complained of severe pain in the region of his stomach. He soon observed a swelling all round the

neck. He then had a pricking sensation in the throat and could not swallow either solids or fluids.

Condition on Admission.—The patient was much emaciated. He had extensive subcutaneous emphysema all over the front and back of the chest wall extending upwards around the neck up to the mastoid process on either side and downwards to the upper half of the abdominal wall. It was also present as far as the right wrist and the left elbow. There was an anxious expression in his face. The dyspnoea was well marked. Deglutition was almost impossible. He complained of a choking and burning sensation in his throat. His pulse was thready, rapid and weak, about 120 a minute. He had subnormal temperature.

On percussion both sides of the chest were tympanic more so on the left side and the area of cardiac dulness was completely obscured. Auscultation revealed emphysematous crackling all over the front and back of the chest with a few moist rales, and very weak breath sounds on either side.

The skiagram of the chest showed extensive mottling on both sides of the chest. No signs of pneumothorax were evident. The heart was normal and in position. Diaphragm normal on both sides.

An attempt was made to deflate the pleura by puncture. The left pleural sac gave a negative pressure of —14. -8 and the right showed only a slight oscillation probably due to pleural adhesions.

Rectal feeding, glucose and saline per rectum and cardiac stimulants were given.

The patient died of cardiac failure 5 days after admission.

Comment.—The peculiarity of the case lies in the fact that the rupture of the lung had taken place most likely near the root of the left lung under cover of the visceral layer of the mediastinal pleura and burrowed its way along the sub-pleural cellular tissue, along the mediastinum and upwards along the Oesophagus and trachea and the big vessels of the neck and from there along the deep layer of the cervical fascia to the axillary fascia and the upper extremity. The site of the rupture is an unusual one as in the large majority of cases the rupture usually takes place over the surface of the lung resulting in pneumothorax and collapse of the lung.

K. S. VEDACHALAM,
House Physician, Tuberculosis Hospital,
Royapettah.

ABSTRACTS FROM JOURNALS.

Post Operative Massive Collapse.

BY C. R. BOLAND, M.D., AND J. E. SHERET, M.B.

Lancet, July 21st, 1928, p. 111.

A certain percentage of abdominal operations are followed by pulmonary complications especially in males and in upper abdominal surgery. It is not a pneumonic collapse, but is a non-inflammatory collapse varying in degree from lobular to lobar or involving a whole lung. Cardiac displacement is sometimes seen in these cases. The condition is presumably due to bronchial obstruction followed by absorption of alveolar air into the blood stream. The obstruction may be either in the bronchi or in the bronchioles and may be the result of catarrh and of inhibition of the cough reflex due to the anæsthetic. Mortality from massive collapse is low, as pneumonia is a rare complication. The treatment of the condition is symptomatic. The plug of mucus or other obstruction should be got rid of by postural treatment. Morphia and sedatives should be avoided and the aeration of the lung should be facilitated by breathing exercises.

— M. K. P.

The Treatment of Haemoptysis in Pulmonary Tuberculosis.

BY CLIVE RIVIERE.

Tubercle, August 1928, p. 509.

Haemoptysis in pulmonary tuberculosis may be due to diapedesis, capillary oozing from congested tissue,

ABSTRACTS FROM JOURNALS.

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erosion of arterioles or blood vessels or rupture of aneurysmal dilatations. Focal reactions, tuberculin reactions, drugs like arsenic, creasote, iodides, etc., are contributory causes, as also violent efforts, though the majority of cases occur when the patient is at rest. Why some patients bleed time after time and others never in spite of a rapid breakdown of lung tissue is difficult to explain. Possibly as Cornet and others have considered, secondary organisms like spirochaetes play a part in its production.

Regarding treatment, morphine should not be used indiscriminately as it tends to aspiration pneumonia. Codeine, Heroin, Dionin, etc., are better. An ice bag over the heart or bleeding focus is recommended by some, the action being probably reflex. Eating of ice may dilate pulmonary vessels and should be discouraged. Deprivation of blood by hot foot baths, sinapisms, binding the limbs, abdominal cupping, etc., are useful but art very often gets credit for what nature herself accomplishes.

Vaso constrictors like Ergot, Pituitrin, etc., are of doubtful value as they increase blood pressure especially in the pulmonary circulation. Vaso dilators may lessen blood pressure but keep the pulmonary vessels dilated. Hence they are not advisable. Avoidance of excitement and of stimulants is quite essential.

Auto transfusion, the injection of hypertonic saline, Haemoplastin and a number of other coagulants given by injection or by mouth are considered to be helpful, but their value is at best doubtful. The injection of Calcium chloride intravenously has been widely practised but with no better results. The administration of haematinics like alum, lead acetate, gallic acid, perchloride of

iron, etc., is equally futile. Pneumothorax and phrenic evulsion do undoubtedly help mechanically in arresting haemorrhage. Rest in bed, mental assurance, avoidance of cough, and sedatives must remain our rational methods of arresting haemoptysis. Everything done and said, nature does far more in arresting pulmonary haemorrhage than the doctor.

— — —
M. K. P.

Causes of the Decline in Tuberculosis Mortality.

BY SIR ROBERT PHILIP AND OTHERS.

Public Health, August, 1928, p. 336.

Sir Robert Philip, Dr. W. M. Willoughby, Dr. E. L. Collis and Major Greenwood addressed the Society of Medical Officers of Health at Bath on 20th April, 1928, on this important subject. Sir Robert Philip began by giving the history of the discovery of the B. Tuberculosis as the causative organism of tuberculosis by Koch in 1882, though Villemin had, during the sixties demonstrated the infectious nature of the disease. The importance of this discovery and of the detection of the early signs of the disease led to the establishment in 1887 of the Tuberculosis dispensary, whose function was not only to diagnose early Tuberculosis but to detect early disease in contacts by domiciliary visitation. The importance of early detection, detubercularization, increase of systematic methods of treatment were recognized in due course. This led to the organization of public health and tuberculosis services.

The decline of mortality from tuberculosis during the 50 years commencing from 1870 has been on an accelerating scale, every succeeding decade showing a

higher rate of decline, quite in excess of the decline of mortality from other diseases. In Scotland for instance the decline in tuberculosis mortality in the decennium 1911-21 was 31 % as against 7 % for the death rate from all causes. This decline has not been uniform in all countries and has varied directly with the anti-tuberculosis activities of these countries. In Europe, Denmark, and in America, the United States, have reaped the benefit of their anti-tuberculosis work. Denmark has the smallest tuberculosis mortality of all European countries. Another interesting fact is that though urban mortality from tuberculosis is higher than rural, the adoption of measures in towns is now tending to lower urban mortality more than rural. It must however be admitted that there are several contributory causes to the decline, including improvement of general sanitation, education, housing and working conditions, wages, working hours, etc., and of industrial conditions generally. The National Health Insurance Act, medical examination of school children, maternity and child welfare movements, general organization of health services, the recognition of the part played by fresh air and sunlight by the establishment of Sanatoria, the elimination of bovine infection by veterinary inspection of dairies, have each and all played their part in the decline of mortality from tuberculosis in the human subject.

Dr. Willoughby considered that the fall in tuberculosis mortality was greatly due to the resistance to tuberculosis developed in the nation during centuries of infection.

Professor Collis laid particular stress on nutrition and wages and on the nature of the occupations in phthisis mortality. Tailors and boot-makers show a

higher mortality from tuberculosis than the general population; the influence of silica dust in the production of the disease is marked; and specific dust damage is responsible for a considerable proportion of middle age phthisis in working people, especially between 45 and 55 years. Factory Acts which curtail the hours of work and regulate other conditions have decreased this mortality during the last 50 years. Lessened disease incidence means lessened infection, which is of great significance in the case of an infectious disease like Tuberculosis. Open cases should as far as possible be segregated in hospitals and Sanatoria.

Major Greenwood considered that nutrition was the basis of tuberculosis incidence. Statistics, he said cannot prove that anti-tuberculosis measures have been the main cause of decline in tuberculosis mortality. As was proved during the war the food supply has a direct bearing on tuberculosis mortality and better wages with better quality of food has been responsible for the lessening of the mortality from consumption during recent times.

M. K. P.

I. Cosmetic Colouring of Cornea.

BY S. R. GIFFORD AND A. STEINBERG.

In American Journal of Ophthalmology, April 1927.

The authors discuss their experimental work on rabbits' eyes and their subsequent trials on human eyes to colour leucomata of the Cornea for Cosmetic purposes with a solution of gold Chloride. The method is easy of application even in the hands of general practitioners and gives satisfactory results with very little or no reaction in

the eye. Solutions of gold Chloride in distilled water have been used in strengths varying from 2 to 4 and even 5%. To minimise the subsequent reaction, the solution has to be neutralised before use, so that it remains only faintly acid; the addition of 2 or 3 drops of N/2 NaOH Solution to 10 c.c. of the gold Chloride solution will be sufficient for this purpose. The solution need not be sterilised as a 1% solution inhibits the growth of ordinary bacteria.

The eye is anaesthetised with cocaine, and the area to be coloured is outlined very superficially with a knife and the epithelium is curetted off. An applicator or swab of sufficient size is dipped in the solution and allowed to remain in contact with the prepared surface on the Cornea for a period of 4 minutes. Overflowing of the solution on to the surrounding area is to be prevented by taking only a sufficient quantity of the solution on the swab, if the swab has dried, it should again be moistened and laid on the Corneal surface for the required period of time. Then 5 to 10 drops of adrenalin solution (1 in 1000) are dropped on the Cornea. The scar becomes faint brown in colour immediately and in 24 hours assumes a black or dark colour. Knapp uses a 1% solution of tamin instead of the adrenalin. For Corneal scars over a light brown or blue Iris, a 2% solution of gold Chloride is used for 4 minutes, and for dense scars, 4% or even 5% solution for 4 minutes. The eye has to be kept clean and bandaged up daily till the Corneal epithelium has reformed.

K. K. N.

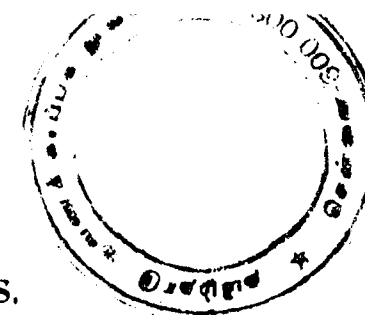
II. *Milk Injections in Gonorrhoeal Ophthalmia.*

BY IRVING I. MUSKAT.

In American Journal of Ophthalmology, July 1928.

The author gives a review of the rationale, dosage, etc., of parenteral injections of milk, with the object of producing a protein reaction in the patient and states that milk has been proved to be "the most efficacious and practical among all the non-specific proteins". It has been used largely in the treatment of gonorrhoeal ophthalmia by various workers. The author uses milk, which has been boiled for four minutes, in "ten to twenty c.c. doses injected intragluteally on successive or alternate days, depending on the reaction of the patient". "The number of injections and the amount of milk injected depends upon the age of the patient, the urgency of the case, and the severity of the reactions produced". Very few cases of anaphylactic shock have been recorded. The contra-indications for the therapeutic use of milk injections are said to be myocardial involvement, alcoholism, pregnancy, and diabetes. In Scrofulous children there may be a protracted fever for some weeks. As seen in smears and scrapings from bulbar conjunctiva, it has been noticed that the gonococci are destroyed in about 36 to 72 hours. The general reaction noticed after the injections is a rise of temperature and a chill followed by sweating. A marked leucocytosis is produced. The local reaction is a short negative phase followed by a long protracted phase during which the tissues return to the normal condition. There is a reduction of the pain in the eyes, rapid decrease of the chemosis, and oedema of the lids and the discharge from the eyes. Exacerbations met with in some cases should be met by a further course of the injections.

K. K. N.



BOOK REVIEWS.

(*Incompatibility in Prescriptions*) by S. K. Mukerji, (Calcutta, Rai Saheb B. N. Mukerji & Son, 1928) is a handy little volume compiled by the enterprising editor of the Indian Medical Record, who has also published other useful volumes, 'Elements of Endocrinology' and 'Infantile cirrhosis of the Liver'. It presents to the reader in a systematic and clear manner and illustrated by numerous examples, the problem of incompatibility in prescription writing and how to avoid such errors. The knowledge of incompatibility is essential for the useful and safe combination of drugs in a prescription. The subject is equally important to the dispensers as in the case of a doctor's mistake they are expected to detect it. Incompatibility in prescriptions is regarded by the students as a dry as dust subject to be committed to memory. In this work an attempt has been made to make the subject as interesting as possible. Especially the chapter on exercises is meant for students and the problems will certainly be interesting to solve. The table of incompatibles will be of help to busy practitioners and dispensers. There is also a well-arranged index. We have no hesitation in recommending this book to all students of medicine and practitioners.

J. C. D.

(*Anthelmintics and their uses in Medical and Veterinary practice*) by Lt.-Col. R. N. Chopra, M.A., M.D., I.M.S., Professor of Pharmacology Calcutta School of Tropical Medicine, and Dr. Asa. C. Chandler, Ph.D., Formerly Hook worm research worker, Calcutta School of Tropical Medicine. Baltimore: The Williams & Wilkins Co., 1928, pp. 291, with 65 figures. Price 5 dollars.

Col. Chopra is a well known figure in the Medical Research world and to us in India particularly he is known as a pioneer

in the scientific investigation of the indigenous medicinal plants. He has given to us Punarnava, and Kuth and we are sure he will in the course of time unfold to us many of the secrets of the therapeutic agencies of Ayurveda. In the book under review, he has given to us with the help of the Zoologist Chandler a connected and detailed account of the numerous drugs in use as anthelmintics both in human and veterinary medicine. This book really fills a gap that has existed for a surprisingly long time in the literature of therapeutics. The book is well arranged and is divided into three parts. The first part deals with the history and evolution of drugs used as anthelmintics and a survey of the animal parasite of man as well as the lower animals. In the second part, anthelmintics which act in the alimentary canal are considered in detail. In the third part such drugs as are given for their action on parasites outside the alimentary canal are discussed. The work is exhaustive and the chief feature of this book wherein it differs from most of the text-books usually published in India as well as elsewhere, is that discussion of the action and efficiency of the drugs are based on the personal observations of the authors. India is a good field for a study of anthelmintics and the authors have taken advantage of the material available and have conducted their own research. Having had the privilege of going through the manuscript, the reviewer knows the amount of work that this book represents. Anthelmintics like Carbon tetra chloride and Oleum chenapodium which are so commonly used in India are scarcely mentioned in books on *Materia Medica* and the students emerge as physicians without any clear knowledge of their mode of action or their toxic properties. In this book the busy practitioner as well as the student of medicine will find much that is of value. The book is also intended for the use of veterinarians. And there need be no hesitation in recommending this book to students and practitioners alike. No medical library can afford to be without it.

— — —
J. C. D.

ASSOCIATION NOTES.

*From M.R.Ry. R. R. Williams Aul., B.A., M.B.C.M., etc.,
Personal Assistant to the Surgeon-General with the Govern-
ment of Madras, To the President, The Madras Medical
Association, c/o Messrs. Hoe & Co., Stringers Street,
Madras, E.*

*Ref:—Correspondence ending with your letter No. 727, dated
12th August, 1927.*

I have the honour to forward herewith a copy of G.O. No. 652 Mis. Public, dated 4th August, 1928, negating the proposal for liberalisation of study leave rules by grant of free passage to the members of the Provincial Medical Service proceeding on study leave.

I have the honour to be,

Sir,

Your most obedient servant,

R. R. WILLIAMS, B.A.,

*Personal Assistant to the Surgeon-General
with the Government of Madras.*

*R. G. 21-8. Copy of Public Department G. O. No. 652 Mis.,
dated 4th August, 1928.*

ORDER.

At the instance of the Madras Medical Association, the Surgeon-General raised the question whether the Study leave rules may be liberalised by the grant of free passages to the members of the Madras Medical Service who proceed to the West on study leave. The study leave rules being common to all services, it has been necessary to consider the question in relation not only to the Medical Service, but also to other provincial services. The Government have, after careful consideration, come to the conclusion that the study leave rules as they stand at present are sufficiently liberal and that no change in them is required.

Minutes of a meeting of the Executive Committee held on the 9th August 1928 at the residence of the President.

PRESENT :—Dr. M. Kesava Pai, *President*; Drs. G. Srinivasamurti; P. Venkatagiri; and K. Koman Nayar.

The meeting which was called to discuss several matters including the proposed send-off to Dr. A. Lakshmanaswami Mudaliyar had to be adjourned for want of a quorum.

Minutes of a meeting of the Executive Committee held on 1st September 1928 at the residence of the President.

PRESENT :—Dr. M. Kesava Pai, *President*; Drs. G. Srinivasamurti; P. V. Cherian; P. Venkatagiri; and K. Koman Nayar.

1. *Read letter from Dr. A. S. Mannadi Nayar* suggesting formation of branches of the Association at different centres and also the formation of an Editorial Committee for the Association Journal.

Resolved that Dr. Mannadi Nayar be requested to draw up specific resolutions which could be moved at the next Annual General Meeting.

2. *Read copy of letter from Rao Sahib Dr. T. S. Tirumurti* to the Vice-Chancellor, Andhra University, regarding the Rajah of Panagal Gold Medal founded by the Provincial Medical Association and handed over to the University of Madras.

The discussion on the subject was deferred to a later meeting pending collection of further information on the subject.

3. *Read letter from Rao Bahadur Dr. K. Raghavendra Rao* stating that he had ceased to be a member of the Association for many years and that the sum of Rs. 35 collected from him by V. P. Post may be returned to him.

Resolved that the amount paid may be refunded under the circumstances mentioned in his letter and that he may be considered as having ceased to be a member.

Read letter from Dr. Sitaramaswami Nayudu tendering his resignation as a member of the Association.

* Resolved to request him to kindly re-consider his decision and continue as a member.

5. *Read letter from Dr. C. Krishnaswami Pillai* requesting that some action may be taken by the Association to get the temporary services of Medical Officers counted for increments of pay.

Resolved that Dr. K. Pillai be informed that all such officers do memorialise the Government individually and send also a copy of their memorial to the President of the Association for taking necessary action.

6. The nomination papers for election of the Office bearers of the Association were scrutinised by the Committee and a valid list of nominations drawn up.

* Dr. Sitaramaswamy Naidu has since decided to continue as a member.



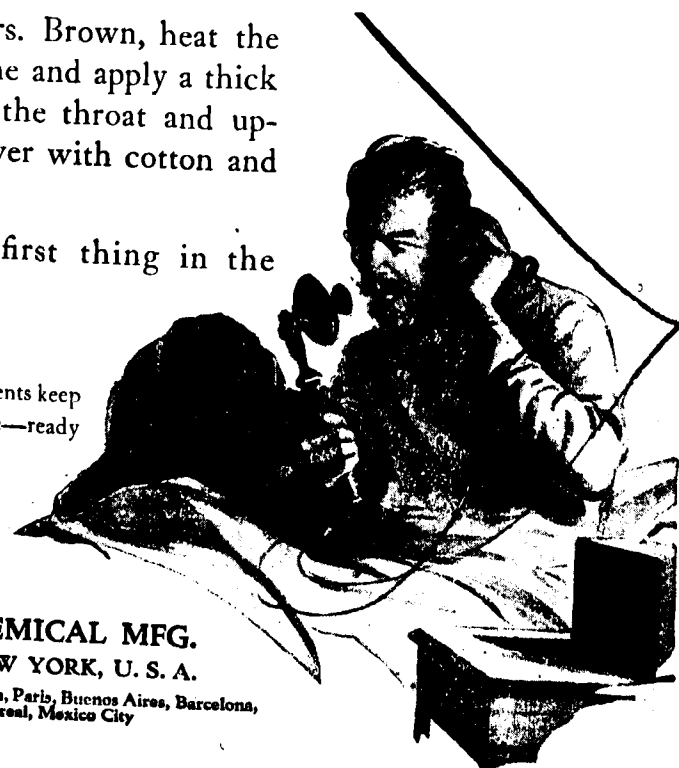
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like this!

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in the house, thank goodness!

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per chest. Cover with cotton and
gauze.

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