THE DRUG EXPLOSION

By Dr. R. E. Seal

Delivered at a meeting of the Medico-Legal Society held on 30th May 1970, at 8.30 p.m., at the Royal Australasian College of Surgeons, Spring Street, Melbourne. The Chairman of the meeting was the President, Dr. T. H. Hurley.

We live in an explosive age. In just over 50 years twentieth century man has lived through two World Wars, plus many minor ones (though minor is a strange epithet for Vietnam), countless nuclear blasts and blastoffs into space, innumerable coups and revolutions. Man throughout his history was never a stranger to violence, but violence seems now to gain uncritical acceptance into our way of life and thought, and more tragically, into that of our children.

We live also in a restless age, in which the winds of change are no longer periodic and seasonal, but constant and increasing. What is more, the atmospheric change is becoming accepted as the norm, especially by our children.

I do not wish to complain of this. Man was designed for change and his nervous system is marvellously adapted to this end. Vitality is inherent in change, and man who is immutable is half entombed. Change may be developmental and evolutionary or radical and revolutionary. Biologically man was meant to evolve. We can adapt to evolution or revolution, but evolution is our natural bent, and lies within our compass.

It is not so easy to adapt to explosions, even though they may lie along the path of evolution. But we have had to adapt to a succession of major explosions in the past two decades—far and away more vital even than the physical explosions designed by scientists—the explosion in population, the explosion in communications, the explosion in education and not least I would submit, the drug explosion, which is the subject of this address.

I propose to examine three important aspects of this explosion—the economic aspect, the scientific, and the medico-legal. The latter aspect will inevitably involve moral considerations. As the frontiers of medicine extend we continually find ourselves confronted with deeper issues of crucial moral significance. This has happened with organ transplants, the termination of pregnancy and artificial insemination, and it looms large now that

we have drugs that can alter our emotions, and more importantly expand our consciousness.

However, to return to the first level of my triad, the economic aspects of the drug problem. Statistics could easily be quoted to indicate that the use of and expenditure in drugs has mushroomed very much like a nuclear explosion.

The years 1950-1965 constituted what Professor Cairncross calls the "golden age of therapeutics" in which the majority of drugs in use today were made available to the pharmaceutical and medical professions. Drug research has been so active and successful that some 50 per cent of the leading products available in 1968 were unheard of in 1960.

Research grants vary in different countries. To quote but a few, Britain in 1965 spent £11·6 million sterling in research. Switzerland (the home of several great drug companies) invests the equivalent of £20 million sterling per annum. In the U.S.A. drug firms devote nearly $300 million on research budgets and the whole pharmacological industry currently invests $500 million on fundamental and applied research—an enormous sum for what in some years is relatively slight pay off (the "research gap"). In 1968 for example eleven new drugs were approved for marketing by the Food and Drug Administration in the United States.

One major pharmacological company has spent $250 million during the past six years without finding or developing a single new therapeutic agent.

Undoubtedly a stage must be reached where many drug companies will be unable either to afford such large scale basic research, or even to market useful drugs with limited clinical applications.

According to figures produced by Professor David Walker in the United Kingdom, there was in England over the eight-year period 1955-63 a growth in terms of the assets of the pharmaceutical industry of 200 per cent—from £33·8 million sterling in 1955 to £106·8 million sterling in 1963. Pharmaceutical sales increased from £138 in 1958 to £251 million by 1965—an 82 per cent rise, giving an annual growth rate of 10 per cent. Compare this with the growth rate of 3·5 per cent in the manufacturing industry as a whole over the period, and with the 6 per cent achieved by the chemical industry, other than pharmaceutical.

Turning close to home on the Australian scene, I have learned that my own hospital, St. Vincent's expended $400,000 in drugs

in 1964 and $600,000 in 1969 and on a wider, national scale, Commonwealth Statistics published recently in the Manufacturing Industry Bulletin showed the total value of output (i.e. what the public paid for its drugs throughout Australia) was:

In 1962-3	$121 million
In 1963-4	$131 million
In 1964-5	$150 million
In 1965-6	$158 million
In 1966-7	$181 million

These figures, allowing for increases in prices represent a rate of growth of 6-7 per cent per annum which is somewhat higher than the rate of growth of real gross national product, and considerably higher than the rate of growth of the population over this period.

Further figures published by the Commonwealth Bureau of Census and Statistics, Canberra, disclosed that the Federal Government expended the following amounts in Pharmaceutical Benefits over the past decade:

1959-60	$49 million
1960-61	$56 million
1961-62	$70 million
1962-63	$77 million
1963-64	$79 million
1964-65	$83 million
1965-66	$92 million
1966-67	$101 million
1967-68	$105 million

It has been established that there are 12,500 prescribing physicians in Australia who in 1968-9 compiled some seventy-five million scripts—an average of 6,000-6,500 scripts each.

It seems we are a drug conscious nation—but we are not alone. So are all nations at least in our Western civilization.

Let us then examine the reason for this, and thereby we progress to the second aspect of this study—the scientific discussion of the drug explosion, for this has been one of the remarkable achievements of Western Man. In fact, I can recall an address by Sir Robert Menzies in 1956 to the Australasian College of Physicians, when the early Russian Sputniks were whirling round the planet. Sir Robert consoled his audience by reminding them that the explorations of inner space in the human cell were more

thrilling and far-reaching than the spectacular conquest of outer space.

Of the many pharmacological triumphs since World War 2, the earliest and perhaps the most immensely beneficial were in the antibiotic field. When I was a student we had the sulphonamides, and penicillin was just coming into use for especial cases that were sulphonamide resistant. As resident students at the hospital we would feel excited to be sent to the Department of Health to pick up a precious batch of penicillin given in what now seem homeopathic doses, which in those days were life-saving.

Soon the tetracycline antibiotics and the various "mycins" were discovered and gradually the list of untreatable lesions has dwindled, almost to zero. Tuberculosis, leprosy the gram negative infections, the golden staph infections, amoebiasis, torulosis—all these "killers" now have specific antidotes.

We still have no invincible drugs for many of the parasitic and helminthic diseases, though malaria can be successfully treated provided the treatment is persistent, and most of the intestinal infestations are treatable, but not with the dramatic success of antibacterial therapy.

As time has passed resistant strains of various organisms have emerged, the best known examples being staphyloccal infection in man and myxomatosis in rabbits. Much of the most modern research is devoted not to discovering new drugs, but to controlling these resistant strains—and this has resulted in a new breed of penicillin derivatives, e.g. ampicillin and methicillin.

I need hardly stress the enormous social strategic and historic implications of these various life-saving drugs, which perhaps more than any other factors are lengthening man's life span, reducing the death rate, especially in the tropical areas of the world, and altering the health, happiness, productivity and population patterns of different nations. The ecologic balance between man and microbe has been significantly altered, and this has had and will have far-reaching consequences in human history.

We now have to adapt to the problems of old age on a wider scale in the affluent nations, and of population explosions in the underprivileged countries, and it is interesting to note that two of the great streams of drug research and development are related to emotional or mood control and to degenerative diseases of middle and old age. As we are spared to live longer, our emo-

tions seem to need re-charging and our arteries reboring. We seem to be finding drugs to achieve both these functions.

Reverting, however, to the antibiotics there is still one major peak to conquer—the treatment of the viruses. We are able to guard against the expected attack with prophylactic vaccines, as was exemplified last year in the case of Hong Kong flu, and epidemiologists can predict the dangers and the sources of such outbursts very skilfully; but for all our expertise it is still a sad truism that we cannot cure the common cold. All we do is control its spread and make things relatively comfortable till it runs its course.

We have learned a great deal, and not least through research in this very city, about viruses, and about the body's defence against them, and about their relationship to tumours and new growth (the so-called oncogenic viruses) which may in time lead to some greater measure of cancer-control through drugs.

But the sobering fact remains that in the year 1970 we can land man on the moon and scrutinize the distant planets, but a moonshot must be deferred till coryzal rhinitis has subsided.

I mentioned earlier that the spate of post-war drug research received its original impetus from work with the antibiotics. Since then the main thrust has passed on to other fields—immunology, neoplastic disease, endocrinology (especially as regards the control of human conception), degenerative disease, geriatrics and affective disorders.

However, as will be appreciated, research in one field of pharmacology often gives rise to hypothesis and insight which are utilized in another. Indeed the utilization of chance insight and incidental clues has been one of the hallmarks of all intelligent scientific research. Endless examples of this could be quoted, but let me cite just two—the discovery of the drug Antabuse (Disul firam) for alcoholism, and Intal (Di-sodium cromoglycate) for asthma. During the course of enzyme research the former, Antabuse, was discovered to act like a key in the lock in liver enzymes which normally detoxicate poisonous aceteldehyde. Liver cells normally break down alcohol to aceteldehyde, which is then taken up into enzyme complexes and detoxified. Antabuse happens to fit the enzyme lock and so displaces aceteldehyde which therefore accumulates in the blood stream in its still toxic form and causes symptoms of grave malaise. Sometimes this serves as a deterrent to the alcoholic—but it must be admitted that unless his motivation to persist with Antabuse therapy is very strong

the alcoholic will usually give up the drug rather than the drink.

As regards Intal, work was done on the liberation of the strong intracellular substance histamine, which amongst other properties has the effect of causing spasm of smooth muscle fibres, including those of the bronchial tubes.

It has been found that Intal, inhaled, enters the lungs and is absorbed on to certain white cells called plasma cells and prevents them from liberating their quota of histamine, thus protecting the bronchial tubes from its spasmogenic effects. This has introduced a new preventive dimension into the treatment of asthma.

However, I must pass on to the third major aspect of the drug explosion which should I think be the most significant for an audience such as this. I refer to the medico-legal and moral implications involved in the taking of certain types of drugs.

I have mentioned that man, at least Western man, is living longer and often enough more unhappily. The reasons are not hard to discern.

There is little doubt that the nervous system of modern man is exposed to stresses unparalleled in history, and that the general level of anxiety and nervous tension is likewise at an all time peak. The culture that has produced atomic power and manned space travel, cardiac transplants and instant global television, has also stimulated our nervous receptors almost beyond endurance. Our atmosphere is polluted, our ears deafened, our vision (and intelligence) assaulted with sub to supra-liminal stimuli; our leisure and our work is monitored by all manner of communication techniques, local and global. The time for isolation and insulation has passed. No one is allowed to be ignorant of, or immune to, the effects of what is happening anywhere on earth. More than half the human race is threatened with starvation, perhaps a sixth of it is threatened with the corruption of luxury. The whole of it is threatened with the menace of a hydrogen holocaust.

In the face of all this, man's traditional sources of strength and stability are also threatened. Tradition is discredited and authority impugned even with the Church, and even within the ironbound people's democracies. Religion, law, communal mores, family ties are all queried and re-evaluated. It is becoming almost an intellectual virtue to be uncertain if not confused, uncommitted if not cynical.

Authority has become a dirty word, especially amongst stu-

dents. Strange when one reflects on its philological derivation—from the Latin word which, far from meaning to retard or restrict or inhibit means to grow and increase. Authority in its root origin was not something which clamped down on a man, it was something which assisted him to spread, increase and develop. One shudders to think of the ultimate consequences if such words as truth and reason ever suffer a metamorphosis of meaning for the man in the street, as they do even now in the eyes of some radicals. If we are to believe the reports from America, it is the rationalists amongst the academics who are the prime targets for the Students for a Democratic Society, students who regard reason as a degraded servant of capitalism.

At all levels of society we have become plagued with unrest, division, insecurity and doubt. Crisis follows crisis, coup follows coup. If we belong to the Right we see only revolution and threats and violence; if we belong to the Left we see only stupidity and injustice and persecution, if we belong to the centre we see discordance and unreason on both sides. Is it any wonder then that we as a society seek in drugs some relief for our mental tension by day, and some oblivion in enforced sleep by night.

And so it is that the demand has escalated for drugs that relieve tension and anxiety and depression, for drugs that either stimulate our minds, or dampen down our worries.

There is nothing new in this, for from the dawn of history man has sought herbs and roots and berries that would soothe or brighten, and strangely he has nearly always found them in every clime and every culture. What is new is the widespread uncritical and so often unnecessary reliance on such agents, and more latterly the tendency amongst so many youngsters to view drugs not just as an adjuvant to life, but as a way of life.

However, let us not get the perspective wrong. There have been cycles of intense drug misuse in the past. All classes of mind-alterers have had their periods of popularity and decline. Imperial Rome was addicted to Bacchanalian orgies, seventeenth century London to penny gin. Just after the American Civil War, more distilled spirits were being consumed per capita than today.

In England in the late eighteenth and early nineteenth centuries opium addiction was as popular as psychedelics are today. The poet Coleridge was able to write. "The practice of taking opium is dreadfully spread. Throughout Lancashire and Yorkshire it is the common dram of the lower orders of people. In

the small town of Thorpe, the druggist informed me that he commonly sold on market days two or three pounds of opium and a gallon of laudanum—all among the labouring classes".

In the U.S.A. a century ago patent medicines were laced with opium, and babies' soothing syrups contained a tot's share. It is estimated that 1·5 million people (4 per cent of the then population) were caught up in some form of opiate habit at that time.

Today the percentage in the U.S. has fallen to 0·05 per cent (1 in 2,000) but it was estimated that in 1968 4 million Americans (i.e. 2 per cent of the population) took LSD, about 1 in 10 of them more than once a year, and 1 in 8 at least monthly. Perhaps as many as 70 per cent of all users were and are high school and college students including dropouts.

In the nineteenth century other drugs enjoyed a vogue. Cambridge indulged in chloroform parties; Harvard in ether frolics; for a while in Ireland (incredibly) ether threatened to displace alcohol. Ether was highly regarded as a consciousness expander and William James called it "a stimulation of the mystical consciousness".

Nitrous oxide, or laughing gas was another nineteenth century psychedelic, and many students and artists inhaled it for its voluptuous sensations and entrancing chromatic fantasies. Visions of paradise universal truths and cosmic insights were all experienced and reported, as in these words: "I have reached infinity. I have been able to dissociate myself from the world. Life on earth becomes a fleeting split second memory in the realm of the Universe. My body would eventually be suspended, completely dissociated from this world in a Godlike state." This was inspired by nitrous oxide in a dentist's chair, long before LSD was thought of.

In our own Australian society, psychedelic drugs are probably less of a worry to the drug authorities, and to the community at large, than are the standard sedatives and stimulants. There is little doubt that we are a pill-conscious society and that we have grown to expect instant results from pills for every purpose. Just recently the amphetamines have been banned by law for the treatment of fatigue and depression, but a whole family of antidepressive drugs is still at our disposal, plus a growing host of tranquillizers, which generally speaking are safer and less addictive than the majority of sedatives. Indeed it is the use of tranquillizers, more than any other single factor, which in twenty years has transformed mental hospitals into open wards and

which has relegated strait jackets and restrictive appliances for the most part to the museum.

The first of the tranquillizers, largactil or chlorpromazine was introduced in France originally as an anaesthetic adjuvant early in the 1950s. We now have thirty to forty drugs of this type, most of them with slightly varying spectra of applicability and, as with penicillin the original modest dosages have given way to dose schedules that would have seemed incredible to the pioneers.

In 1943, an exciting new discovery was made by the Swiss chemist, Hoffman. Five years previously he had discovered a derivative of ergotamine (used in migraine) which he called lysergic acid diethylamide (LSD). It was not till 1943 however that he accidentally stumbled across its peculiar hallucinogenic properties. And it was not till another decade that his discovery was put to clinical use in psychotherapy.

The subsequent history of this drug is well known to us all. It was used cautiously and almost experimentally until about 1960, when its name and fame became more widespread in the U.S.A., and slightly later in this country. An occasionally tentative use of it had been reported here in about 1958 by Dr. Howard Whitaker and others, but it was not until about 1962 that others, including myself, became impressed with its potential in psychiatric treatment.

By January 1967 it had been so much abused that its manufacture, sale and use were restricted by the Poisons (Hallucinogenic Drugs) Regulations for the State of Victoria. Similar measures were introduced in all States of the Commonwealth. According to these Regulations certain hallucinogens, dimethyl tryptamine (DMT), lysergic acid diethylamide (LSD), mescaline, psilocybin (CY 39) and psylocin (CZ-74) were to be used only by experienced psychiatrists nominated by the Australian and New Zealand College of Psychiatrists and working under specified conditions. Of these five drugs only LSD and psilocybin have been used clinically to any extent in Australia, and of the two, LSD is by far the more powerful and toxic. Since these legal restrictions were imposed there seems to have been a marked decline in both the legal and illegal use of the hallucinogens and this decline has, I believe, been all the greater since it was reported that LSD has an effect on human chromosomes. Just how serious the effect is, and whether indeed it is specific to LSD, is not yet certain; but it has certainly had a sobering effect

on patients and their therapists. Psilocybin probably has a less definite effect on chromosomes, and most therapists are inclined to use it now for preference, whereas most illegal users (if I read the scene correctly) are now more inclined to take marijuana than LSD—"pot" being regarded as safer, cheaper and more available than "acid".

The effect of these mind (or consciousness) expanding drugs in the U.S.A. has been remarkable, mainly because their arrival on the scene happened to coincide with, and to stimulate and accelerate the rise of what is called the "Hippie cult". The cult comprises a whole new subculture, recruited mainly for maladjusted, socially restless students, emotionally labile teenagers, unstable dropout academics and a host of young adults with unsolved psycho-social problems and borderline psychic adjustments. Most of them are seeking kicks and new experience, new "highs"; others an easy escape to instant pleasure, instant love and instant ecstasy; others a new form of religious experience or spiritual vista similar to what they imagine can be attained in Eastern mysticism. Hence the visit of the Beatles to India.

Mostly they express disillusion with the injustices, materialism and superficialities of Western civilization, which they blame for all the war, persecution, tension and misery in the world. It is easier, and less ego-traumatic, to blame our miseries on to the wretched society in which we live, than to admit that we are miserable and wretched individuals.

As regards the claims of superior religious insight, there is a great deal of messianic evangelism preached by the high priests of the psychedelic cult—notably Leary and Alpert, but the sad fact is that, true spiritual maturity, creativity, abiding compassion for others, and genuine social responsibility are conspicuously lacking in the lives of the acid heads. All too readily their "love" turns to hate, e.g. Charles Manson and Jane Fonda.

One is reminded of the young student drop-out who having seen the Great White Light under LSD, lost interest in mundane matters, wandered around vaguely and when finally jailed as a vagrant was concerned only lest his sugar cubes had lost their potency in his sodden clothes.

A story is told of Oliver Wendell Holmes and chloroform, under whose influence he discerned the secret of the Universe, which he hastily scribbled down for the benefit of posterity. When he came to, he read "The stench of temperature pervades all". This is fairly typical of many of the momentous insights

under LSD—though serious writers such as Huxley have indeed glimpsed visions of surpassing beauty under its influence, and there is no doubt that many patients in properly directed therapy have been able to obtain valuable and indeed invaluable insight, and glimpses of truth that they had concealed beneath subconscious defences.

Another fascinating story is told by the American psychologist Sidney Cohen, of two LSD paranoiacs who called on him in quick succession. The first Messiah was relating his plans to take his followers up to the hills and start a new civilization, when the second Messiah strode in, pointed a long finger and declaimed "I am the Lord, thy God". Thereupon the sitting Messiah looked the intruder over, considered the matter and replied gravely "I will allow you to be God"—the quintessence, says Cohen of divine one-upmanship.

The point of the story is that sanity consists in recognizing boundaries and limits. The mind that loses its sense of its own limits is insane, and it is one of the functions of the hallucinogens to remove what are called ego boundaries, so as to allow the conscious mind to be flooded with normally repressed unconscious material. Hence the term consciousness-expander. But the expansion carries with it the loss of the ordinary limiting bonds of sanity. Hence the dangers of this type of therapy which can only be carried out under very special therapeutic conditions, and by experienced therapists. It is hard for youngsters to realize the values of restraint when they have sampled the sensuous liberty of Utopia with the acid, but we do not become better tennis players by extending the court, nor better men by extending the rules—moral, social or civic—to accommodate our newfound psychic expansion. That way madness lies.

The tragedy of the situation is that so many of them claim that they prefer such pleasant Utopian madness to the sordid madness of the current scene. And a deep source of concern is that so many of the minds which are corrupted by this subculture and its drugs, belong to those who should be enjoying the thrill and the challenge of the higher education which should be their heritage and their committment.

I think it is true that the LSD problem has lessened since 1967, but another substance has more than taken its place in the minds and lungs of our youth—marihuana, whose global use is second only to that of alcohol.

Indian hemp (cannabis sativa) is cultivated and grows wild in

many countries of the temperate and tropical zones of the Eastern and Western World. It came originally from the Central Asian plateau and has spread to the whole five continents.

The resin from the flowering tops of the female plant is called hashish. Marihuana is the active substance found in the stalks, leaves and shoots of the hemp plant. It is much less potent than hashish and rejoices under a variety of popular names—pot, grass, tea. A "lid" consists of about an ounce of the green leaves, cleansed of dirt and stems and rolled like cigarettes called "joints" or "reefers". The butts are called "roaches" and are retrieved for further use, being allegedly more potent. The smoke has an aromatic odour, like burning alfalfa, that will persist for hours in a closed space.

Better marihuana is grown in the warmer more humid countries, such as Mexico and experienced pot-heads, like connoisseurs of fine wines, can tell the origin and "vintage" of their hemp.

Practically every civilized country has restrictive legislations for cannabis. A recent Nigerian regulation imposed the death penalty for its production or sale. This followed destructive riots attributed to the drug. Egypt also had a death penalty, but it is doubtful if it is invoked. However, Egyptian reports indicate that a quarter of admissions to their mental hospitals for psychotic states are due to the hashish (not marihuana). In the U.S.A. and here in Australia, the use and sale of marihuana are felonious, and this has divided public opinion especially as marihuana is a far less dangerous and toxic drug, and it does seem inconsistent that the same penalty can be applied to a hardened pusher of "acid" as for a youngster just sampling "pot".

The protagonists of marihuana, who are many and eloquent, claim that it is a mild drug, less provocative of violence than alcohol, or of physical disease than nicotine; that it is widely used by 200-300 million people the world over; that prohibition only makes criminals of innocent people; that it is not addictive; that men can take it or leave it and should be free to do so; and that it does not predispose to as much misery and illness as alcohol which is tolerated, and does not necessarily or even usually lead to the taking of other harder drugs.

Medically it has no real use and is now obsolete in the pharmacopoeia of every advanced country, though its use as tincture of cannabis indica persisted till about World War 2. Mild claims are made that it may help headaches, childbirth, spastic conditions, uterine dysfunction, mental depression, but they are

not seriously considered. Better and safer drugs are available for all these conditions.

On the other hand it does not seem to have any serious medical consequences, other than occasional psychosis, more especially in the case of users who are basically pre-psychotic. Indeed it is so mild that neophytes are usually very disappointed and have to be indoctrinated into the proper techniques for optimum control of breathing as they smoke. When initiated they find a mild euphoria—and mild intoxicant, and sometimes even hallucinogenic, effect. The latter are more like a state of depersonalization or altered consciousness, with a distortion of perception of both the bodily sensations which can become pleasurable as well as of external stimuli. Heightened suggestibility, the deeper perception of sound and colour and a sense of exalted fantasy probably account for the popularity of the drug with musicians and artists and so-called creative personalities. There is little doubt that drive is reduced. This certainly includes work drive and probably creative and sex drive as well. Aggression is probably reduced, which may explain why the huge crowds of Hippies at pop festivals (who are mostly pot takers) have been so relatively free of violence. Hashish on the other hand is less reductive of violence and indeed may stimulate it, as the origin of the word "assassin" implies.

Although marihuana usually produces this blissful dreamy fantasy, it has been known to lead to acts of social irresponsibility, and users when frustrated and threatened have resorted to aggression, e.g. the recent attempted hi-jacking of a jet plane in Sydney. There seem to be ominous rumbles that love amongst the flower children is running thin, under stress of political frustration and police provocation, and is turning to hate fanned by political activists. This becomes a serious social problem when scores of thousands of pot-heads claim the right to associate and catalyse each other's antisocial impulses.

Apart from the medical dangers of occasional psychosis and mass emotional reactions, there is a significant degree of moral danger in the taking of marihuana. Users will rationalize about the greater dangers of alcohol and nicotine, but the stark fact remains that the continued use of the drug reduces one's sense of social responsibility and produces a narcissistic pre-occupation with one's own perception and pleasures, which I would submit is immoral in the context of a world society where every ounce of effort counts. The picture is typified by the student drop-out who

frankly admitted "Pot is my life". This personal degradation and sacrifice of potential is not atoned for by a sympathy for the under-dog, and a rowdy espousal of social causes. One humble and dedicated field worker does far more for the cause of aboriginals than a legion of bearded and befuddled drop-outs waving banners and chanting obscenities.

The other very real moral danger is that, especially while marihuana-smoking is felonious, the users must seek this association amongst criminals, psychopaths, social malcontents and the fringe-dwellers of society. It will be argued that Christ Himself was reproached for the company He kept, and that restrictive laws serve only to drive the innocent into the arms of such people. There is a world of moral difference, however, between the two commandments singled out by Christ and the two emphasized by Timothy Leary:

> Thou shalt not alter the consciousness
> of thy fellow men.
> Thou shalt not prevent thy fellow man
> from altering his own consciousness.

introduced subsidiary problems, e.g. the cutting, dilution and

As for the criminogenic aspects of law, I need hardly point out to such an audience that legalizing heroin in Britain has re-peddling of the legal quota by enterprising addicts.

Furthermore, talking of heroin, those of you who may have read the article on juvenile heroin addiction in the U.S. in *Time* magazine (March 16, 1970), will no doubt have noted that of the teenage heroin addicts whose life histories were recounted, everyone without exception had started with marihuana.

> I messed around with pills and pot.
> I started flare-sniffing but got bored—then some guys turned me on to marihuana.
> I got started through drinking and then smoking reefers.
> I started on smack (heroin) on exactly the third anniversary of the first time I smoked pot.

These are typical stories, not exceptions, and give the lie to the claims that the kids are just content to keep high on occasional "tea-parties".

This I think is the great social tragedy inherent in marihuana, and I for one would be very reluctant to see it legalized in response to popular demand.

This surely is pollution of the worst type—pollution of the intellectual potential and moral integrity and self-respect of our

youth—which should be our most priceless national and international resource. No forest, no reef, no mine, no reactor, nothing on earth is as precious as the minds of our children.

Discussion

MR. IAN ELLIOTT: In his paper, Dr. Seal dealt with a number of different aspects of "the drug explosion". I have a very limited competence in this field, and I thought I should restrict myself to a few problems which have interested me in the field of criminal law and criminological research in drug use and abuse. Both interests result from a year I spent in Chicago, studying under Professor Norval Morris there, and I was interested to see a book which he wrote in conjunction with Mr. Gordon Hawkins, which has been published very recently in this country, where he advocates the abolition of the offences of use and possession of narcotics and marihuana. I have a feeling if I were to advance these propositions tonight, I might be characterized as an "unstable, dropped-out" academic. But I did think I would like to ask some questions, to which I have no answers, but which really point up the wisdom of our present criminal prohibitions.

The first one I would like to ask, very briefly, relates to maintenance, for perhaps an indefinite period, on marihuana or morphine, or whatever the drug addiction is. Much has been written in recent years about the so-called British system, under which narcotics addicts can be maintained indefinitely by doctors at special clinics by prescriptions of narcotics of their choice, and it has been claimed that certain benefits flow from this in Great Britain. In America, apart from a brief period in the 1920s, the idea of the ambulatory treatment of the addict on a maintenance dose for any period of time was just not tenable. In America, the practice has been to use drugs for varying periods for purposes of treatment. Dr. Seal referred briefly to the recent English experience. There has been a quite substantial increase in the number of narcotics addicts in that country. I have extracted a few figures here. In 1936, in Great Britain, six hundred and sixteen addicts were known to the Government, who were being supported on maintenance doses. By 1960, there were four hundred and thirty-seven, but by 1966 the number had risen to one thousand three hundred and forty-nine, which is an indictment of the maintenance system of drugs supplied by doctors. To emphasize the seriousness of the problem in England, there has been a serious decline in the number of older addicts

in that total, and a comparative rise in the number of young people addicted. On the other hand, with a total of one thousand three hundred and forty-nine addicts in Great Britain, that is a relatively small problem compared with the United States where the number rises to 100,000 narcotics addicts. I do not know that there is a great deal that I can add to the British system of maintenance of addicts outside legal institutions on narcotics as against the American practice to refuse that system at large. On the other hand, in Australia, it seems to me to be some fruitful basis for research which might enable us to choose something similar to the system in Great Britain or the system in America. It appears, from the reports the Commonwealth Department of Economics makes to the United Nations, that Queensland has always had a system of Government registration of addicts, and has already supplied addicts so registered with legal maintenance doses of narcotics. On the other hand, in New South Wales, for example, the supply of narcotics on an ambulatory basis outside institutions for a considerable period of time was simply not tolerated until recently, and was not the practice to any greater extent until now. This seems to me a different policy in the two States in the one country. It seems a policy which might lead to more fruitful answers than all the arguments over the British and American systems, where there are vast differences in the two countries. So far as I know, there has been no comparison between the situations in Queensland and New South Wales, or in Victoria where, as I understand, addicts are not maintained for an indefinite period of time on legally available narcotics. The last figure I have, Queensland's addicts, in 1960 there were eighty-six addicts listed in Queensland, and they were all obtaining licit drugs by licit means. It seems to me we have adequate material available for research. I, for one, would be very interested to know whether we could choose between a British style system and an American style system.

I want to go on to a second question, very briefly: marihuana, with which Dr. Seal dealt at some length. I do not know again that I can produce any answers. It seems to me there is one danger in the continuance of use and possession offences in relation to this drug, and that is that marihuana is, on all accounts, very different from the narcotic drugs with which it is usually bracketed. I feel that in seeking to obtain a deterrent effect of the law, by bracketing this drug with the narcotic drugs to so emphasize the seriousness of taking it, we may be having a situation where

users perceive no difference anyway between marihuana and the narcotic drugs. I feel that if we do not abolish the offence of use and possession of marihuana, we might experiment with the idea of separating it as a legal problem, taking it out of the Poisons Act, attempting to lessen the conceptual link between this drug and the hard narcotic drug, so that users will appreciate the very great difference in deterrent between this drug and the others.

Finally, a question which arose from my reading about the American drug scene, especially in college campuses. At present we observe in our legislation a very different situation between the pusher and the user. The pushers are classified as "Typhoid Marys", going around spreading the habit, inculcating the user. I do not know for how many drugs and how many States this is true. It seems to me, at least on the American experience, the difference between the pusher and the user, in certain communities, between certain drugs, would be very slight indeed. The marihuana problem is dealt with particularly. It appears that marihuana use is widespread in American Colleges. It appears too that every user at some stage becomes a pusher. In the social context of marihuana use, pushing it occasionally is inseparable from its use. This may be because the sale of marihuana is not an enormously profitable criminal enterprise. Perhaps it is necessary for its spread to be obtained by students, rather than by organized crime. It seemed to me that, in our emphasis, separating the pusher from the user may, in fact, be seeing a difference whereas for some drugs and some communities there is, in fact, no difference at all.

Those three queries are ones which particularly interested me. As I said, I have no particular answers for them. The first one, particularly, seems to give an opportunity for further research.

I would like to conclude by pointing out the sheer difficulty too of banning drugs so far as certain American College campuses are concerned, and in some persons in the United States, where the use of nutmeg is becoming widespread. Nutmeg apparently either does have or is believed to have hallucinogenic properties if taken in sufficient quantities. It is also a health hazard affecting the kidneys. If we ban marihuana, we might have a widespread nutmeg problem amongst us.

THE CHAIRMAN: Thank you very much, Mr. Elliott. It is clear that this problem raises more questions than provides answers.

I think the final point on which Mr. Elliott touched gave the fact that a drug is of danger to the community. What is the effective way of protecting the community from this danger must be the central medico-legal aspect of the drug explosion. We heard only today of the allocation of half a million dollars by the Commonwealth Government to a programme for education in this field. This certainly would seem an enlightened approach, but sometimes education may, perhaps be the equivalent of introduction.

To further continue the discussion, I would like, if I could, to call on Mr. Roy Kyte-Powell, who is Head of the Drug Squad of the Criminal Investigation Branch in Melbourne, to say something about the drug explosion in Melbourne.

MR. R. KYTE-POWELL: I can only talk to you about my experiences in the C.I.B. Drug Bureau. The controversy about marihuana, to use or not to use, is one that has naturally exercised my mind quite a bit. I have quite numerous meetings with "pot-heads", as Dr. Seal mentioned earlier, and I do not intend to be drawn into this controversy, except to say that I support Dr. Seal completely in his hope that it is never legalized in this country.

Perhaps if I gave you briefly a history of drug control in Victoria, it might be the easiest way of saying what I have to say. We started in this country, probably about 100 years ago, with an opium traffic. Chinese workers coming to the goldfields brought with them the opium habit, and this habit has continued until the present time. For about the last ten years, most of these opium smokers have changed their preference to crude heroin. They now smoke a crude form of heroin, a granular type of material, which, I understand, is about halfway between morphine and heroin. There are several reasons why they have changed. The main reasons are that crude heroin has no definitive smell when it is burned, and opium has a very distinctive smell indeed. You can smell it for quite a distance. They only need a small amount of this, the amount to cover a sixpence, to get their smoke, to get very high or whatever they get from it, and if there is a Police raid, then the evidence of it is disposed of very quickly, whereas with the opium smoker, he has to have a big pipe and ritualistic paraphernalia which is almost impossible to dispose of if the Police suddenly jump through the back window. Opiate trafficking, if I can call it that, is the only completely international drug trafficking that we have here, and it is de-

signed to satisfy a very small segment of the community. Between twenty and thirty of these opium addicts are known to us in the C.I.B. Drug Bureau. However, the opium user in Victoria does not seem to be causing any effect at all on the community generally. They do not like Caucasians to join their parties. In fact, one heroin addict, a Caucasian, who came here from Sydney about three years ago, found that she could not get heroin at all. She did get it when she worked amongst the Chinese men as a prostitute, and I suppose with familiarity they decided to accept her, and she was able then to get her supplies of heroin. So it is not a great problem as we see it. The danger, of course, is there must be a supply line. They must have couriers. They must have some fairly efficient organization to get material down here from Singapore, Bangkok, Hong Kong and so on. This, to my mind, is the danger of this little segment of drug abuse. If we ever do get a large scale heroin problem, then our lines of communication are already open.

We do have a few Caucasian drug addicts in the community known to us. These people, as everybody here will know, are the addicts who are dependent upon morphine, pethidine, physeptone, and over the last few years we have noticed quite a few palfium addicts appearing on the scene. These people do not get their supplies from illicit sources. They get it from legitimate sources by fraud. They go to public hospitals and other rooms, doctors' rooms—I am sure everybody here knows this. They pretend to be suffering severe pain, and they get an injection. They can usually work it so they can get pethidine if they prefer pethidine. If they see a doctor preparing an injection of morphine, they say, "Just a minute, Doc. My doctor has told me I am allergic to morphine. I have got to have pethidine" and most of the addicts seem to get their injection like this. They do not get their stuff from the illicit channel. It is not possible in Victoria to go to a certain area of mid-street pedlars, as it can be done overseas, America for example, and in Britain. So the true addict problem here to the hard drugs, if I can use that expression, is not a very serious one. We know of about fifty.

When I went back to the C.I.B. Drug Bureau in 1961, I found that we had a total on our records of seventy addicts. On checking through these, it was found that about twenty of them were Chinese, some who would have been about that time about 130 years old, who had been in the records, and every year, as a new addict appeared, his name was automatically stuck in the records.

I suppose if I had not cleaned them out, we would probably be showing something like two or three hundred addicts. But another reason we may have a fairly static number is that we only record them for five years. If we get an addict, if we hear of an addict or charge an addict, and we do not hear of this man for five years, we automatically remove him from our records, and we inform the United States each year that these people have disappeared. This means anything, of course. They could be in New South Wales. They could be dead. But we only keep them in our records for five years. This is the practice in America, and it seems, so they say, to give them a pretty true picture of the number of addicts who are active at any one time. This system is not followed in other States, and New South Wales Police say they have something like three hundred and fifty addicts, I think, not all true addicts. Perhaps they just add them to their records as they go along, and probably some of these addicts are two or three hundred years old. You would have to go back and trace their history, so probably our methods of recording and our methods of statistic keeping probably are not as uniform as they might be. Anyway, so much for the hard-drug addiction. It is not a very great problem here, at the present time, as far as I can see, but I am quite certain that many doctors in the community have quite a different idea of the situation, because I believe that at some of our bigger hospitals, I think many hundreds of patients are taken in there as a result of the misuse of some drug, we do not hear about these, and, I hasten to add, we do not want to either, because with a squad of ten, I would imagine that if this is true, that these large hospitals do get several hundred drug affected patients each year, then I would imagine we would need a Drug Squad of about five hundred men to cope with the enquiries that would be necessary. But, of course, these are not the people affected by the narcotics, the opiates and so on. These are people who, in the main, I believe are suffering from barbiturate poisoning, and from some reason, I understand, the barbiturates are as dangerous as morphine, if not more dangerous, in their effect upon people, which leads me to wonder why amphetamines were put in Schedule 8. I believe, from my medical contacts that though amphetamines do cause a dependency, they do not cause this true dependency that the barbiturates do, so I just cannot imagine why these particular substances were put on Schedule 8. If I recall Ian Elliott's remarks about cannabis being on Schedule 8, it seems

to me we have another drug that is not a true narcotic on Schedule 8, not forgetting that cocaine, so I am told, is not a drug of true addiction, but nevertheless it is on Schedule 8.

There is something which Dr. Seal mentioned about the penalties which may be imposed on users and pedlars. It is not true to say that users and pedlars are subject to the same penalties. They are not. A user in Victoria of any drug cannot be sentenced to more than twelve months' imprisonment. I cannot recall any user, mere user being sent to prison. The pedlar of narcotics can be sent, after trial by jury, to prison for a period of ten years, but, of course, they never get that far, because we prefer to have them dealt with by a magistrate which is more expeditious, but only carries a penalty of not more than twelve months, so I do not think there is any cause for alarm in the penalty set-up in the State of Victoria.

So far as treating of drug-dependent persons goes, I think everybody will be aware that the treatment of alcoholics and drug-dependent persons has already been promulgated, though it is not yet law, and it is hoped that this Act will be operative towards the end of this year when certain institutions have been prepared, or renovated for this purpose. When this happens, I think quite probably addicts will be treated in a much more efficient fashion. I think most doctors who have had any dealings with people who are truly dependent say that they must be treated in a closed environment, and I think these new institutions will probably provide this sort of centre for treatment. Of course, every user or addict that comes into our orbit does not automatically end up in Pentridge. If an addict detected by us is showing signs of requiring medical treatment, well he gets it immediately. If Dr. Birrell, or whichever doctor we get to have a look at him decides he should be sent to hospital, well this is what happens, and any legal action necessary comes after, if it does come at all. Once they have been sent to hospital, the magistrates do not like to punish these people, and so it does not follow that if a drug user comes into the hands of the Police, that he automatically ends up in Pentridge. I had a discussion with an American doctor from Georgia, a Dr. Fox, a lady doctor, and she was amazed to find that we are permitted to proceed against people on summons here in Victoria. She said that she wished that this was possible in America, because apparently in America the law enforcement people are compelled to arrest persons before they practically even question them, and the re-

sult is that sometimes people who are offending against the drug laws are arrested and thrown into some prison cell, which is not good for them from the point of view of medical treatment. And, of course here we can send them to hospital on a doctor's advice, or we can proceed by summons, and often these people ask us for some information as to where they can get treatment, and we advise them where to go and sometimes make appointments for them to visit the Alexandra Clinic or some other place, some other doctor even, although this is not very usual for us to put ourselves in the position of collecting patients for doctors, in the same way as we are very reluctant to advise offenders what solicitor to go to. It might be said that we were working hand-in-glove with the solicitor.