Reports on drug addiction.

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Preamble

Policy on drug addiction is based on a distinction between drugs which can be used legally such as tobacco and alcohol and those classified as narcotics, the use of which is illicit. However, in recent years further progress in neurobiology and pharmacology has contributed new insights into the mode of action of substances that affect the central nervous system, the mechanisms which cause dependence and tolerance, and has made it possible to identify the receptors of these chemical substances. This data has made it clear that the distinction between licit and illicit drugs is not based on any coherent scientific principle.

Neuropharmacological data, however, is not sufficient to evaluate specific risks for each of these substances. Consumption of a psychotropic drug, regardless of whether it has any medical utility, may represent a danger for the user or for others. The degree of danger depends on the toxicity of the substance according to the quantities absorbed and frequency of use, risk of dependence, and the social risk brought about by disturbed behaviour.

This body of data and better knowledge of health hazards caused by substances that affect the central nervous system, throw new light on legislation regulating the use of licit and illicit drugs. This state of affairs and the alarming growth of certain forms of drug addiction, aggravated in the general context of the AIDS epidemic and the exclusion phenomenon, have led the CCNE to give thought to drug-related problems irrespective of whether drugs are legal or not, and to possibilities of prevention and treatment of addiction. In particular, the growing gap between everyday practices, specially medical, and some articles of the law of December 31st 1970 "concerning prophylactic measures to combat drug addiction, repress drug trafficking and the illicit use of poisonous substances", raise the question of whether this text is still suitable in present circumstances.

Thus, following the decision by the Committee to take the matter up, a working group undertook a study in April 1993 of scientific, legal and ethical aspects of drug consumption. The working group consulted persons with practical experience of the various facets of the problem : political, legal, psycho-sociological and anthropological , medical (medical practice and public health) aspects, and heard points of view expressed by user associations. Quite obviously, the working group could not hope to make an exhaustive report ; in particular, any attempt to paint an overall picture of the socio-economic aspects was doomed to failure in view of the variety and complexity of situations connected to drug consumption. CCNE, however, considered it had an obligation, within the limits of its competence, to make a contribution to this societal debate.

CCNE's consideration of the matter is part of efforts made at the present time to gain better understanding of the problems caused by drug consumption. Various bodies have already made a contribution or are in the process of doing so :

- The National AIDS Council, on July 8th 1993, adopted an opinion following a report on the subject of HIV infection in the population of drug users.

- The National Council of the Medical Profession and the National Council of Pharmacists on September 28th 1994, signed a protocol setting out the duties of physicians and pharmacists for the management of drug abusers in a scheme called "Réseaux ville-hôpital".

- The Commission on drugs and addiction, presided by Professor R. Henrion, which heard representatives of all those concerned by these matters, including users, and took note of a variety of opinions. Great care was taken to ensure transparency by giving public exposure to consultation of experts (TV broadcasting).

- The Ministry of Health and Social Affairs, which has recently adopted a set of measures in a similar spirit of open-mindedness and understanding, to contribute to a policy of reducing risks related to IV drug administration.

Neuropharmacological data and classification of drugs

Several classifications for drugs have been proposed since 1928. These classifications were amended as further knowledge was acquired but they differ depending on whether they are founded on scientific, health, or legal considerations. Consequently they appear somewhat incoherent which is due in part to the ambiguity of the word "drug" itself. Initially, the word designated substances included in pharmaceutical preparations for therapeutic purposes. It is now used to designate a substance that affects the central nervous system which, if abused, leads to grave physical and mental disturbance and to states of tolerance and dependence. In common parlance, the word is solely applied to substances the use of which is prohibited (heroin, cocaine, hashish...). Thus the same word is used to designate a substance which may have either a beneficial effect or lead to dependence and toxicity. The concept of dosage is crucial in this context. At "active dose" level, these substances bind to

specific sites (receptors) where they replace endogenous substances and act in their stead or in opposition to their effects. At higher doses, non-specific effects are added to these specific effects, involving in particular the respiratory and cardio-vascular systems. It is those secondary effects, and not an excessive increase of the euphoria producing effect on the receptors, which bring about death by overdose (1). External factors such as added products or infectious agents also frequently play a role in death by overdose.

Various classifications which have been offered based on the effects of the drugs, and on their addictive properties, have played a significant historical role and still serve for reference purposes. Knowledge gained in recent years in neurobiology and pharmacology, in particular identification of receptors and deeper insight into mechanisms causing dependence and tolerance (2), have led us to state for each substance the way in which it has an effect on the central nervous system. As we shall see, this new approach reopens the issue of the criteria on which is based the distinction between licit and illicit drugs.

Classification of pharmacological agents acting on the central nervous system and liable to produce drug dependence

Classification according to effects produced

The LEWIN CLASSIFICATION - 1928 (see annex 1)

This early classification was based on clinical observation. There are five categories. The first, *Euphorica* , includes analgesics and euphoriants (opioids, cocaine...). The second group, *Phantastica* , includes hallucinogens (peyote, mescaline, cannabis...). The third, *Inebriantia* , contains inebriating substances (alcohol, chloroform, benzene...). The fourth, *Hypnotica* , includes sleep inducing agents (chloral, veronal...). The fifth, *Excitentia* , includes stimulants (caffeine producing plants, tobacco, betel, katine...).

The J. DELAY CLASSIFICATION - 1957 (see annex 2)

This classification was adopted by the 3rd World Congress of Psychiatry in 1961. It includes three categories : *Psycholeptics* or sedatives (hypnotics, neuroleptics, tranquilizers), *Psychoanaleptics* or stimulants (amphetamines, antidepressants), *Psychodysleptics* or hallucinogens (LSD, mescaline...).

This is a medical classification, based on the *therapeutic properties* of substances. D. Deniker added to it narcotics, alcohol and derivatives and new agents such as lithium (see annex 3).

Further similar amended versions were proposed, in particular the Boudreau version modified by Y. Pelicier (see annex 4).

Classification on the basis of addiction forming power

The WHO CLASSIFICATION - 1971 (see annex 5)

Addiction forming power is assessed by the capacity to produce *physical or psychic dependence* as well as *tolerance* to intake of a toxic substance. These concepts were defined by WHO in 1964 (see below for definitions of dependence and tolerance).

In the WHO classification, *cannabis* and *LSD* are defined as producing middling to moderate psychic dependence and no or minimal physical dependence. On the contrary, *alcohol* is viewed as presenting a physical and psychic dependence risk and a tolerance risk at least as great as that of *opiates*. *Cocaine* is judged to be a moderate to marked psychic dependence

risk, but as generating neither physical dependence nor tolerance. *Tobacco* and *tranquilizers* are not included in the table.

The PELLETIER REPORT CLASSIFICATION - 1978 (see annex 6)

It includes all drugs, licit or illicit (see below for legal definitions). It uses the physical and psychic *dependence* and *tolerance* concepts in the WHO classification. Three categories are listed : *narcotics*, *therapeutic compounds used for other purposes* and further substances including : *alcohol*, *tobacco*, *volatile solvents*. This classification gave rise to comment by F. Caballero. (3)

The G. NAHAS AND R. TROUVE CLASSIFICATION - 1981 (see annex 7)

G. Nahas and R. Trouve offer a classification in which the addiction forming power is characterised by the *pleasure* derived from the drug, the *reinforcement factor* (self administration to re-experience pleasurable sensations), *withdrawal* syndrome, *tolerance* and *neuropsychotoxicity* (reversible disorders of the brain such as disturbed alertness, memory, sensory perception, and psychomotor activity).

Legal classifications

INTERNATIONAL LAW

Classifications in international law are based on a division into two categories of substances controlled by the UN : narcotics under the *Single Convention* of 1961, and psychotropics under the *Convention on psychotropic substances* of 1971.

a) The Single Convention of 1961 (see annex 8)

The Convention was ratified by 135 states and replaces previously existing treaties.

It organises the control of narcotic substances of which use must be restricted to *exclusively medical or scientific objectives.*

A technical committee listed and classified the substances into four tables according to risk and medical utility:

- *Table I* : lists substances with very high abuse potential (about a hundred including natural or semi-synthetic opioids, coca-leaf, cocaine, cannabis, methadone)

- *Table II* : lists 9 substances with a lower risk potential which are used for medical purposes (codeine and synthetic products)

- *Table III* : is a list of exemptions; it includes pharmaceutical preparations which contain substances listed in Tables I and II, but at sufficiently low concentrations to exclude harmful effects.

- *Table IV* : contains 6 substances in table I (including heroin and cannabis), considered to be particularly dangerous and of no medical utility.

The Convention does not define the word "narcotics" and does not lay out precisely the classification criteria although it is on this basis that the degree of severity of control is determined.

The official commentary of the Convention simply states that new controlled substances will be listed under table I, if the risk of abuse is more or less comparable to that of morphine, cocaine, or cannabis, and higher than for codeine, and listed under table II if the risk is no greater than for codeine.

b) The Convention on psychotropic substances of 1971 (see annex 9)

It applies to approximately sixty synthetic substances which were not classified in the Single Convention. These substances for which only medical or scientific use is allowed, are classified into four tables :

- *Table I* : substances liable to induce particularly severe abuse whose therapeutic value is minimal or non existent. *Hallucinogens* are listed here.

- *Table II* : substances liable to induce abuse and with low to medium medical utility. *Amphetamines* and *THC* (active constituent of cannabis) are on this list.

- *Table III* : substances liable to induce abuse but with medium or high medical utility. *Barbiturates* are included.

- *Table IV* : substances liable to induce abuse but whose risk to health is low and medical value is low to high. Some *hypnotics* , *tranquilizers* , *analgesics* are on this list.

The Convention does not define the expression "psychotropic", but it does specify the characteristics of substances which may be controlled. These are substances "which may induce a state of *dependence* and are stimulants or depressants of the *central nervous system* ...or *abuse* and *harmful effects* ....such that they constitute a *public health or social problem* justifying their control on an international basis".

FRENCH LAW

Substances controlled by international conventions are amongst the " *poisonous substances* " governed by the *Code de la Santé publique* , art. 5149 and following. (Code of Public Health) . They are classified as follows :

- *Narcotic substances* : this category includes the *narcotics* of the Single Convention and also the *psychotropics* in Tables I and II of the Convention on psychotropics (hallucinogens, amphetamines). The list of narcotics is set by ministerial decree. *The decree dated 22nd Feb. 1990* (see annex 10) divides about 150 substances into four annexes :

- Annex I which lists a hundred or so substances including cannabis, coca-leaf, cocaine, heroin, methadone, morphine, opium.

- Annex II which contains about ten substances including codeine.

- Annex III which includes amphetamines and LSD

- Annex IV which includes about ten substances such as hallucinogenic fungi and THC (active constituent of cannabis).

The production, marketing and use of these substances is prohibited without specific authorisation given by the Minister of Health.

- *Psychotropic substances* : this category contains the psychotropics in Tables III and IV of the Convention on Psychotropic Substances (see Annex 11).

- *Substances, medical drugs and poisonous products* which can be directly or indirectly a health hazard. These are divided into two lists :

- List I containing approximately 500 substances considered to be most threatening to

health, of which about 50 are classified as psychotropic substances : anxiolytics (benzodiazepines), antidepressants, barbiturates, buprenorphine.

- List II containing approximately 1000 substances such as barbiturates, tranquilizers, hypnotics.

Drugs in list I or II cannot be prescribed for treatment lasting more than 12 months. This length of time can be reduced by ministerial decree. A decree dated 7th October 1991 thus reduced to respectively 4 and 12 weeks prescription times for hypnotic and anxiolytic drugs in list I.

Conclusion

The earlier classifications group substances according to their effects on the central nervous system and their therapeutic properties. They are not based on a characterisation of various drugs according to their potential for abuse.

Classifications which attempt to include the notion of addiction forming power are based on psychic and physical dependence and tolerance. One finds that results derived from these classifications as they apply to all drugs, including alcohol and tobacco, do not always coincide with results based on the concept of licit or illicit drugs as they appear in legal classifications.

Legal classifications, national or international, are based on the criterion of the medical utility of substances (the only licit uses are for medical or scientific purposes). Narcotics with no medical utility are therefore considered to be the most dangerous; for this reason cannabis is in table IV of the Single Convention.

The difference between psychotropics and narcotics as seen by international conventions, (stricter supervision is provided for narcotics than for psychotropics), is not based on any clearly defined conceptual basis. We therefore find the active constituent of cannabis (THC) with psychotropics whereas cannabis is under narcotics. Furthermore, one might query why LSD should be listed in with psychotropics but not with narcotics. French legal classifications do not for that matter reproduce these distinctions : THC, cannabis and LSD are listed as narcotics and so are amphetamines. The category psychotropics is solely concerned with psychotropic medication.

We shall be able to observe that legal classifications also rest on other considerations. They may be influenced by public or private interests. For instance conflicting interests of producer and consumer countries emerged when international negotiations began in the early part of the century. Some countries which gained revenue from opium trading were opposed to its prohibition whereas it was demanded by other countries. Bias of this kind is still very visible as regards production of alcohol and tobacco.

Data on the mode of action of substances

Preliminary remarks

Some of the expressions used in the following analysis need to be defined at the outset.

Neurotransmission

As we shall observe, all drugs exercise an effect on neurotransmission, that is the chemical communication between nerve cells using natural endogenous substances, called *neurotransmitters* . Neurotransmission is one of the fundamental mechanisms for

processing information in the brain, mainly by way of specialised contact between neurons or synapses. Addiction forming drugs act on the various phases of the neurotransmission process :

- synthesis and storage of neurotransmitters in neurons.

- presynaptic release of neurotransmitters by the emitting neuron into the synaptic space or cleft between two neurons.

- released neurotransmitter binding with specific sites on receptors in the membrane of the postsynaptic neuron receptor.

- inactivation of released neurotransmitter through breakdown or recapture by the neuron which released it.

About forty neurotransmitters have now been described as playing a part in the functioning of the central nervous system. A single neuron may release several transmitters. The various neurotransmitter systems interact in an extremely complex manner. Three of them, however, seem to be specially concerned by several addiction forming drugs : dopamine, norepinephrine, and serotonin which form the central ascending aminergic systems.

The dopaminergic system

The major part of cell bodies of ascending dopaminergic neurons is situated in 2 nuclei of the mesencephalon :

- substantia nigra : axons of these cells innervate areas of the brain involved in motricity.

- ventral tegmental area : this region contains cell bodies which innervate areas of the cerebral cortex and of the limbic system. The limbic system is involved in the control of emotions, affects and motivations. It is also connected to various structures such as the pituitary which is known to release cortisol, one of the hormones accompanying stress reactions. Areas of the cerebral cortex innervated by the ventral tegmental area, the frontal areas, in particular, are specially sensitive to anxiety generating situations, probably because they play a role in cognitive processing of information.

It has been demonstrated that the meso-cortico-limbic dopaminergic system plays a key role in various reinforcement phenomena such as self-stimulation. It is part of a *system of reward* which seems to be involved in the subjective phenomenon of pleasure experienced when drugs are taken.

The noradrenergic system

Pronounced divergence of noradrenergic bundles suggests that these neurons modulate the excitability of neurons directly involved in processing of information in the central nervous system as a whole. These neurons are activated by various sensory stimulations (visual, auditory, tactile) and particularly when there is emotional stimulation. The noradrenergic system would seem to be more directly involved in the expression of physical dependence to drugs, and particularly so in the case of opioids.

The serotoninergic system

Serotonin (5HT) is the neurotransmitter of a small group of neurons the cell bodies of which are sited in the raphe nuclei of the brain stem. This neurotransmitter plays a major role in regulation of vascular and gastro-intestinal functions, and also serves as a central neurotransmitter regulating appetite, sleep, mood, behaviour and perception of pain.

Tolerance

As in most neurotransmission systems, prolonged exposure to an agonist (4) leads to inactivation of the membrane transduction processes. This inactivation minimises the response that could be triggered by a massive arrival of ligands (5) to receptors. It can also bring about a reduction of the density of receptors on the surface of the cell with, as a consequence, a limitation of the effects of excessive stimulation. These two modifications are probably the cause of tolerance. However, this phenomenon can also be traced to metabolic processes : the drug stimulates enzyme production which accelerates the breakdown of the substance.

"Physical" dependence

This is an adaptive state characterised by the onset of intense physical disorders when administration of a drug ceases or its action is opposed by a specific effector after prolonged exposure to the drug. These disorders, that is withdrawal or abstinence syndromes, are made up of symptoms which are specific for each drug.

"Psychic" dependence

This is a state in which a regularly used drug brings about a feeling of satisfaction and a psychic compulsion to take the drug on a periodic or continuous basis to regain the pleasurable sensation or avoid distress.

Description of modes of action

We have used 5 subdivisions : analgesics - narcotics, psychomotor stimulants, psychomimetic or hallucinogenic drugs, central depressants, anxiolytics. For each we have given a simplified description of receptors and mechanisms involved. We have not taken into account medical utility, lesser or greater toxicity, nor whether they are licit or illicit.

ANALGESICS - NARCOTICS

Opiates (opium derivatives) include opium, morphine, heroin and synthetic morphine analgesics. For the purpose of withdrawal support medication, *methadone* which is an opiate is used but has three advantages : no injection is needed, doses can be spaced out, lesser toxicity.

Opiates act on specific receptors to be found mainly :

- in the corpus striatum, the thalamus, and the caudate nucleus.

- in areas involved in integration of pain signals, i.e. in the posterior horn of the spinal cord

- in various structures of the limbic system.

It is generally accepted that there are three categories of opiate receptors : the mu type with a high affinity for morphine, the delta type with a preference for enkephalins 6 , and finally the kappa type which binds strongly with dynorphins (6) . It should be noted that it is essentially substances which activate mu receptors which produce dependence. These three types of receptors have been cloned and sequenced. A modification of membrane transduction connected to these receptors is brought about by massive consumption of opiates. This explains pronounced tolerance phenomena associated to this type of drug.

Abundant data shows that the morphine-like substances, stimulate the opiate receptors thus acting on the meso-limbic region. Opioid substances can therefore control and modulate neuronal activity of the dopaminergic systems which, as is known, are implicated in the process of euphoria.

Some products in this category are used in cough preparations or as pain-killers. This type of medication leads to pronounced dependence and withdrawal syndromes when the drug is stopped.

PSYCHOMOTOR STIMULANTS

Neurotransmitters activated by stimulants are catecholamines, in particular dopamine and norepinephrine.

Amphetamine not only inhibits re-uptake of dopamine and norepinephrine but more importantly stimulates their release.

Cocaine blocks re-uptake of dopamine, norepinephrine, and serotonin. The neurotransmitter remains in the synaptic cleft where it continues to stimulate the post-synaptic neuron. Cocaine has no effect on the release of the neurotransmitter except at high concentrations.

Cocaine and amphetamines stimulate considerably dopaminergic and noradrenergic activity. However, their effects modify action and reaction in a more complex neuronal modulator which is not wholly dependent on these two systems.

The action of cocaine and amphetamines on the dopaminergic system probably explains states of euphoria, excitement and other behavioural changes. Physical dependence as a result of cocaine and amphetamine abuse is less evident than is the case with narcotics. Psychic dependence, however, is strong.

Crack is a chemical derivative of free base cocaine. It is smoked and comes in the form of crystals. Serious respiratory failure and cerebral disorders ensue and powerful dependence appears rapidly.

Nicotine : receptor sites (nicotinic receptors) are those of acetylcholine in the central nervous system.

Nicotine increases central noradrenergic activity and stimulates some basal ganglia. Sympathetic and parasympathetic ganglia are also stimulated and there is central noradrenergic and cholinergic activation.

Furthermore, nicotine activates dopaminergic transmission in the prefrontal cortex and stimulates the presynaptic release of dopamine.

Nicotine dependence may be linked, as above, to the dopaminergic system interacting with the cholinergic system.

Methylxanthines : principal representatives of this category of stimulant drugs are caffeine and theophylline which are to be found essentially in tea, coffee, and cocoa. These substances not only stimulate the central nervous system but also stimulate the cardiac muscles and relax the bronchial muscles. The latter two effects are similar to those provoked by adrenergic stimulation.

Theophylline is useful for the treatment of asthma.

PSYCHOMIMETICS OR HALLUCINOGENS

LSD (lysergic acid diethylamide) : Use of this drug induces visual, auditory, tactile and olfactive hallucinations. In peripheral tissues LSD acts as an antagonist of serotoninergic (RHT) receptors, but in the central nervous system, its properties are mainly those of an agonist (in particular in the raphe).

LSD does not induce physical or psychic dependence syndromes as is well known.

Mescaline , another drug in this group, is structurally similar to amphetamines and it affects mainly the noradrenergic neurons. Its psychomimetic effect, however, is close to that of LSD.

Phencyclidine , unlike substances listed above, is not directly linked to the aminergic neurotransmission system. It has been used as an anaesthetic agent because of its analgesic effects. But it was then found that it has effects that resemble those of psychomimetics (hallucination and disorientation).

The activity of this drug is complex : phencyclidine binds with opioid receptors and blocks the N-methyl-D-asparate (NMDA) receptors activated by glutamate. Furthermore, the drug interacts with other neurotransmission systems.

Cannabis acts on receptors specific to the active constituent of the plant, Delta 9 tetrahydrocannabinol (9 THC). Recently, an endogenous ligand was identified : anandamide.

Receptors for THC are present in several cerebral structures. They are particularly numerous in the basal ganglia and the cerebellum and also in the hippocampus, which suggests THC involvement in control of movement and could explain memory and cognitive disorders under the influence of this drug.

These substances have little or no medical utility.

Literature concerning interaction between THC and the dopaminergic system is contradictory. It has been demonstrated that THC, when in highly concentrated form, inhibits re-uptake and stimulates the release of dopamine and norephidrine, whereas at lower concentrations the effect is reversed. It is not entirely clear that the euphoriant effects of cannabis are only connected to the meso-cortico-limbic dopaminergic system. The possibility of interaction with noradrenergic transmission should not be excluded.

CENTRAL DEPRESSANTS

Ethanol : several theories have been proposed to explain the complex mode of action of alcohol on the central nervous system.

Alcohol is appreciated for its anxiolytic effects at low doses. This tranquillising effect (resembling those of benzodiazepines) are due it seems to the potentialisation of inhibitor receptors as for GABA (7) or glycine. At high doses, the principal effects of alcohol on the central nervous system resemble (because of their depressant effects) those produced by certain anaesthetics.

Acute effects of alcohol would seem to be induced through another neurotransmission system, i.e. the glutamatergic system, particularly the NMDA receptors.

Many neurotransmitters, such as dopamine, serotonin, and norepinephrine (the monoaminergic neurotransmitters) are affected when alcohol is consumed. This could explain, at least partially, mental and behavioural disorders occurring when large quantities of alcohol are absorbed.

GABAergic system impairment could explain dependence.

Barbiturates : their mode of action is not completely understood. It is thought that they potentiate inhibition through the GABA receptors. They do not seem however to bind with the same site of a receptor as benzodiazepines. Their action is less specific.

Barbiturates are used for their anxiolytic properties but also as sedatives. At high doses they lose their sedative properties which are replaced by barbiturate inebriation.

These substances induce dependence and tolerance to a marked degree. The risk of overdose is high.

Anaesthetics : this category includes a very large number of compounds whose action is complex, varied, and sometimes ill-defined. Two main groups exist, according to mode of intake : inhalation or IV injection. All anaesthetics have a pronounced effect on the central nervous system as well as on the cardiovascular and respiratory systems.

Various demonstrations have shown that anaesthetics have a disturbing effect on the lipid membrane. Furthermore, anaesthetics may interact with various membrane proteins involved in ion transfer so that ionic permeability is impaired. More generally, the principal effect of local anaesthetics at cell level is inhibition of the conduction of action potentials and inhibition of synaptic transmission.

ANXIOLYTICS

Benzodiazepines increase the inhibiting effect of GABA which explains the anxiolytic effect. Benzodiazepine action is located on specific sites existing on the GABA receptor, but separate from the GABA and barbiturate binding sites.

Benzodiazepine intake has multiple effects, mainly a reduction of anxiety and aggressivity, a feeling of sedation, muscle relaxation involving a certain amount of motor disorganisation. Benzodiazepines are also highly effective anticonvulsants.

Unlike many other sedatives, benzodiazepines rarely lead to an overdose but dependence is significant. In this connection, it is worthy of note that benzodiazepines are known to induce a decrease of dopamine metabolic turnover in the dopaminergic mesolimbic system.

Conclusion

Having attempted to describe the modes of action of various drugs, summed up in table 1, the following comments must be added :

Recent additions to knowledge of neurobiology and pharmacology do not justify the present distinction between licit and illicit drugs.

Obviously, this does not mean that all drugs are equivalent as regards morbidity and mortality risks connected to their intake.

It is interesting to note that most drugs have an effect on common intra-cerebral mechanisms and in particular several drugs activate the dopaminergic system. One might reasonably suppose that drugs inducing physical dependence : morphine, heroin, ethanol, nicotine, affect central ascending aminergic systems (dopamine, norephedrine) following an identical mechanism. It is for this reason that it is impossible to divide drugs into licit and illicit categories on the basis of neurobiological and pharmacological considerations.

An essential factor is to determine how dangerous substances affecting the central nervous

system really are since a rational regulation of their consumption should be established according to their risk potential. However, such risks are sometimes difficult to evaluate since they differ in kind and are frequently multi-factorial. We shall only consider at this stage potential risk for the health of users. Social risks will be considered in the ethical section of the report.

Risks vary primarily with *dosage* . We have observed that a substance may be beneficial in small doses and toxic in large doses. Even medical use may sometimes give rise to large doses as is the case for morphine used to deal with pain. The *frequency* of use is also a factor affecting risk to the user.

Furthermore, effects may be cumulative when *several substances* affecting the central nervous system are used concurrently, either for therapeutic reasons or multiple addictions.

Risks are also associated with *products* which may be *added* to drugs and frequently cause death by overdose.

Risks vary according *to mode of intake* . The most dangerous method is intravenous injection with possibilities of infection and virus propagation. The risk is enhanced by opiate induced immuno-depression.

Finally, the risk depends on *individual sensitivity* of users (genetic and epigenetic factors), context and motivation of drug use.

A further difficulty should be mentioned : little work has been done on epidemiology so that long term risk evaluation of illicit substance consumption has not been possible. This is partly due to the clandestine nature of drug use.

Some points can be made however regarding the degree of danger presented by the various substances we have considered :

As regards *short term* effects, risk of death by overdose is high for opiates (90% of recorded cases are due to heroin addiction). The same is true for barbiturates and anaesthetics.

Medium and *long-term* effects vary with different drugs. For opiates, *physical dependence* is considerable and this is also the case for tobacco, alcohol, and benzodiazepines. For cannabis, cocaine, or LSD, it is thought to be non-existent or weak. Scientific data on dependence, for which there is not as yet a consensus, are at the centre of controversy on the subject of drug abuse. In any case, public opinion is ill informed and tends to confuse opiates and other illicit substances whilst underestimating dependence induced by alcohol and tobacco.

- Chronic consumption of opiates causes severe gastro-intestinal disorders, immuno-suppression and denutrition. The onset of psychopathologies is probable.

- Chronic high dose intake of barbiturates causes neurological, respiratory, and cardiac pathologies as well as deterioration of overall health status.

- Risks connected to alcoholism are familiar : cirrhosis and cancer of the liver, polyneuropathy, alcoholic psychosis. Risks associated with smoking are also well known : cancers, ischemic cardiopathy, chronic bronchitis.

- As regards cannabis, an opinion on long-term risks is difficult to arrive at because of the highly controversial nature of discussion on use of this drug and its possible decriminalisation. In particular, it is difficult to obtain objective proof that cannabis may lead to psychopathologic disturbance such as schizophrenic psychosis. Most frequently quoted risks are impairment of learning and motor capacities, of concentration and memory,

lowering of blood testosterone levels and reduced spermatogenesis. All of these are considered very questionable by some research work.

- Clinical effects of benzodiazepines are also disputed in particular as regards long term effects on memory (but there is no dispute about the short term).

- Regarding LSD, phencyclidine, amphetamines, cocaine, proof of drug-provoked psychosis is absent, but these substances may exacerbate or reveal pathologies.

- Finally, methylxanthines (tea, coffee, cocoa) have few harmful long term effects.

From another view point, it must be emphasised that harmful consequences of drug use are connected to psychological status, the environment, social and economic circumstances which surround intake of these substances and to their greater or lesser degree of social alienation.

Bibliography

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Table 1

CLASSIFICATION ACCORDING TO MODES OF ACTION (8)

	Dependence	Receptor	Overdose risk
A) ANALGESICS - NARCOTICS			
morphine	++++ opiates	A receptors μ	F
heroïn	++++ opiates	A receptors μ	F
methadone	++++ opiates	A receptors μ	F
B) PSYCHOMOTORS STIMULANTS			
amphetamines	+++ (psy) catecholamines	A release	?
cocaïne	+++ (psy) catecholamines	I uptake	?
methylxanthines	+ I phosphodiesterases	I purine receptors	M
nicotine	++++ receptor of CNS	A acetylcholine	M
C) PSYCHOMIMETICS			
LSD	± serotonine	A receptor	?
mescaline	±	noradrenergic receptor	M
phencyclidine	++ NMDA receptor opioids receptor	several ionic channels	?
cannabis	±	A THC receptor	M
D) CENTRAL DEPRESSANTS			
éthanol	+++ aminergic system	A GABANMDA receptor	M

	receptor		
barbiturates	+++ GABA receptor	A allosteric	F
anesthesics	++	I CNS ionic channels	F
E) ANXIOLYTICS			
benzodiazepines	+++ GABA receptor	A allosterics	M

Legal considerations

In French substantive law there is no legal definition for drugs and drug abuse. Nor is there any correlation between scientific classifications of drugs according to their effects on the central nervous system, their power to induce physical or psychic dependence and tolerance, and the legal principles governing these substances.

Some of the substances which may lead to addiction such as tobacco and alcohol are licit, albeit with a certain degree of regulation, whereas others are listed as narcotics, by virtue of ministerial decree, which makes them illicit : their use is prohibited, and to produce, market or publicise them is punishable.

French regulations concerning licit or illicit drugs are to be found :

- in the *Code of Public Health* (Code de la Santé Publique) for tobacco,

- in the *Code of Public Health* and in the *Licensing Laws* (Code des débits de boissons) for alcohol

- in the *Code of Public Health* , the *new Penal Code* (Code Pénal), and *Customs Code* (Code des Douanes) for narcotic substances

For illicit drugs, French law is governed by *international law* since France has ratified the three UN conventions on the subject :

- The *Single Convention on Narcotics* of 1961, which controls the production and use of substances listed in the annex (9) and which creates a general obligation on all parties to take steps limiting their use to exclusively medical or scientific purposes.

- The *Convention on Psychotropics* (10) of 1971 which organises less strict controls

- The *Convention against illicit trafficking of narcotics and of psychotropics* , 1988

Licit drugs

Alcoholism and smoking are listed, just like drug abuse, in section III of the Code of Public Health as "social scourges" (11) . However, the main thrust of drug abuse reduction is through repression of the consumption and supply of narcotics, whereas for tobacco and alcohol, emphasis is on prevention (12) . Freedom to consume alcohol and tobacco is solely restricted for the purpose of protecting other people.

Alcohol

PREVENTIVE MEASURES

They are based on trading and advertising regulations and also on the protection of minors.

Licensing laws specify rules regarding the sale of beverages which are classified into 5

categories according to their alcohol content *(13) . Beverages listed in the last three groups cannot be *sold on credit* . A law dated 10th January 1991 forbids sales and distribution in some places sports grounds and establishments, and petrol stations between 10 pm and 6 am. Alcoholic beverages cannot be sold in *automatic dispensers* .

The manager of a point of sale of alcoholic beverages must be in possession of a license. A new establishment is subject to certain conditions : a density of more than l establishment per 450 inhabitants is not authorised within a community and certain areas are protected.

Sales and distribution of any alcoholic beverage to *minors* under 16 is prohibited as is the case for beverages in the last three groups to minors over the age of 16. Furthermore, minors aged 16 cannot enter a licensed establishment unless accompanied by an adult.

Advertising beverages with a degree of alcohol greater than 1.2% was limited by the law of 10/1/91 to certain listed places and media : it is authorised in printed media (except publications for youngsters) , on radio from midnight to 5 pm (from midnight to 7 am on Wednesdays *(14)*), in the form of informative documentation, for various festivities such as fairs. Advertising in the form of posters and shop signs was to be limited to areas of production according to decreed rules but the law has just recently been modified to permit this form of advertising throughout the country.

The text of the advertisement can only include information as exclusively listed. A health warning stating that alcohol abuse damages health must be appended.

REPRESSIVE MEASURES

Alcohol abuse is repressed when it disturbs the peace or when it endangers a third party.

Drunkenness is sanctioned following art. 65 of the Licensing Laws, when it is *evident* and occurs in a public place. Sanctions are progressive (fines and incarceration for up to a year). A special file of violations of the law (automated since 1981) reveals second offenders. A tribunal may also strip an individual of his civic and familial rights and temporarily prohibit driving an automobile. In practice, it is only rarely that drunkenness alone is punished; generally another offence is concomitant.

Drunken driving (blood alcohol equal or greater than O.7 g) (15) is repressed according to art. 1 of the highway code (Code de la Route). There are sentences of up to a maximum fine of 30 000 French Francs and/or a prison of up to 2 years and suspension of the driving licence. In case of injury or manslaughter, drunkenness is an aggravation : in the new penal code maximum detention has been increased to 5 years (16).

Dangerous alcoholics may be placed under the authority of the Health authorities as of the law dated 15/4/54 included in the Code of Public Health (art. L355-1 to L.355-13). The decision may be taken as part of legal proceedings with a medical certificate or following a report from a social worker. At the request of a medical commission, the person concerned is brought before a court which may, if it considers the alcoholic is dangerous, commit him/her to the care of a special institution for a renewable maximum period of six months.

The person concerned may at all times address a request to the medical commission for re-appearance in court with a view to ending restraint. On leaving the institution, there is a one year follow-up period by a social and mental hygiene establishment. In fact this is rarely the case as few such specialised institutions were created and physicians consider that withdrawal therapy is only of use if the patient is willing. If *one compares the status of the alcoholic and of the drug abuser* , one finds that mandatory restraint of an alcoholic who is a danger to others remains the responsibility of *civil law* whereas in the case of a drug addict a therapeutic injunction based on the danger to the addict himself is a penal procedure and an alternative to imprisonment.

Tobacco

In 1974, WHO recommended that States pass laws to restrict or prohibit tobacco sales promotion. The first anti-smoking law was voted in France on 9/7/1976. Restrictions on advertising were soon circumvented by manufacturers who promoted sales of their goods indirectly by using another product as their advertising medium. The 1976 law was modified by the law of 10/1/1991 for the reduction of smoking and alcoholism and complemented by a decree dated 25/5/1992 on prohibition of smoking in public places. These texts were codified in the Code of Public Health (art. L.355-24 to L.355-32).

PREVENTIVE MEASURES

Direct or indirect *advertising* for tobacco is *prohibited* . Prohibition extends to all media (television, radio, cinema, printed press...). Sponsoring is also prohibited when the aim or effect is direct or indirect advertising for tobacco products. However, the National anti-Smoking Committee was able to demonstrate in its 1993 report that in fact the law has been largely evaded through indirect advertising for which the industry spent more than 53 millions French Francs in 1993.

Information for smokers on the dangers of tobacco is mandatory : the caption "seriously damages health" must be printed on each packaging unit. The full composition, average tar and nicotine contents and a health warning must be printed on each packet of cigarettes. Prophylactic information must be given in schools and to servicemen. Finally, an annual event called "A day without tobacco" is organised on the 31st of May.

REPRESSIVE MEASURES

By the provisions of the decree date 29/5/1992, it is *forbidden to smoke in places assigned to collective usage* . This applies to all open or covered sites where the public is allowed to enter or which are places of work and to open spaces where schoolchildren or students gather. Reminders of the principle of prohibition of smoking must be clearly visible and give directions to areas where smoking is allowed. Smokers in violation of the decree may be fined 600 to 1 300 French Francs.

Illicit drugs

A law dated 19th July 1845 which regulated the sale, purchase, and use of poisonous substances (72 products, inter alia opium, morphine, cocaine) was not intended to repress use of these substances as euphoriants. The sole aim was to prevent their criminal use in the stead of pharmaceutical use (An average of approximately 33 cases of arsenic poisoning a year between 1825 and 1850). On the contrary, with the first appearance of opium dens in France, it is recreational use which legislators intend to repress by voting a law on 12th July 1916. Use in society of drugs becomes an offence and fictitious medical prescriptions are punishable. Hashish is added to the list of poisons. Further additions are possible. A law dated 24th December 1953 introduces the notion of *user/patient* . According to this law a judge could force drug users to undergo drug addiction therapy in a special centre. It was in fact never applied as the decrees were never published.

Another law, dated 31st December 1970, "relating to health measures to reduce drug abuse and repress drug trafficking and illicit use of poisonous substances", is *currently applicable* (17) . It no longer distinguishes between use in society and private use. *Any use becomes a misdemeanour* , but the delinquent user is also seen as a sick person to whom therapy must be offered. The second section of the law is concerned with repression of drug trafficking. As stated repeatedly by the authorities, there is a determination to contain drug trafficking increasingly firmly and several more laws were voted as a consequence : a law dated 17/1/1986 concerning small dealers, a law dated 31/12/1987 on money laundering, a law

dated 14/11/1990 on confiscation of drug trafficking profits. The new Penal Code which entered into force on 1/3/1994 further accentuates repression : some former misdemeanours become crimes and a new chapter for indictment with life sentences punishes organised traffic. These crimes are judged by an Assizes Court entirely composed of professional magistrates as is the case for terrorism. To this was added a further law dated 12/7/1990 relating to the participation of financial institutions to eradicate money laundering and another law dated 19/12/1991 authorising police and customs officers to buy, sell, keep and deliver narcotics with the aim of identifying traffickers. To these laws are appended special derogations from rules and procedures in ordinary law as is the case for terrorism : *remand in custody* may last 4 days, search may take place at any time of the day or night and *imprisonment* to ensure the payment of fines can be as long as two years whereas it may not exceed four months in ordinary judicial procedure.

Scope of the 1970 law

Prohibition of use and trafficking applies to substances and plants on a list of narcotics (18) established by ministerial decree. The list (about 150 substances) presently in force, was ordained by decree dated 22/2/1990 (19) . It includes narcotics (inter alia cannabis, cocaine, opiates) under UN control via the Single Convention as well as certain substances (amphetamines, hallucinogens) classified in the Convention on psychotropics. Production, marketing, and use of these substances is prohibited unless specific authorisation has been given by the Minister of Health. There are special regulations for the prescription and delivery of medication in the category of narcotics : a counterfoil book must be used, prescriptions are for a maximum duration of 7 days or, for certain drugs designated by ministerial decree, 14 or 18 days. Prescription of pain-killers (morphine and similar substances) in the framework of heroin substitution programmes is totally illegal since they are used for other purposes than those outlined in regulations of medical utility. *Buprenorphine* (Temgesic*) an analgesic frequently used by general practitioners as a replacement drug, was added by decree dated 10/9/1992 to the list requiring prescription with a counterfoil book, in spite of the fact that it is not listed as a narcotic, simply to prevent this wrongful use. *Methadone* , another substitute drug is a narcotic which cannot be handled in a chemists' store. It can only be prescribed as part of a maintenance programme as directed by the Ministry of Health (20) .

Unlawful use

REPRESSION

Under Article L.628 of the Code of Public Health a prison term of 2 months to a year and /or a fine of 500 to 15 000 French Francs can be inflicted for unlawful use of narcotics. Use is understood to mean wilful absorption by whatever means of narcotic substances. The law makes no distinction between the kind of product, quantities consumed, nor does it differentiate between occasional and habitual use (21) . Generally, proof of unlawful use is facilitated by possession of the substance or of a syringe.

THERAPEUTIC INJUNCTION

A distinctive feature of the 1970 law is that it provides for therapy as an alternative to penal sanction. Prosecutors may not undertake legal proceedings against *a first offender* if the person concerned supplies medical certification that he has undertaken a detoxification programme or has submitted to medical supervision since the offence was committed. If there is no medical certificate to that effect, the prosecution may order the user to submit to detoxification. This *therapeutic injunction* suspends legal proceedings and they are dropped if the user completes the detoxification programme. If the infraction is repeated, the prosecutor will decide whether it is or is not appropriate to continue legal action. When the user accepts the terms of the injunction, the prosecutor informs health authorities (DDASS). The latter conducts an enquiry and a medical examination of the drug user and

orders either medical supervision or a detoxification programme in an approved centre. The person concerned must send a medical certificate to the health authorities who verify and inform judicial authorities that the detoxification programme is in progress. Therapeutic injunctions cannot be ensured by physical restraint and no time limit is set for the drug user to approach health authorities. *Rejection or interruption of therapy may expose the drug user to reopening legal proceedings* .

COMPULSORY THERAPY

When legal proceedings are in process, the magistrate in charge of the enquiry or the judicial authority for the area where the trial will be held, may compel the accused to undertake a detoxification programme (22) . The authorities in charge here are judicial which is not the case for therapeutic injunction where detoxification is under the sole responsibility of health authorities (DDASS). The judicial authorities may not pronounce the legal sentence for illicit use if the drug addict complies with therapy.

As in ordinary law, detoxification may also be an obligation in the case of a conditional prison sentence, parole, or judicial supervision.

Drug user therapy outside the judicial frame work

VOLUNTARY TREATMENT

Users entering spontaneously approved specialised treatment centres or a hospital are treated *at no cost* to themselves and may remain *anonymous* if they so request. However, proceedings may cease to be conducted anonymously for other offences.

TREATMENT AT THIRD PARTY REQUEST

When welfare workers or physicians inform health authorities of the identity of a drug abuser, the health authorities may offer a detoxification programme if, after enquiry and medical examination, they consider it necessary. Judicial authorities are not informed and refusal to comply is not punishable.

Other infractions to drug legislation

INFRACTIONS CONNECTED TO USE

To obtain narcotics, users frequently break anti-drug laws. Such offences considered to be part of *drug trafficking* , are punishable by sentences of as much as 10 years imprisonment and /or 50 million French Francs in fines. This is the case for transport, possession of, supply, sale, and illicit purchase of narcotics. When supply or sale takes place for the personal use of the buyer, the applicable sentence is only 5 years imprisonment. This difference - and this is somewhat of a paradox - was introduced in the law dated 17/1/1986 to reinforce repression of minor trafficking practised by user-dealers. In this way, the immediate summons procedure can be used since it is not applicable to misdemeanours punishable by more than 5 years imprisonment.

Illicit *imports* and *exports* of narcotics are also punishable by 10 years imprisonment and /or 50 million French francs in fines. The new penal code provides for sentences of 30 years criminal detention when the offence has been committed by an organised gang. This new indictment aims at differentiating between an international trafficker and an individual returning home after a holiday abroad who imports drugs for his personal consumption. Penal Code provisions apply but to these are added prison sentences and fines for contraband in the Customs Code.

Obtaining narcotics with *fictitious prescriptions* is also punishable by 10 years prison detention and a fine.

INSTIGATION

Facilitating , by any manner of means, use of narcotics or delivering narcotics on the basis of prescriptions which are known to be fictitious or to have been supplied by accommodation is a misdemeanour liable to 10 years detention and/or 50 million French francs in fines.

Incitement to use drugs or to present the use of drugs in a favourable light is punishable by a 5 year prison sentence and/or a fine of 500 000 French Francs. This is particularly aimed at the media and literary or artistic works.

As we shall see, many of the measures adopted as part of the risk reduction policy come under the heading of these two offences.

REPRESSION OF LARGE SCALE TRAFFICKING

Certain misdemeanours listed in the 1970 law have become *crimes* in the new Penal Code. This is so for illicit production and manufacture of narcotics which have become crimes punishable by 20 years criminal detention (30 years in the case of organised gangs) and 50 million French Francs in fines. To head or organise a group engaged in the traffic of narcotics can now lead to indictment and life sentence plus 50 million French Francs in fines.

LAUNDERING OF DRUG PROFITS

Facilitating by fraudulent means false justification of the source of assets of the author of an infraction to narcotics legislation is punishable by 10 years of prison detention and a fine of one million French Francs (23) . The law dated 12/7/1990 providing for the participation of financial institutions in repression of money laundering, allows the lifting of banking confidentiality rules.

FURTHER SANCTIONS

To sentences pronounced to punish trafficking, judges may add further sanctions such as deprivation of civic rights, confiscation of assets, prohibition from entering national territory for foreigners.

Enforcement of drug legislation

Justification for international and national *prohibition* of certain substances rests on the *health and social dangers* incurred by their consumption. And yet, certain products which, if abused, can be very dangerous indeed, are accepted or even given financial support as is the case for wine and tobacco.

The difference in treatment of wine and tobacco is understandable for socio-cultural and economic reasons. The economic prosperity of several French regions rests almost exclusively on their vineyards. Furthermore, alcohol and its elating effects are mostly considered by public opinion as being associated with festivity and not with drugs. Unlike alcohol and tobacco, the three principal plants prohibited by the UN Single Convention (cannabis, coca-leaf, opium poppy) were new and culturally alien in countries (24) which played a predominant role in the organisation of international control of drugs and in the selection of the drugs concerned (25) . Prohibition choices made by these countries authorised hopes that radical cessation of propagation of the new drugs would occur because of repression of supply on the one hand and reduction of demand on the other. Have these objectives been attained ?

REPRESSION OF SUPPLY

Although the economics of drugs are rather hazy knowledge and figures quoted vary with the source (26) and are only an evaluation, it is known for a fact that on a global basis drug traffic, far from ceasing, has developed tremendously in spite of ample provisions made, by the United States in particular, for fighting against it. To give examples, opium production in the Golden Triangle was 160 T. in 1979 and was as high as 2700 T. in 1992. Global production of cocaine doubled between 1988 and 1993. Because of the economic crisis, political instability, and wars, new production areas have sprung up. Taking into account repression and risks, prices are very high and traffic is very profitable. According to FATF (GAFI) (27) , global traffic earns 500 billion dollars per annum for its perpetrators (this figure is estimated at 300 billion by the Observatoire Géopolitique des Drogues (Geopolitical Drugs Observatory) and at 350 billion by Interpol, which is a greater figure than that of the French national budget). Drug money is infiltrating into all the traditional sectors of the economy (90% of the amounts being invested in rich countries and only 10% in producing countries).

In *France* , FATF (GAFI) estimates total sales of drugs at 20 billion Francs, i.e. 7% of gross national product. The percentage of effectiveness of efforts to combat money laundering is thought to be less than 1%. Products found and seized, according to various sources, are thought to represent about 5 to 15% of those circulating freely (28) . An underground micro-economy supported by drug money has developed in certain underprivileged suburbs, and yet in 1992 out of a total of 54 468 arrests for infractions to drug laws, only 5 982 were for trafficking, 6 982 for use and dealing, and the rest, i.e. about 76.5% for use alone (source OCRTIS, Office Central de Répression du trafic illicite de stupéfiants). (Central Bureau for illicit drug trafficking repression).

In view of these results world wide, certain opinions have been expressed (by R. Kendall, Secretary General of Interpol, for one) asking states to change their anti-drug strategies and to concentrate efforts on prevention and assistance to drug abusers rather than on repression.

REDUCTION OF DEMAND

Unlawful use and therapeutic injunction

France chose to adopt penal sanction for use pure and simple, even in private, of drugs, which was not required by international conventions. This measure which contravenes the principle stated by the Declaration of Human Rights, according to which "freedom consists in being able to do everything which is not harmful to others" was justified when the law was voted as being a normal counterpart that society is entitled to demand at a time when the right to receive health care is recognised for individuals, in particular by the generalisation of national health systems. The aims of the introduction of prohibition with penal sanction were both to deter and encourage the user to enter detoxification programmes through the therapeutic injunction system. A health system with state financing was set up specialised care centres were created and also various structures for assistance such as specialised familial care or therapeutic "safe houses" (29) . Care is strictly on a no-cost basis. In 1992, 37 236 addicts were helped in specialised centres (30) .

Has prohibition had a deterrent effect ? Generally it is difficult to evaluate illicit drug use since by definition it is a clandestine activity. Addicts are only identified as such when they enter into health care programmes or are arrested (31) . Figures quoted vary wildly even when they are contributed by official sources. The Ministry of Health, in a brochure introducing the specialised care system in 1993, considers the population of dependent addicts to be about 100 000 to 150 000. DGLDT (32) gave the figure in a press file dated 17/9/93 as in the region of 150 000 to 300 000. The increase in number of deaths attributed to an overdose is not disputable since it was 1 in 1969 and 499 in 1992. It must be emphasised that these figures, supplied by OCRTIS, cover only deaths known to law

enforcement authorities. Cannabis users are evaluated at several million (33) . An INSERM enquiry made in 1993 on a population of 12 391 secondary schoolchildren aged 11 to 19 revealed that 11.8% of them had tried cannabis and among that number, 40% of them on at least 10 occasions. In boys aged 18 years and over, the figure is 18.8% of which 94% more than 10 times.

It is difficult to draw conclusions from these figures on the one hand because they are imprecise and on the other, because it is impossible to know how many addicts there would have been if personal use had not been made into an offence. We must however note that prohibition did not suffice to stop consumption of illicit drugs.

To what extent has prohibition induced addicts to seek medical help ? A report presented by France at a seminar organised at the Council of Europe by the Groupe Pompidou "in 1992" (34) , shows the diversity of practice for therapeutic injunction. The number (4 935 in 1992) varies a great deal from one area to another. It is not used very much in regions where the population is not stable because follow-up would be difficult. Advice from health authorities may be sought in different ways and at various phases of the proceedings : before the injunction is pronounced or in the course of its pronouncement at a three-party meeting between prosecutor, DDASS physician and the drug user. Taking over responsibility for the addict may take place immediately after the injunction has been pronounced on Court premises (in the prosecutor's own office or one set aside for DDASS). In other cases the person to whom the injunction applies is directed to other premises belonging to DDASS and not to the courts. The DDASS physician may be tasked with the therapeutic follow-up of the addict who may also be sent to an approved care structure. The flow of information between health authorities and judicial authorities on action taken by the addict in regard to his therapeutic injunction also varies considerably : it may be purely formal or the subject of regular meetings. One of the difficulties of therapeutic injunction is the observance of the competence of each of the two authorities concerned : judicial and health. The difference between the two aspects of the DDASS mission, administrative on the one hand and in some cases health care on the other, is sometimes not adequately spelled out. Furthermore, it is the magistrate's responsibility to opt for therapeutic injunction and health care teams do not always appreciate judicial interference in medical and social matters. The system is felt to be incompatible with the concept of health care as a right rather than as an obligation and which must be given with due respect to the principle of free and informed consent of the patient. Many physicians decline to inform the judicial authorities that treatment is no longer being dispensed since they consider that relapse is inevitable in the progression of an addict.

To what degree has therapeutic injunction played a role in recourse to medical care ? A survey carried out by the health authorities in 1991 shows that for 59% of addicts subject to therapeutic injunction, it was the occasion for their initial contact with care institutions. Nevertheless, figures also show that injunctions only represent about 10% of arrests for drug use (source ORCTIS). A survey of approved care centres (35) shows that in 1991, only 5.8% of requests for care were connected to therapeutic injunctions whereas 49.4% came from the addict himself, 21.9% from medical or social welfare personnel, and 13% from the addicts' own family or friends. The government's anti-drug plan announced in September 1993 included the implementation of "means required for a significant development of therapeutic injunction". One may question however whether this procedure is suitable for the majority of users who get arrested. Most of them (66% in 1992, source ORCTIS) are arrested for using cannabis. Furthermore, the obligation of abstinence on which the injunction is based does not seem adequate either for users of hard drugs who, as is well known, frequently relapse. Therapeutic injunction which is only allowed for first offenders cannot apply to heavy addicts who are bound to be multiple offenders and who pose the most severe medical problem.

Nor does prison as such represent a satisfactory solution for drug addicts and all the more so because abrupt withdrawal will lead them inevitably to the prison infirmary. Nevertheless, 1088 firm prison sentences concerning 859 offenders were given for drug use

alone in 1991 (36) . All those sentenced are not necessarily put in prison but each year there are several hundred who are (37) . Furthermore, many users are convicted for trafficking to which the therapeutic injunction system does not apply. Prison authorities consider that about 15% of the prison population is addicted to drugs. This figure rises to 30 or 40% in large prisons in the Paris area and in the South of France.

Effects of the 1970 law in social and health terms

Prolonged discussion arising out of the law voted in 1970 centred on the following question : is a drug addict delinquent or sick, or both ? The debate has been overtaken by events which became very obvious as AIDS spread : the 1970 law which for the first time in France provided for the creation of extensive social and medical facilities to help drug addicts, was not sufficient to prevent a worsening of certain aspects of their position, in particular for those who take drugs with IV injections. Medical assistance for drug users was mainly aimed at withdrawal and abstinence. It was therefore logical that the decree dated 13/3/1972 which was in force until 1987, should limit access to syringes which could only be bought on prescription. The consequences of that rule are well known : it encouraged sharing and re-use of needles and was therefore an involuntary contribution to the propagation of HIV, hepatitis, and infections.

Drug addiction cannot be considered solely from the point of view of the AIDS epidemic but it did lead to a major revision of the addicts' image since there was evidence that they could be receptive to a strategy based on empowerment (38) .

Though abstinence remains the objective, one can no longer ignore the active drug addict and not try and modify behaviour connected to addiction so that it becomes less dangerous. But this "risk reduction" policy is frequently in opposition to enforcement of the 1970 law and a large number of measures either already in effect or now recommended for future implementation come under the heading of inciting drug abuse. This is so for all the measures facilitating access to syringes which furthermore sometimes contravene existing rules of monopoly of sale by licensed pharmacists (automatic dispensers, exchange and distribution by associations). This is also the case for user associations whose very existence is illicit since they aim inter alia at giving advice to addicts so that they can continue using drugs without running the risk of infection or overdose. Such information is delivered by tracts or other publications and could give rise to prosecution for instigating drug use. Prescribing analgesics containing morphine as substitution therapy outside a hospital environment is also illegal since they have not been authorised and evaluated for that medical purpose.

Discrepancies between law and reality make the law increasingly difficult to explain. The legal definition of delinquent user does not always agree with the medical definition of drug addict. A non abusive user of cannabis is delinquent whereas a dangerous alcoholic is not. There can be addiction to a substance but no offence committed because a product such as neocodion* is sold over the counter for purely pragmatic reasons (no risk connected to injection, emergency treatment for withdrawal syndrome). An addict who gets a prescription for methadone in France is not a delinquent, but he commits an offence - illicit import of narcotics - when he gets it from a pharmacy in Belgium with a prescription from his attendant physician in that country.

It is clear that all health and social aspects of illicit use of drugs must be taken into consideration and not just withdrawal. One of the obstacles impeding the establishment of an effective health care policy is the lack, or sparse nature of epidemiological and clinical studies on the subject. It is difficult to undertake such studies because use is covert and care is anonymous in part due to enforcement of the law.

The present state of legal arrangements appears to be the result of a dual historical evolution : on the one hand, the ever more extensive use of some psychotropic substances which used to be limited by cultural factors, or even unknown; on the other hand increasingly precise knowledge about social and medical risks attendant to consumption of

all traditional (alcohol and tobacco) or more recent substances, and recognition of the importance of evolving appropriate health measures to deal with these risks. In the face of this evolution, the objectives of repressive and preventive measures have also been modified and subsequent successive alterations of the judicial arrangements have been made with some difficulty due to the variety and complexity of the situation.

At the present time, the gap between intentions and effects is such that there is legitimate doubt about the coherence of the judicial, social and care systems as a whole. This doubt underlies the following ethical considerations.

Annexes

ORGANISATIONS INVOLVED IN FIGHTING DRUG ADDICTION

FRANCE :

DGLDT (Délégation Générale à la lutte contre la drogue et la toxicomanie) : Commission to combat drugs and drug abuse : it reports to the Prime Minister's office and is in charge of co-ordination of anti-drug abuse activity.

OCRTIS : (Office Central de répression du trafic illicite de stupéfiants) : Central Bureau for repression of illicit narcotic trafficking. Office in the Ministry of the Interior in charge of centralising all information connected to drug traffic and of co-ordinating repressive action.

EUROPE :

The GROUPE POMPIDOU : works under the aegis of the Council of Europe. Nineteen member countries participate in its multidisciplinary research work on all matters related to drug addiction.

ECFAD : European Committee on the Fight Against Drugs. Created in 1989 by the EEC to ensure co-ordination of member countries' actions to bring about reduction of demand.

EUROPOL : European Police Office included in the Maastricht Treaty. In charge of the Community's actions to combat international drug trafficking. Will manage the computerised system for exchange of information as provided by the Shengen Convention.

EUROPEAN CENTRE FOR DRUGS AND DRUG ADDICTION (EMCDDA) : created in 1993 by the EEC. Its task is to collect data, statistics, and documentation on which to base measures adopted.

INTERNATIONAL :

INCB : International Narcotics Control Board, which is responsible for the administration of treaties. Composed of 13 elected members (3 on a list proposed by WHO and 10 on a list of experts chosen by UN members).

CND : The Commission on Narcotic Drugs, a functional commission of the Economic and Social Council (ECOSOC - UNITED NATIONS). Forty elected members so as to ensure a balanced representation of drug producing and consuming countries.

UNDCP : United Nations International Drug Control Programme.

FATF : Financial Action Task Force in charge of money laundering counter measures. Created in 1989 after the industrialised country summit in Paris .

Ethical considerations

Studies made today of drug addiction are gradually losing the simplicity which went with fear, indignation, and inexperience. It was hoped that drug addiction would be eliminated by eliminating "drugs". One is forced to accept nowadays that there are many drugs (39) and that drug abuse and drug use (40) are not synonymous, and also that abuse will not disappear by decree. To sum up, problems connected with consumption of substances acting on the central nervous system are not simple ones and recent experience goes to show that many accepted ideas on the subject need revision.

Firstly, in the light of knowledge gained in recent years in neurobiology and pharmacology, legal distinctions between licit and illicit drugs do not seem to be based on any coherent scientific thinking. Drugs which are not prohibited (alcohol, tobacco, pain killers, neuro-psychiatric medications) are potentially just as dangerous on the whole as prohibited drugs. As for the latter, it does not seem rational that identical sanctions should apply to consumption (moderate or abusive) of all illicit substances, since their toxicity and their effects vary considerably.

The 1970 law wished to halt consumption of illicit drugs with a combination of repression and therapeutic injunction. On the one hand, supply and demand of illicit substances are repressed, and on the other, a specialised social and health care system is created for the management of the addict anonymously and free of charge. However, the law did not produce all the expected results. Consumption has not been halted. Risk of exclusion and marginalisation of addicts, particularly for heroin users, has increased. Furthermore, the appearance of AIDS has made the situation worse. The world over, production of illicit substances is on the increase and so are the crimes and petty offences which partner it.

The following considerations are CCNE's attempt to make a contribution to existing efforts towards a better understanding of problems raised by drug consumption, licit or illicit. Consumption of drugs is unlikely to cease. But there can certainly be progress in the direction of controlled consumption with the aim of protecting the population as a whole - and youngsters in particular - against the risk of becoming addicted with all attendant dangers.

An universal human fact, a tragic fact of today' s society

Everyone has some experience of at least one substance acting on the central nervous system (for example, alcohol ; French citizens who have never partaken of a glass of wine are rare indeed). Many people experience or have experienced in the past some kind of dependence : addiction to coffee, cigarettes, sleeping pills, etc. It is quite frequent to know someone whose pronounced dependence on some drug is a health hazard : alcoholic, heavy smoker, heroin addict. Attraction to one type of substance rather than another is due to psycho-physiological, socio-cultural, and economic factors.

Events related to an individual's personal history certainly play a role in the development of compulsive use. But vulnerability to certain substances also depends without any doubt on biological factors (genetic and/or epigenetic). Laboratory research has shown that most mammals can develop an appetite for a given drug and then addictive behaviour and that susceptibility to one or another product varies with individuals. This inequality as regards products was well illustrated by the heroin addiction epidemic which spread amongst young Americans serving in Vietnam. About half of those who tried heroin developed a physical dependence. A small minority stayed "hooked" to heroin. The majority of those who had developed dependence nevertheless stopped using heroin when they got back home, with or without medical help (41). Unfortunately, such spontaneous withdrawal from heroin in most other circumstances is very rare, perhaps because of the psychological, socio-cultural and environmental context connected to this practice.

Drugs are used in all human societies. Cultural factors have an influence on the type of substance in favour in a society and on the kind of consumption which also varies a great deal as fashion changes. Precisely because drugs produce possibly dangerous effects not only for the user but also for those in contact with him, every society also seeks to control the use of drugs. For products in common use, part and parcel of a culture (for instance, in our own, tobacco and alcohol) the ritual attached to consumption (limited to certain circumstances, modes and places) is frequently thought to be a kind of social method of control sufficient to keep a check on use and abuse and attendant risks. Products with some therapeutic utility considered to be too dangerous to allow free access to them are regulated so that conditions of acquisition and use are limited (for instance, mandatory medical prescription, or limited quantities). Products considered to be potentially harmful to individuals or life in society are frequently viewed with moral distaste, or reserved in use for very special severely controlled rites (initiation rites, religious ceremonies). Legal prohibition is a relatively new phenomenon in the history of modern States (42).

The notion that a product is dangerous is linked to whether its consumption represents deviant behaviour, and if so how deviant, compared to accepted standards. Standards vary in different cultures and at different times (43). Drugs emanating from foreign cultures may seem (and may well be) more dangerous than home grown drugs, precisely because they are not socialised and controlled in ways traditional to the host culture : one could mention in this context the damage brought about by the introduction of alcohol in certain societies, American Indian populations for instance, who were well in control of the use of other substances such as coca-leaf or mescaline.

The international nature of drug marketing is such nowadays that our societies are overwhelmed by products over which they have no cultural control and all the less so because they are illicit and their consumption is clandestine. However, even in clandestine surroundings, social rites develop which model and formalise consumption. For instance, although the use of hashish is illegal in France, it is in frequent use in certain social circles with established standards and rites.

Nor should one forget that in our very competitive liberal societies, with winners and losers, which demand a great deal from an individual, traditional forms of social control of drugs have lost some of their edge. Anxiety and depression induce solitary use. Acute episodes of intoxication are not infrequent : alcoholic binges, massive intake of medicine with suicidal intentions, death by heroin overdose, etc. Although the social ideal is still based on temperance and moderation, even if drug abuse is considered unreasonable or self destructive, we know that no one is safe from suicidal temptation and that suicide calls for compassion and assistance, not rejection.

Drugs

Recent neuro-pharmacological research underlines that there are analogies between the modes of action of most substances that affect the central nervous system (44). Their effects differ, however, and are dose dependant. A substance may be beneficial in small doses and harmful in large doses. Using several drugs concurrently may considerably modify effects.

Drugs can also be classified according to the kind of danger to health, in the following way :

- *short term* risks : for example in the case of opiates and synthetic opioids, respiratory depression ; with alcohol, inebriation ;

- *medium term* risks : for example in the case of opiates and synthetic opioids, risk of infection if drugs are used intra-venously, tolerance (necessity of increasing doses in order to obtain the same effect), dependence (withdrawal syndrome when drug intake ceases; in the case of alcohol, dependence (delirium tremens when drinking ceases) ;

- *long term* risks : e.g. in the case of opiates and synthetic opioids, denutrition ; for alcohol, cirrhosis of the liver, cancer of the liver, polyneuropathy, alcoholic psychosis.

Risks are often compounded because of frequent multiple and cross addictions (alcohol used to withdraw from heroin addiction for instance, or mixed addiction to alcohol and tobacco simultaneously, which cumulate harmful cardio-vascular effects).

Legal differentiation between licit and illicit drugs do not correspond to scientific classifications of products considered, be it because of the mode of action, the effects on the central nervous system, or risks incurred. Legal products may have as devastating effects as illegal ones. Physical dependence to nicotine is as severe as physical dependence to opiates. Legal products are used to commit suicide much more frequently than illegal ones (mixing alcohol and benzodiazepines, for instance).

One could say that legal distinction seeks to set a different boundary : the one beyond which there is risk of social structures disintegrating. To understand risks incurred by consumption, neuropharmacological aspects of products affecting the central nervous system should not be the only consideration. Products can be classified according to their social aspects and regulatory measures to contain a so called "normal" consumption. The difference between what the law authorises or forbids is not in fact the only reference for the establishment of drug use practices. F. Dubet, a sociologist, notes another difference in conversations between youngsters in suburban housing lots (45). Their perception of drugs is based on an opposition between two substances (both illicit) and a distinction between "soft" and "hard" drugs. Cannabis, a "soft" drug, (like alcohol for adults) enhances links within a group ; heroin, a "hard" drug, leads the user to loss of self control and desocialisation. This duality, according to Dubet, represents the existence of two realities in these youngsters' vision of the world : that of inward-looking closed communities, and that of an external market and trafficking with opportunities for illegal gain but also a risk of losing one's way. Between these two worlds there is also a world made of work and class identification but it seems to have disappeared from their horizon or to be inaccessible.

Thus drug use cannot just be analysed in terms of "absence from the world" or anomia. It may also express a desire for integration, stimulation of intellectual faculties, social success (e.g. cocaine, antidepressants, or tranquilizers used to overcome "stage fright" or improve performance). So the degree of socialisation or desocialisation which permits the use of drugs is probably connected to their biochemical properties and their legal status, but it is also related to the social status of the user and his/her relationship to the product. The Pelletier report of 1978 pointed out the existence of socially adapted heroin addicts sufficiently in control of their consumption to lead a "normal" life. At the other end of the scale, for those who are already in the throes of many difficulties in their quest for a social niche, the use of drugs is part of a context which aggravates the risks. An effort must be made however not to fall into the trap of oversimplification by attaching stigma to a certain social category (e.g. youths in "suburban housing lots"). INSERM's epidemiological enquiry into the behaviour of adolescents in 1993, shows that "drug use in adolescents attending school is only loosely connected to their social and educational status : youths everywhere and in all social classes may be involved".

The law

International control of certain psychotropic substances is relatively recent : the first international conventions on the subject appeared at the beginning of this century. Early conventions for that matter were not very binding and were compatible with conditions prevailing in various areas (46). Socio-cultural and economic factors played a role in the selection of substances prohibited because of danger to health or social structures world wide. Traditional uses of opium for smoking or of cannabis and coca-leaf in some parts of the world are probably no more dangerous than drinking alcohol or smoking tobacco in

other areas, but it was mostly developed countries producing tobacco and alcohol which organised international drug control as it is today, and it is sadly clear that the North-South divide is one of the aspects of the "anti-drug war".

In France, recent trends seem to move in the direction of putting users of licit and illicit drugs on the same footing :

- increased severity as regards alcohol and tobacco : restricted advertising, smoking prohibited in public areas, greater repression of "drink and drive", alcoholic inebriety considered as an aggravating factor when third parties are injured (road accidents, domestic violence) ;

- decreased severity for the consumer of illicit products : protection of IV users against infection, de facto recognition of user associations, establishment of help programmes with no abstinence obligation, prescribing substitute products, decriminalisation of cannabis use (although almost 70% of those arrested are still cannabis users). The fundamental difference which remains is that the user of illicit products has delinquent status even if he has done no harm to others.

This increasing uniformity in treatment is due to awareness that neither total indulgence nor strict prohibition are satisfactory, regardless of the substance. Official leniency towards smokers and the tobacco industry's sales promotion activities have jointly helped to bring about an epidemic of unprecedented proportions of bronchial and pulmonary cancers on the one hand, and of cardio-vascular disease on the other, in the last half century. The policy of repression which was the logical partner of prohibition, as regards heroin for instance, has not met expectations.

Since 1970 neither consumption nor trafficking of illicit substances has been controlled. Production has increased. Indirect harmful effects in sanitary and social terms have arisen. The fact that syringes were only obtainable on prescription until 1987 and that even now possession of them is a presumption of use, has led users to adopt dangerous practices such as sharing and re-use of needles. Because of this, infections and not drugs in themselves are the main cause of morbidity and mortality in IV drug users (47). Furthermore, illicit drug users are exposed to the risks of product falsification which is particularly dangerous for drugs injected directly into the bloodstream. These drugs are adulterated and mixed with various substances and their quality is totally uncontrolled ; the consumer knows nothing about the composition of what he is buying, whether the drug has been cut nor about variations in concentration. This is one of the major causes of overdose death. The price of drugs, increased by the risks of illicit trading, is such that the more impoverished are compelled to resort to delinquency and prostitution to buy their supplies which in turn leads to security problems which plague so many local authorities. Finally, medical treatment for users of illicit drugs was mainly considered from the angle of detoxification so that specialised units were in charge with the result that active users of addiction forming substances were in fact separated from traditional health-care institutions. Specialised units were unable to respond to all the needs of addicts which in fact cover the whole range of medical and social services. So as to respond to these needs, medical practices have emerged in total disconnection with any legal provision, such as prescription by attendant physicians of substitute products which were not approved for that purpose. It is a paradox that efforts made by members of medical professions to help drug addicts, with the approval of the Medical Association (Ordre des médecins), Pharmacists Association (Ordre des pharmaciens) and of the Ministry of Health, should lead these practitioners to act illegally.

This state of affairs leads to the conclusion that a policy based on repression is no longer sufficient to solve the problem of illicit drug use, particularly in view of the fact that any pertinence to the distinction between licit and illicit drugs on which repression is founded is undermined by practices and scientific data. However, we also realise that positive effects to be expected from legalising illicit drugs are very uncertain and that complete freedom could lead to a full blown invasion of addiction forming substances at least amongst the most

vulnerable, i.e. youngsters in all social categories. Therefore a third course must be found to make compatible adequate security and controlled freedom. The objective is that the population as a whole be protected from the risk of developing an addiction by regulations taking into account for each product, its degree of toxicity, risk of dependence brought about by consumption, danger of desocialisation it represents, and of any risk to others because of its use. A further objective is that citizens of this country who are drug users - and young addicts in particular - be protected against avoidable risks of infection, and that they be helped to free themselves of their dependence, or that at least they should in all cases be assisted so that they cease to be the prey of national and international bandits, nor pushed into prostitution or delinquency, nor put into prison, but that on the contrary, are created suitable conditions (of access to health care in particular) to free them from marginalisation and exclusion.

Use

All the products discussed can, either have a beneficial effect if taken in certain ways or lead to harmful (or even catastrophic) effects for the user and/or others if taken in other ways. From an ethical point of view, the use of sufficient doses of opiates to calm the pain of cancer is very different from the use of the same opiates for recreational purposes. Chewing coca-leaf to overcome fatigue on the footpaths of the Andes is not the same as smoking crack in Paris. Sharing a bottle of wine with friends is not the same thing as drinking compulsively in secret.

What is being said here does not aim at giving the impression that all drugs are good and all consumption acceptable. The aim is to situate the use of drugs from the point of view of personal morality ("duty to oneself"). The moral minded must think out for themselves the significance of not being able to do without the first cigarette of the day, or of wanting to sample an illicit substance. The boundaries of reasonable use must concern them. But so must it be an obligation to respect in others different moral stances and to abstain from hasty moral judgement. For example, refusing to take a pain-killer such as morphine because one prefers to be stoical or considers that suffering has positive value is one thing, but is no license to judge harshly or deny others who may choose to act otherwise.

Substances that affect the central nervous system would not be sought after if they did not bring pleasure, well-being, or temporary alleviation of suffering. No moral system condemns doing oneself good. But no moral system authorises doing oneself harm, save exceptions ("suicide of the sage", in Stoicism ; redemptive value of suffering for some Christians). Nor does any moral system allow harm to be done to others. Therefore, the distinction between use and abuse is important from a moral point of view, not least from a personal moral point of view.

The moral minded need not necessarily shun any kind of gratification. They may well allow themselves to use a psychotropic substance, for recreational purposes (a glass of champagne on a festive occasion), or for the sake of exploration (initiation rite of the first cigarette), or for purely practical considerations (use of a sleeping pill at night the better to work the next day). As long as use is controlled, as long as it helps life to limp along, as long as drawbacks do not outweigh advantages, it is compatible with a virtuous, moral, temperate life. But a responsible human being does not try out on himself any substance that comes to hand. He measures the risks. He rejects dangerous experiments such as intra venous injection of a hard drug. He resists conforming to incitement to consume more ("one for the road!"). He takes care of himself for his own sake and the sake of others.

What should one do when dependence seems to be looming ? Autonomy is a condition of a moral life. To recognise a loss of autonomy, possibly to be capable of seeking out help to regain that autonomy, are generally accepted directives. For example, in the treatment of alcoholism, it is considered that the first and decisive step is to confess to oneself "I am an alcoholic" and to confess it to others. The second step is to seek expert help.

Consumption of illicit products raises the problem of the relationship between law and morality. Many of us are tempted at one time or another to sample an illicit substance, either because transgression or taking a risk gives additional pleasure, or because we consider the law to be ill-judged (for example, why should smoking tobacco be allowed and smoking cannabis be illegal ?). By definition, transgressing a law means accepting the possibility of sanction. However, a citizen whose conscience dictates that the sanction is unjustified and the law out of date, may seek to ally with others in order to gain acceptance for the rightness of his views with the aim of modifying the law.

In reverse, society must listen to what those (user associations for instance) who suffer from ills connected to consumption of illicit drugs, or who try and handle drug dependence in a humanly acceptable fashion. Drug dependence exists.

Those who are addicted to a substance are not second class citizens, they are citizens who are fully entitled like anyone else to speak their minds. It is with them, not against them, that the question of drug use can be negotiated so that use is not offensive for society as a whole and so that those who are drug dependant are helped rather than punished.

In a similar spirit of understanding, society must take care not to reflect a damaged image of themselves to those who have sampled a product. CCNE is particularly concerned here with adolescents, who come across psychotropic substances at a vulnerable age, when the quest for a personal identity may lead to turning intention into action in a playful, quasi-experimental, or to some degree self destructive, way. Perhaps they need negative judgement less than they do encouragement to reflect positively on the subject of physical integrity and of self respect.

All we know so far points to thinking that the best way of halting the progress of the drug addiction scourge is to educate responsible well informed citizens. On the subject of substances affecting the central nervous system, everyone must learn to recognise their own failings and to draw the boundary between what they accept or refuse for themselves. Everyone must also be aware of the consequences of their choice for others.

Abuse and harm to others

In our country, there was a time when being under the influence of alcohol was considered to be a circumstance attenuating penal responsibility in a delinquent because of diminished awareness. This kind of tolerance is outdated. To be under the influence of alcohol is no excuse for harm done to others.

It is well known that any abuse of a drug can lead to harm being done to others. This is so in the case of mischief wrought by an immoderate intake of alcohol : accidents in the work place (particularly in high risk professions), road accidents, domestic violence. Delinquency due to the need to obtain money to buy a daily dose of heroin or crack has already been mentioned (theft, threats, assault and battery). One could also refer to injustice in sports when some participants are doped, or to respiratory disorders inflicted by parents who are heavy smokers on their own children, or the indecency of some drug addiction behaviour in public places (IV injection, drunkenness). Within the family, the behaviour of a drug addicted child or of an alcoholic spouse is the cause of suffering, disturbed relationships, and a serious handicap for all family members. Propaganda for a drug and incitement to consume (particularly if addressed to a minor) is harmful. Driving a vehicle after consuming a tranquilizer or smoking cannabis is no less dangerous than driving under the influence of alcohol.

The repressive effect of the law is fully justified in such circumstances. He who loses control of his consumption (who is intemperate) and thereby is a threat to life, limb or merely the interests of others, must be sanctioned. And so must he who urges another to consume

drugs or encourages abuse. Society must step in so that endangered victims are protected, wrongs righted, and delinquency not remain unpunished. Sanction of wrongdoing must be proportional to risk and prejudice that a user or instigator brings upon others, whatever the substance concerned.

So drugs traditionally viewed with indulgence because they are part of a culture, like alcohol, must be seen in a different light. In other words, an attempt should be made to rank sentences according to the severity of offences. Judicial authorities have already made a fairly imaginative start by creating a range of sanctions with at one end a warning and prison, and fines at the other, with in between a choice of issuing summons, temporary withdrawal of driving license, sentencing to community service, etc.

Harm done to others as a consequence of drug abuse is not simply direct but also indirect. In a public health system based on solidarity, healthy individuals pay for the sick. This is fully acceptable when the injustice of disease is the result of bad luck. But it can be argued that it is unjust to make the temperate pay for the cost of ill health that the intemperate bring upon themselves. In the same way as those who indulge in dangerous sports activities may be required to take out special insurance to cover the risk, taxes levied by the State on sales of alcohol and tobacco may be justified by the fact that consumers of these substances should financially "compensate" for what their addiction will be costing the national health services, and therefore the community as a whole. The law here ceases to be repressive and becomes a deterrent.

A policy of repression and/or deterrence only makes sense if it goes with a policy of education and prevention making citizens aware of the risks they run and make others run when they consume, prescribe, or promote in any way substances that affect the central nervous system. This requires the availability of objective information on these products, on their effects, risks, and precautions to be taken. For that to happen, society must create conditions in which proper scientific research can be accomplished on psychopharmacology, epidemiology, clinical medicine, anthropology, sociology, and the sciences of education.

Harm done to oneself

When use becomes abuse and harms others, it is considered that the drug taker is responsible for any harm done. But if he is responsible only for harm done to himself, are we so sure that society has to step in ? To what extent must individuals be obliged to refrain from deteriorating their own health ? Some people are very irritated if a doctor (or a friend) tells them they should stop smoking. They consider this to be unbearable interference. They claim the right to manage their own health as they see fit and even the right to destroy themselves. In fact, suicidal behaviour is not punishable in our country.

Respect of the principles of democratic liberty imply that up to a certain point the use of drugs by adult, autonomous, well informed citizens is tolerated (like other hazardous behaviour) in so far as this use does not harm others, even though the individual concerned may in so doing harm himself. A moral individual is his own judge as to the risks which he is prepared to take. One could however question the notion of doing no harm to others since those who are totally alone with neither friends nor relatives are a rarity. "Tolerance" is only due in reality to the fact that it is not possible to control another person's life. All the more reason for developing prevention of high risk behaviour by very carefully applied information and education campaigns.

However, when an individual allows himself to become drug dependant, he alienates his own freedom. The degree of alienation varies. In advanced cases of addiction, freedom gives way to imprisonment, self-imposed slavery reigns, getting the drug becomes an overriding objective and it sometimes happens that the addict punishes himself for his own addiction and yet does not have the strength to free himself of it.

When the addict reaches that state, a kind of right or duty to interfere is conferred on those around him. There does not seem to be any reason why the general obligation of giving aid to someone in danger should not apply here. Each and everyone of us, when we discover that someone close to our hearts is putting himself in danger, feel alarm and compulsion to take action. But what should one do ? Use force ? Surely not. Hold out a helping hand ? Surely yes. Dare broach the subject. Offer assistance, but leave total freedom in the choice of response. There can be doubt as to how to proceed. It is particularly important to find exactly the right attitude which will include respect for another's freedom, vigilant compassion and an effective offer of help. In any case, indifference is the most egotistical course. The weakness and distress of a fellow human being are an injunction to take responsibility.

The obligation to help those in danger is not only true for those nearest to us but also for the community as a whole. The community must set up a public health policy which gives individuals real assistance and therefore it must not be purely based on the single theme of abstinence. It must take into account the whole range of health related and social concerns which are connected to use of substances having an effect on the central nervous system. A few guidelines are sketched out in the following conclusions.

Notes

1. Overdose means an excessive dose (accidentally, purposely, or for therapy) which rapidly provokes death.

2. Tolerance : decrease of the effects brought about by an identical dose of a drug justifying a progressive increase of the dose to obtain the same effect.

3. F. Caballero, combined the dependence and tolerance index for each drug and thus obtained an approximation of addiction forming power. He arrived at the following classification in descending order :

1 : opium, morphine, heroin, synthetic morphinic substances

2 : barbiturates

3 : alcohol, amphetamines

4 : cocaine, volatile solvents

5 : non barbiturate hypnotics

6 : non opioid analgesics

7 : coca, tranquilizers

8 : tobacco

9 : hashish

10 : LSD, mescaline, psilocybin, cannabis

Droit de la Drogue, Paris : Dalloz, 1989, p. 21

4. An agonist is an agent which may have an effect similar to that of a neurotransmitter and stimulate the receptor for that neurotransmitter to bring about the same effect.

An antagonist is an agent which can oppose binding of a neurotransmitter to its receptor by binding in its stead without stimulating the receptor.

5. Ligand : includes agonists, antagonists, and any other compound capable of binding to a receptor

6. Enkephalins, dynorphins : like beta endorphins, are natural peptides with are morphine receptor agonists.

7. GABA is the main inhibitor neurotransmitter and can be found evenly distributed throughout the brain. It controls the opening of chloric pervious channels, unlike exciting neurotransmitters such as acetylcholine, the glutamate which opens selective channels for cations (Na+, K+, Ca++....)

Glycine is also an inhibitor neurotransmitter mostly found in the spinal cord. Furthermore, it is also interesting to observe that ethanol can interact with nicotinic receptors for acetylcholine. This could be the basis for an explanation of the frequent association of alcohol and nicotine consumption.

8. This table is in part based on data in "Pharmacology", by H.P. Rang and M.M. Dale

- An allosteric agent is an effector of a receptor which binds with a site that is not the neurotransmitter site.

- Symbols :

\'b4 = mainly psychic dependence

A = agonist

I = inhibitor

F = heavy

M = minor or nil

? = unknown or disputed

9. see annex 8

10. see annex 9

11. *Alcohol* : In 1990, 20% of men and 5% of women consumed alcohol in excess. In 1991, 12 000 deaths were directly connected to alcohol and a further 38 000 deaths were indirectly connected. However average consumption diminished by 25% between 1975 and 1989 and the proportion of deaths directly linked to alcohol diminished by almost a half. This reduction may be attributed to a preventive policy but also to modifications in the life style and eating habits of the population as well as to medical progress.

Sources : Les indicateurs de l'alcoolisation 1992. Haut comité de la Santé Publique : Paris, la documentation Française.

Tobacco : average consumption of tobacco per adult over the age of 15 in 1987 was 2 268 cigarettes per annum. (Rapport sur la santé des Français 1989). Professor M. Tubiana estimates the number of premature deaths due to tobacco at 60 000 per annum and considers that at present consumption figures in the younger population, this figure will rise to 120 000 by the start of the next century. Le Monde, 26/5/1994.

12. Prevention has recently been reinforced by the *law of 10/1/1991 (loi Evin)* on combating smoking and alcoholism. However, there is considerable danger that application of this text - which includes limitations on advertising - will be compromised. Many business sectors (producers, the media, organisers of sports events) want it made more flexible. As of now, they have already managed to get an amendment voted on 8/8/1994 to the effect that advertising for alcoholic drinks is no longer prohibited outside production areas as the law initially stipulated.

13. * Group 1 : non alcoholic beverages

Group 2 : cider, beer, wine

Group 3 : apéritifs, liqueurs

Group 4 : distilled alcohol (cognac, armagnac)

Group 5 : anisated drinks, whisky, gin, vodka

14. ** Translator's note : French schools are shut on Wednesdays.

15. In the Netherlands, 0,5 and in Sweden 0.2

16. Up to quite recently the Courts were rather lenient : an analysis of cases up to 1989 showed that firm prison sentences meted out in cases where the victim had died averaged 6 weeks detention. F. Caballero. Droit de la Drogue, Paris : éd. Dalloz, 1989.

17. This law was codified in the Code of Public Health, but since the entry into force of the new Penal Code on 1/3/94, all infractions relating to drug trafficking are in a group under heading III of the new Penal Code, "Offences against persons", chap. II "Offences against physical or psychic integrity of persons", (art 222-34 to 222-46). In the Code of Public Health are left the articles relating to usage and incitation to use (art. L. 628 and L.630) and those relating to health measures (art. L.355-14 to L.355-20).

18. Narcotics are among poisonous substances regulated by the Code of Public Health (art. L626 and following and R.5149). See Neuropharmacological data and classification of drugs.

19. see annex 10

20. The Central Pharmacy of "Assistance Publique" Hospitals in Paris holds all Methadone stocks and is the only unit where the syrup form in which the drug is administered can be manufactured. A new protocol drafted in February 1994 is a little more flexible as regards prescription of the product so that more beneficiaries are authorised It specifies the characteristics of centres (hospital or medico-social association institutions) which may prescribe Methadone. It also specifies criteria to which drug-users must conform and modes of delivery (daily and in situ to avoid wrongful use and illicit sales).

21. A circular dated 12/5/1987 from the Minister of Justice does recommend, however, that an occasional user of whatever substance be given a simple warning if the person concerned "can present satisfactory guarantees of social, familial, and professional life-style".

22. In a report to the Prime Minister in 1990, C. Trautmann points out that in practice, magistrates have ceased using constraint as it was found to be ineffective.

23. A draft bill under preparation with the aim of intensifying repression of new forms of trafficking, provides that "any person in habitual contact with drug dealers must be able to explain sources of income".

24. These plants were however grown and consumed traditionally since time immemorial in certain parts of the world. The Single Convention for that matter, provides in art. 49 a

transition measure giving signatory parties the possibility of authorising temporarily smoking of opium, mastication of coca-leaf and use of cannabis for non medical purposes in territories where these practices were traditional.

25. The first international convention on narcotics was signed in The Hague in 1912 at the instigation of the United States.

26. A French Observatory for drugs and drug abuse has just been created as part of the Délégation Générale à la Lutte contre la drogue et la Toxicomanie (DGLT) (General Commission to combat drugs and drug abuse). Its mission is principally to collect, analyse, combine and disseminate knowledge and data about drugs and drug abuse. It will network with the European Observatory for drugs and drug abuse set up in Lisbon by the Council of the European Community in October 1993.

27. Groupe d'Action financière contre le blanchiment des capitaux. (Financial Action Task Force: Group against money laundering).

28. Like all of those related to drugs, these figures are obviously approximations since they are based on a calculated ratio between an amount known (seized) and an amount which can only be evaluated : global production, the geographical breakdown of which according to country of destination being also unknown.

29. In September 1993, the government project as it was announced, was to double the number in the next three years of post detoxification programme beds, which at the time was some 600. In 1994, 447 new beds are to be made available.

30. Source : Ministry of Health, SESI. Statistical documents, n° 189, Dec. 1993.

31. The number of addicts taken into specialised care centres increased by 11.7% between 1990 and 1991, and by 11.4% between 1991 and 1992 (Source : SESI).

32. "General Commission to combat drugs and drug abuse" (Délégation générale à la lutte contre la drogue et la toxicomanie).

33. Figures are estimated at 4 million, i.e. 7% of the French population, according to K.H. Reuband, "European Comparison", 1992 and Peter Reuter, "Rand Corporation : Cross National Comparison, 1993. According to these authors, hard drug users are estimated at 60 to 150 000. (References quoted by P. KOPP in "Acta of the Franco-European meeting of the prevention of AIDS in drug users, 8-10/12/1994, Paris : CRIPS)

34. Council of Europe : Seminar on the role of police forces as regards prevention and alternative to legal proceedings against delinquents with drug related problems, Strasbourg, 23-26/6/1992.

35. Statistics provided by the Ministry of Health on the basis of an enquiry every year in November in approved centres.

36. Source : J.P. JEAN, "Législations", in Acta of the Franco-European meeting on prevention of AIDS in drug users, already quoted above.

37. According to an enquiry "Un jour donné" carried out in all French prisons, on 10/5/1994, 168 prisoners were in detention for drug use.

38. A study made by the Institute for Research on epidemiological aspects of pharmacodependence, IREP, shows that 40% of drug addicts have changed their needle-sharing habits now that they can be obtained freely.

A 1991WHO study compares HIV contamination rates of addicts in various cities : Edimburg

36 to 68%, New York 50 to 60%, as against Glasgow 4.5% and Amsterdam 3.4%. In the two latter cities there is an effective prevention strategy.

39. By "drug" is meant a substance which acts on the central nervous system and which is consumed because of its neuropsychic effects, for recreational purposes ("for fun"), for exploratory reasons ("out of curiosity"), or for practical purposes (to feel less tired, to lessen pain, to sleep better, to attenuate anxiety or depression, etc.) The borderline between "therapeutic" use (medication prescribed by a physician) and "non therapeutic" use is frequently fuzzy because there is so much self medication and /or misuse of therapeutic substances for other purposes. It is to be noted that most drugs, including those which are illicit at present (opiates, cocaine, LSD) and those which are in common use (coffee, tobacco, alcohol) have or have had medical utility at specific doses and for specific indications.

Note also that since the word "drug" nowadays has social, legal, and ethical connotations which our considerations lead us to dispute on more than one count, in this report we prefer to use wherever possible more neutral words such as "product" or "substance".

40. The word "use" is employed to designate moderate consumption of a product, controlled by an individual and compatible with a state of health. "Abuse" will serve to designate immoderate consumption of a product, i.e. either compulsive use (linked to physical and/or psychic dependence) or consumption of excessive doses endangering health (intoxication).

Example : the slogan "one glass OK, three glasses no way" (un verre ça va, trois verres bonjour les dégâts" used in a French campaign about alcohol consumption) was based on an effort to help citizens draw the line between use and abuse and to know "how much is too much".

41. Cf. Robins, 1974, cit. in : Goodman & Gilman's (1975) The Pharmacological basis of Therapeutics, New York : Macmillan, Ch. 23.

42. The prohibition movement began in the 19th Century in Anglo-Saxon puritan societies, particularly in the United States, with the idea of protecting people from temptations and wickedness born of the industrial age (see e.g. C. Bachmann & A. Coppel, La drogue dans le monde, hier et aujourd'hui, Paris, Albin Michel, 1989).

43. Thus, the use of tobacco was prohibited in Bavaria and Saxony in the 18th Century and incurred the death penalty in the Ottoman Empire and Russia in the 17th Century: cf. Szasz Th. (1974), Ceremonial Chemistry, New York, Anchor Press; Fr. tr. Les rituels de la drogue, Paris, Payot, 1976. Prohibition of alcohol in the United States between 1919 and 1933 is well known.

44. Cf. Scientific data.

45. "Les deux drogues" in Drogues, politique et société, 1992.

46. For instance, France was able to organise monopolies for opium in Indochina and for marijuana ("kif") in Morocco and Tunisia, up to the early fifties.

47. They represent 23% of cases of full blown aids as of 31/12/1993 and 30% of new cases diagnosed in the first half of 1994. Also, 70% are contaminated by the various forms of hepatitis; cf. C. Katlama, M.A. Valantin, P. Duneton, "Risques infectieux et usages de drogues par voies intraveineuse", Conférence inter-universitaire, "Intérêts et limites des traitements de substitution dans la prise en charge des toxicomanes", 23-25/6/1994.