

Thorsteinn Ulfar Bjornsson

# DRUGS!

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Use or Abuse?

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Manual for responsible recreational use of drugs



# Drug Chart

This chart is far from complete of all recreational drugs. The idea comes from Playboy Magazine that published similar chart in the September 1978 issue.

Name	Group	Medical	Effect/SD	Effect/LD	Longtime fxts	Withdrawal
Codeine	Narcotic	Yes	Sedative	Death	Constipation	Strong
Heroin	Narcotic	No	Sedative	Death	Constipation	Strong
Morphine	Narcotic	Yes	Sedative	Death	Constipation	Strong
Opium	Narcotic	No	Sedative	Death	Constipation	Strong
Sedatives	Benzodia.	Yes	Sedative	Death	Paranoia	Strong
Sleeping p.	Benzodia.	Yes	Sedative	Death	Paranoia	Strong
Valium	Benzodia.	Yes	Sedative	Sleep	Paranoia	Moderate
Librium	Benzodia.	Yes	Sedative	Sleep	Paranoia	Strong
Boose	Alcohol	No	Stimulating	Death	Paranoia	Violent
Thorazine	Barbiture.	Yes	Sedative	Death	Paranoia	Strong
Ether	Anesthetic	Yes/Vet.	Sedative	Death	Not known	None
Inhalants	Various	No	Sedative	Analgesic	Not known	None
Chokolade	Caffeine	No	Stimulating	Stimulating	Obesity/cavities	Negligible
Cola	Caffeine	No	Stimulating	Stimulating	Obesity/cavities	Moderate
Coffie	Caffeine	No	Stimulating	Nausea	Not known	Moderate
MDMA	Stimulant	No	Stimulating	Death	Not known	Moderate
Cocain	Stimulant	Yes	Stimulating	Death	Paranoia	Strong
Ritalin	Amphetam	Yes	Stimulating	Death	Paranoia	Strong
Preludine	Amphetam	Yes	Stimulating	Death	Paranoia	Strong
Dexedrine	Amphetam	Yes	Stimulating	Death	Paranoia	Strong
Tobacco	Nicotine	No	Stimulating	Death	Cancer	Very strong
Khat	Stimulant	No	Stimulating	Stimulating	Not known	Negligible
Mormon tea	Stimulant	No	Stimulating	Death	Not known	Small
LSD/Payote	Hallucinog.	Yes	Stimulating	Nausea	Not known	None
Shrooms	Hallucinog.	No	Stimulating	Nausea	Not known	None
Fly agaric	Hallucinog.	No	Stimulating	Nausea	Not known	None
Datura	Deliriant	No	Stimulating	Vomiting	Not known	Not known
Ketamine	Deliriant	No	Stimulating	Death	Not known	Small/none
Weed	Cannabis	Yes	Sedative	Nausea	Lethargy?	Moderate

Amphetam. = Amphetamine • Benzodia = Benzodiazepine • Barbiture. = Barbituric Acid •  
Hallucinog. = Hallucinogenic • LD = Lethal Dose

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The plant in the title letters is *Nicotiana tabacum*.

Made with QuarkXpress 2015™ in Apple™ computers.

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Poison is in everything, and no thing is without poison.  
The dosage makes it either a poison or a remedy.

**Paracelsus, 1493-1521**

Dedicated to my parents,

**Gudbjorg Thorsteinsdottir and Bjorn Johannesson**

who might have benefited from this information  
when they were growing up





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## Introduction

The predecessor of this book was written in Icelandic and published in 2012. When the idea came up of doing it in English I realized that I would have to rewrite some parts due to new data on some of the drugs under discussion as well as the development in legalization of cannabis in various countries. As it came about, I had to rewrite a lot and added Chapter 2 in its entirety.

Also, Harm Reduction regarding drug use and drug abuse has gained added support, with countries such as Portugal, Spain, and Switzerland at the forefront in this respect.

As can be seen from the list of resources at the end I have sought information about drugs from many sources but mostly on the Internet. Some of the books referred to I regard as the best sources on the subject, and I've been greatly influenced by them.

But why this interest and curiosity about drugs? Blame it on a book by an American anthropologist by the name of Carlos Castaneda: *The Teachings of Don Juan: A Yaqui way of knowledge*.

The Teachings of Don Juan: A Yaqui way of knowledge set me off on a quest of knowledge about drugs – how they are used, by whom, their chemistry, you name it. I've read everything I could possibly find about drugs, including their role in history and culture. Some of which was extremely boring – but some of which was fascinating. And I have been doing this now for more than half a century.

I've tried to make certain that the information in this book is as accurate as possible. That task has proved to be somewhat difficult, as new studies are being published all the time and what is con-

sidered right one day may be considered obsolete the next. That is as it should be, as there is always something new to be learned and knowledge is like love, as it is endless and goes on forever.

The book has been in writing for an exceptionally long time – all the way back to 1978 when I made the first draft and laid down for myself how I wanted it to turn out. In form, it is built on other books but not quite like them, although similarities can be found.

I've been on the verge of chucking it in many times, thinking, 'Why bother?' But here it is. It was originally written in Icelandic as that is my first language and I never dreamt of it for a bigger market or appearing in another language. The translation is done by yours truly so it might probably sound or look strange to those with English as their first language.

It's my hope that both young and old people find it useful and it may possibly help someone in decision making regarding drugs, including whether to use them or not. It may possibly save someone's life at some time. Now, that would be really cool and a brilliant reward.

TUB

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# Chapter 1

## The Journey Begins

An old Icelandic saying goes like this, 'Scissors and knives are not for kids.' My son usually added, 'Neither is fire.' I was reminded of this when I was puttering around the other day and found the first pocket knife I ever had.

My late father took me out to the garden one day, picked up a piece of hardwood and taught me how to use the tool it held safely. When he was relatively sure that I was aware of the dangers and could use it without seriously harming myself, he gave it to me. It's a Norwegian fishing knife, the blade of which is now very thin from years of innumerable goes at sharpening it. In my eyes the knife was a treasure, as I was only six or seven years old at the time. My mother wasn't very pleased and protested in the strongest possible terms but we, 'the men', just closed our ears. I have never seriously cut

myself. Of course, I've sliced my skin, but in all cases it was minor, and I've learned from the mishap and haven't made the same mistake again.

Nobody can drive a car or any other vehicle without learning how, and the same goes for a lot of other things – handling firearms, for example. No one in their right mind puts a firearm in the hands of a youngster without teaching them first about safety. So why doesn't the same apply about recreational drugs and their use? Are drugs exempt from common sense and rational thought? Those with a licence to distribute drugs, such as doctors and nurses, chemists and clerks in chemist shops, are allowed to handle them. What do these individuals have that others don't? The answer is simple enough: they have specialized knowledge and expertise in

this area. In order to respect something and even fear it one has to have access to information – accurate information.

Information about drugs can't harm. Discussing drugs may insult sensitive individuals, but it can't hurt. On the other hand, misinformation can hurt the user and those nearest to them. I am not encouraging drug use but I'm not condemning it either. I am a drug user myself and my drugs of choice are *caffeine* and *nicotine*. I'm fully aware that neither drug is doing anything for me, and I would probably be better off without using them. I've tried to stop smoking many times and used all kinds of methods, including the patches and gum and even hypnosis. Strange as it may seem, after only one *psychedelic therapy* session my smoking reduced dramatically and my consumption of alcohol is now almost nil. I used to have a glass of alcohol with meals maybe two or three times a week, but water is what

I like now. I didn't plan this; it just happened. And, in fact, research has shown that 60 per cent of those who have psychedelic therapy, which should not be mistaken for psychedelic ceremony, seem to stop smoking. Nobody knows why. As for coffee, I just like the stuff, and when I've tried to stop, I'm sleepwalking until noon. Once I even walked into a wall and bruised my face.

When I was setting out on my journey of exploration about drugs and their use, I happened to be in Amsterdam in 1978. My other passion in life is gardening and plants, so I went to the Amsterdam Flower Market on the Singel canal to browse. A small cactus called to me. That is the only way to describe it. I was led to a stall and there was this tiny, beautiful cactus that I instantly recognized. A peyote (*Lophophora williamsii*) cactus. Of course, I bought it with plans to try it at some later date. Over the years I planned to harvest, and try,



The Peyote in my living room window

when I turned fifty. The succulent is still going strong in the living-room window forty-one years later and I don't think I'll ever harvest and try. It's my friend, even if it's a plant. And every year it flowers beautiful pink flowers that are a sight to behold.

Of all the drugs in this book there are only two I would care to try: (micro dose of) *ketamine* and (600 mg of) *mescaline*. Now, why would I not be eager to try the drugs in this book? Could it be that I know that the best high is the natural high from life it-

self? I was thinking about the best high ever I've experienced and the answer might surprise you, since I was only six years old at the time. I still remember it vividly, in minute details, sixty-three years later – the light, the wind, you name it. So, I'll tell you about it.

I was at my aunt's farm up north in Iceland and I was allowed to join the grown-ups as they were going salmon fishing in a big glacial river that ran through the farm. The oldest and most docile and gentle horse was the one I took. After success-

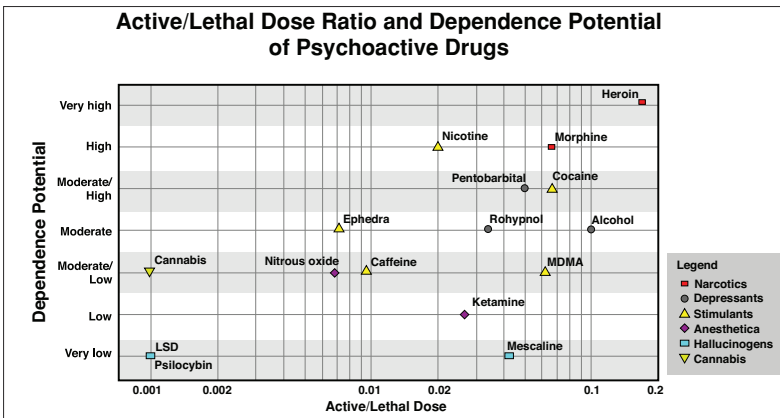
ful fishing we went back. About 350 to 400 metres from the farm, when we were out of the rough and in the fields, we were allowed to let the horses go and run to the farm. That was the best high ever: feeling the wind in my hair, the speed of the horse, its movements under my bottom. That was the best. It was indescribable. And I'm pretty sure that if you look for parallels in your own life, you'll find something similar. The first real kiss, the first sexual experience.

The second most memorable

experience I remember is flying in a small single-engine aircraft. The sense of freedom was like no other.

When I think about it, all my best highs are natural highs: watching my kids being born, falling in love, and so on.

Everyone will decide for themselves whether to use drugs or not and which drugs they'll use if they do. I urge people to consider using other methods of getting high. As I also urge that users and potential users learn how to use drugs safely and re-



The dangers estimated by science. It's amazing how high both alcohol and tobacco score in addiction and fatal dose as they are both legal. Compare the scores of legal recreational drugs to the scores of LSD, Cannabis and Psilocybin.

sponsibly and lay down some ground rules. All of the 'high' that users feel comes from four chemicals and four chemicals only. They share one thing and that is they are all indigenous chemicals. Those are the DOSE chemicals: *dopamine, oxytocin, serotonin, and endorphin.*

Everyone will decide for themselves about everything in life after all. Those decisions must be based on knowledge.

The drawback of this book is that scientific data is changing all the time, so what is considered right and proper today may be considered obsolete and wrong tomorrow. But I believe that, right now, the information in the book is fairly accurate. In short, I hope readers find it useful and, it is hoped, it helps to prevent abuse. It could possibly save someone's life. Now that would be really cool.

That is the reason for writing this. Not to promote drug use but to try to correct all the lies and myths that have surrounded

the subject for far too long with devastating consequences. As Professor **David Nutt** said in a recent article, *'During this time [as government adviser on drugs], it became clear to me that drugs policy was being formed, not based on evidence, but on the political expediency of winning votes and pandering to the hysteria whipped up by a media more concerned with increased sales than decreased drug harms.'* You have to keep in mind though that some of the drugs in this book are still being studied by the scientific community and new knowledge is constantly being published. There is also another factor that one has to take into account and that is that we are all different and a drug that works this way on one, can have a very different effect on someone else under different circumstances.

Another thing that is wise to keep in mind is that a lot of misinformation, not to say downright lies, have been told by interested parties at one time or

another to scare people from using. Even though the aim of such misinformation may be noble, the purpose is wrong in my view. As soon as young people find out that someone has lied about one drug they tend to put all the other drugs under the same hat. The brain simply works like that. Therefore, I believe it is best to be truthful.

History teaches us that it's useless to hope that drugs and their use will disappear, let alone that the need for drugs will evaporate. All through recorded history we find evidence of drug

use, cultural, religious, and social. The only exception seems to be the Inuits as they live north of almost any vegetation that can be used to get high.

In the last 100 years society has dealt with drug use by various means, be it laws, propaganda, even military means and by attacking users, dealers, and sources of various drugs. All those means have, without exceptions, failed. The consequences are that drugs are more popular than ever, and the number of users has never been higher and the methods used are



Photo from the beginning of the twentieth century from a Turkish cafe, of cultural use of drugs. The clients drink coffee and smoke tobacco from big water pipes.



a lot more harmful to the individual than the use. *The Global Commission on Drug Policy* has estimated that the number of drug users has increased by 200 million people from the turn of the century. Users, not abusers.

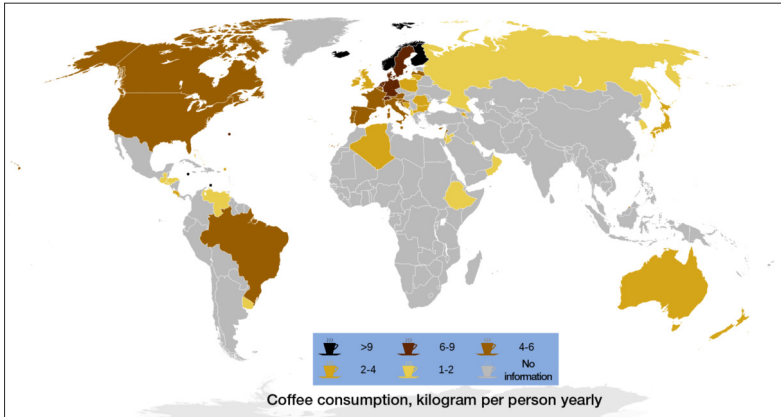
Several organizations have used propaganda to battle drug use that are more than questionable, and it is easily overlooked that as soon as a 'system' is created, no matter how noble and good the cause, the system's main function tends to become to maintain itself. If unnecessary, it becomes obsolete and those who work to maintain it lose their purpose. And nobody likes to be without a purpose. Being useless and without purpose is one of the reasons for drug abuse.

However, although most drugs can be risky and some even extremely dangerous the greatest risk is legal, not social or medical. Is it not more harmful to get arrested and get a big black stain on one's criminal record than

doing drugs occasionally even though they are illegal? Remember that there are a lot of other things in the world that are equally dangerous, and even more so, that are in daily use by millions of people all around the world. But people have learned to use them safely.

Now, here is a disclaimer. Please don't take my word in such a way that I'm promoting drug use. If you do, I've failed, and probably shouldn't have written this. Rumour has it that the best high and the ultimate experience is life itself and psychological and physical well-being. Also, it's not fun to be a slave to something, whether it be a substance or a drug dealer.

One more point before we go on: In my opinion society needs to change its attitude towards drug users. Since it's generally accepted that nobody wakes up one fine morning and suddenly decides to become an addict, society must classify those who do drugs into two main categories:



Recreational drug use is common according to this map depicting coffee usage.

**users** and **abusers**. It is ridiculous to label as an abuser everyone who uses drugs. If that is the case, the problem becomes insoluble. Abuse is excessive use, a loss of control in relation to the drug, whether legal or illegal. If society can't stop its subjects from drug use, can it then do something else? Two things are worth trying: the first one is teaching young people other means to fulfil their goals and desires without drugs, and the second path is to teach them to use drugs responsibly and safely so that they will only become users and not abusers. Just like

when they are sent to driving school. That is the role of parents and teachers. It can't be done by law and regulations and this 'teaching' must not be done by promoting ideas based in fear, myths, and prejudice. Education about drugs today is in almost all cases a badly hidden attempt to scare youngsters from using drugs. Research and studies have demonstrated time and time again that the scare tactics are counterproductive. Young people have seen their peers using and they realize that the propaganda – greatly exaggerating the dangers of use – is sim-

ply not true in the majority of cases. More often than not such scare tactics do nothing more than generate curiosity, make the drugs seem more exciting, and make the authorities look like idiots.

On top of that, it is often the most popular kids, the 'cool gang' who are role models, who are using – harmlessly.

Parents and teachers would likely welcome anything that increases the interests of kids to seek other ways to get high.

Obviously, it will be a bit more difficult for them to support teaching responsible drug use. Therefore, such teaching is important, as it can protect them later on. It can even be the difference between life and death. The kids will decide for themselves whether to try or not to try drugs. In most cases away from the parents. The only thing adults can do is provide accurate information about drugs – all drugs – so their kids may try, or use, the drugs intelligently and



Cocktails in the colourful lights of the bar are drugs and quite strong drugs as well.

responsibly if they decide to.

When you learn to hang glide or scuba dive, first of all you are taught the basics, especially about security and safety. After you've learned that, you are permitted to try, slowly and cautiously. When you have mastered the basics and have had some practice you can start to glide from higher peaks or dive deeper. Why should learning about drugs be any different?

## MESSAGE for the KIDS

There are many different drugs in the world today, and new ones are introduced almost weekly. Several drugs are available on the market, both legal and illegal. And at one time or another you'll be invited to try some of them. You will be introduced to them in daily life. You might be at a party with your mates and some mates of yours will be using. Obviously, you have been subjected to propaganda about the dangers of illicit drugs from the media, your parents, and /or your teachers. Ask yourself this simple question, 'What makes them experts on illicit drugs?' The fact is that a very big portion of what you see in the media is pure and unadulterated bullshit – made to sell said media, poorly researched, and heavily sensationalized. Another fact is that drugs, even extremely dangerous ones, have been used through all of recorded history by humans for various purposes. So, don't take anything for granted. Do your own research about the drug being offered to you. Also keep in mind that all drugs can be either risky or dangerous. Keep in mind that drug problems are relatively rare; only about 10 per cent of users develop drug-related problems, and perhaps the biggest problem is stigmatization. The latest scientific research has indicated that those who develop problems have latent psychological problems, mainly from trauma at a very early age. You could avoid drug-related problems by never taking any drug but that is perhaps not realistic even though that is quite all right. Be aware that all experiences you get from drugs you can get sober, since the drugs taken are in most cases merely stimulating certain parts of your brain to make it overproduce powerful chemicals to generate the effect of the drug.

Do your utmost to make certain what kind of drug it is, where it comes from, how to minimize the risk of using, and what precautions to take. That is relatively easy in this day and age by asking Mr Google and the Internet. You could also ask yourself whether it's right for you to act as a lab rat. Where drug tests are responsibly done, scientists use rats, and you are not a rat. Consider the fallout on you and your family if you get busted doing an illegal drug. Also, don't assume that legal drugs are safe – as will be seen on these pages.

There is less risk if you take a drug orally once in a while than by other means. Taking a drug at school is a bad idea. Education is your ticket to society and your future. It's your key to independence. Another thing is that your brain is not fully developed until about twenty-five years of age, so the later you start experimenting with drugs the better off you'll be. If you start depending on drugs before you are fully grown you might miss out on things further down the road. That is because while you are growing up your brain is very busy establishing connections that are essential in life. Without those connections, or if they are immature, you can be really fucked up mentally. Drugs can cause a friction between you and your parents. It's not a sign of weakness, 'being mental', or escaping life to experiment with drugs. It is normal to want to change our perception of reality. Even animals like to experiment with altered states of consciousness, from bees to elephants, as research has shown. Drugs are just one of several ways to change our perception of reality, but if you start to depend on them, do yourself a favour and talk to someone you trust, whether it be a parent, a sibling, or your doctor. Seek help.

## MESSAGE for the PARENTS

What can parents do if they suspect their offspring is experimenting with drugs? Before you hit the wall and freak out remember that experimenting when one is young is a part of growing up. It is like a rite of adulthood, a ticket of passage, and most kids pass with flying colours – statistically, about 90 per cent – so it's not the end of life. Those who develop problematic use are typically those with underlying psychological problems. Don't start giving 'good advice' unless you have made sure that the 'advice' you are giving is accurate. Kids today have access to information on the Internet and are probably more skilled at obtaining it than you will ever be. They are probably light years ahead of you in asking Mr Google. They also dislike scare tactics, so make sure what you are saying are facts, not myths or beliefs. Kids are bombarded with information from the time they wake up until they go to sleep. The same goes for talks about sex as well. It's better to educate your kids about risks and responsibility regarding sex and point out ways to avoid sexually transmitted diseases (STDs) and unwanted pregnancy, than it is to forbid them something that they will try regardless, as sex is a part of life and they sure are going to try it whatever you might say. Be prepared to answer all questions sincerely and don't be afraid to admit that you don't know something. So, make sure your 'facts' are accurate. Try to make the atmosphere relaxed when discussing sensitive matters. Don't take the role of authority and talk down to your kid. Remember that user is not the same as abuser and look at your own recreational use regarding tobacco, alcohol, and coffee. Are you using, or are you abusing?

Research has repeatedly shown that one of the strongest factors for promoting responsible drug use is a healthy role model. So be one, and don't hide your use if it's responsible. Adding shame to the equation of drug use will not help. Don't introduce any drugs to your kid. You sure don't have to. But you should discuss drugs and their use with your kid. That is the role and responsibility of being a parent. Your kid will for sure stand before the choice of experimenting or using so the better your relationship is with your drug of choice, the better off everyone will be. Obviously, you can set some rules regarding use of illicit drugs in your house, such as no use of illegal substances. Then the kid can experiment or use away from you and you have no way of knowing. That is a choice you have to make. Keep in mind that all drugs can be used safely and responsibly. History is full of examples of individuals using drugs for a good part of their life without harm. The latest example would be Keith Richards. Don't tell your kid that it is wrong to get high. We do it every night while we sleep. Point out safe means to get high. More healthy means. And while we are at it, alcohol is not other means. The only positive thing one can say about alcohol as a recreational drug is that it's legal, since it harms all users, young and old. I said before that experimenting is part of growing up and that goes for sex, too. Parents must deal with that just as they have to deal with drugs. Ask your child to come with you data hunting on the Internet or in books. If your kid is old enough to ask, they are old enough to get answers. You, as a role model for your kid, will pass on your habits to your offspring and through them to your grandchildren. So, meet the challenge of good parenting. Teach your kid to have respect for themselves, as well as for others.



DEA agents in the US with a "catch" in the 80's last century.




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## Chapter 2

### The Ten Most Common Drugs

Before we explore in depth what drugs are and the problems with both definitions and discussion about them, we should take a look at the most used drugs recreationally and how to use them safely. Using drugs safely and responsibly is like learning how to ride a bicycle. Once learned, the knowledge should stay with you and keep you somewhat out of trouble, chemically speaking. But since most drugs are illegal for recreational use you could still get into trouble with the law. And that can be worse than what your drug of choice can do to you.

Trouble with the judicial system can destroy your future and that is no joke. You may end up unable to work for many firms



**DRUG STORE**

**GRASS.....\$20/oz.**  
**ACID .....\$4/tab.**  
**HASHISH...\$10/gram.**  
**BENNIES....5 for \$1**  
**THE PILL...\$3/month**  
**? ....17 for \$1**  
**COCAINE....\$30/spoon**

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**REQUESTS FOR SMACK  
AND METH MUST BE AC -  
- COMPANIED BY A NOTE  
FROM YOUR PARENTS  
OR LEGAL GUARDIAN.**

**[ WE DO NOT HONOR CREDIT CARDS.]**

to say nothing of the government. So, if you are using recreationally any substance that is illegal, keep as low a profile as you can. And never, ever advertise your use. If you discover that you are abusing, seek professional help. It can be very difficult to stop use. The professionals have experience of how to deal with such cases and can help. They get their salary from helping people so don't be afraid of them. They can and will help.

Let's take a look at the most common recreational drugs in the West today. Later, we will study some other drugs in use – some of which are rather obscure and maybe even unknown to most people.



Photo by Nathan Dumlaio on Unsplash

# Coffee

## Common Beverage

The most widely used stimulant in the world is **caffeine** ( $C_8H_{10}N_4O_2$ ) but caffeine is found in several plants. Caffeine was isolated for the first time in 1821 and named after the plant it came from. The effects of coffee and caffeine are somewhat different. Curiously, coffee seems to be more stimulating than caffeine or other caffeine plants. Coffee is rich in powerful antioxidants, and many people get more antioxidants from coffee than from fruits and veggies combined.

### Pros and Cons

#### Cons

It:

- irritates the stomach as it increases production of digestive juices;
- irritates the bladder, particularly in women, and is rather common as irritant of the urethra;
- generates slight tremors, as it unbalances the fine line between nerves and muscles;
- produces withdrawal symptoms in some users, if use is suddenly stopped;
- has been linked to possible foetal harm.

#### Pros

It:

- is the biggest source of antioxidants in the Western diet;
- contains essential nutrients;
- can improve energy levels and make you smarter;
- can help you burn fat;
- can drastically improve physical performance;
- may lower your risk of Type 2 diabetes;
- may protect you from Alzheimer's disease and dementia;
- may lower your risk of Parkinson's;
- may protect your liver;

- can fight depression and make you happier;
- may lower risk of certain types of cancer;
- doesn't cause heart disease and may lower stroke risk;
- may help you live longer;
- contains essential nutrients.

**A single cup of coffee contains:**

- riboflavin (vitamin B2): 11 per cent of the Reference Daily Intake (RDI);
- pantothenic acid (vitamin B5): 6 per cent of the RDI;
- manganese and potassium: 3 per cent of the RDI;
- magnesium and niacin (vitamin B3): 2 per cent of the RDI.

Please note the use of the words 'may' and 'can'. That indicates that it is not scientifically proven.

Coffee has also been linked to possible foetal harm. There is far from a general consensus among scientists about this, but it would be prudent for pregnant women to take care during pregnancy and use moderately. And that ap-

plies to all drugs, as a foetus is very vulnerable, especially in the first few weeks.

Recently, scientists have speculated about the role of coffee in increased cases of cancer of the pancreas, which seems to be on the increase in the Western Hemisphere. Those speculations are unconfirmed, but it would be wise for coffee users to perk their ears for results from further studies.

All in all, coffee seems to be relatively harmless and may even be beneficial for users.

Today, coffee is recognized by society, and most consumers are dumbfounded when it is pointed out to them that coffee is a powerful drug that can be addictive and therefore may be more than just a refreshing beverage.

As of 2018, Brazil was the leading grower of coffee beans, producing one-third of the world's total. Coffee is a major export commodity, being the top legal agricultural drug export for numerous countries. Particularly by developing countries.

## THE Legend of How Coffee Was Discovered

The coffee plant is a small tree or large shrub believed to come originally from Ethiopia. The coffee plant forms bright red berries and inside each are two seeds, called coffee beans. Those beans are roasted and ground and from the grounds the coffee is made.

The legend goes that goat shepherds noticed that their goats were frolicking after eating the berries. So, the shepherds tried, and got sick as the berries are slightly poisonous. That should tell us something about the stomach of the goat. Anyway, someone came up with the idea of extracting the seeds and roasting them. This was put into hot water, as in tea brewing, and – voila – coffee was born.





Photo by Brian Jones on Unsplash

# Alcohol

## Brutal Intoxicant

One of the most popular of all recreational drugs that are in use is also the one that is most brutal. **Alcohol** is the name of this one. It is one of the wonders of the world that anyone would want to use this drug. Yet alcohol is intertwined into human history and culture as far back as we can see. It doesn't change much in how it works on the user that alcohol has an impressive chemistry formula which is  $\text{CH}_3\text{CH}_2\text{OH}$  for *ethanol*.

### Basic facts

- Alcohol (ethyl alcohol or ethanol) is a sedative that sedates the central nervous system. It's a byproduct of fermentation of sugars from a yeast or fungi.
- Most common is fermentation of grain, rice, berries, or fruits.
- It has been in use by man for thousands of years.
- It has been proven that some animals seek fermented fruits or berries because of the effects that alcohol has.
- The effect differs in different individuals and can have different effects on the same person at different times. The effects depend on body weight, metabolism, tolerance, and stomach contents, as well as other factors.
- Learn your tolerance and go slow if you decide to use alcohol. A healthy individual can expect to be able to metabolize one standard drink in an hour and a half. At higher altitude, the effects can be stronger.
- If your girlfriend is pregnant and stops drinking, it is helpful (and mega cool) if you support it by also stopping during her pregnancy.

### Pros

- In small doses, alcohol relaxes,

lowers social barriers, and reduces shyness.

- Be aware! If you choose to drink alcohol, keep in mind for what purpose. To know your own intent can maximize benefits and reduce risks.
- It may reduce your risk of developing and dying of heart disease.
- It may possibly reduce your risk of ischemic stroke (when the arteries to your brain become narrowed or blocked, causing severely reduced blood flow).
- It can possibly reduce your risk of diabetes.

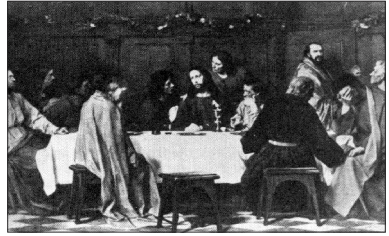
### **Cons**

- In larger doses, dizziness, nausea, slurred speech, lower responses, drowsiness, impaired judgement, depletion of water from the body, and severe headaches can arise the day after alcohol consumption.
- Abuse can cause memory loss, impaired motor functions, unconsciousness, and even death. A normal alcoholic drink is about 10–12 g of pure ethanol, which is 280–330 ml of beer, 100–120 ml of wine or 3–40 ml of distilled alcohol like whisky.
- The amount consumed is what determines the effects, not the amount per se. Therefore, it is very important to know the strength of the liquid consumed. Wine and beer are 5–15 per cent alcohol per volume. Distilled wine is about 40 per cent but sometimes higher.
- Be careful as alcohol is addictive. Users quickly develop tolerance and withdrawal symptoms can be serious – among which are anxiety, tremors, hallucinations, and seizures that can result in death.
- There is no respect to be gained in being able to drink more alcohol than others. Drinking games to try one's limit of alcohol tolerance are especially dangerous.
- Excessive alcohol consumption in a short time can lead to alcohol poisoning and death.



Every year, more than 2,000 individuals in the United States die due to acute alcohol intoxication.

- Long-term alcohol consumption can cause long-term damage to the liver and other organs.
- Alcohol is neurotoxic, and long-term consumption can result in severe cognitive impairment.
- Alcohol impairs vision, responsiveness, judgement, and coordination.
- Every year more than 10,000 people die in drunk-driving accidents in the United States, of which more than 200 are children. Never drive a car after consuming alcohol, regardless of quantity.
- Consumption of alcohol during pregnancy can lead to foetal alcohol syndrome (FAD), which impairs child cognitive development and causes abnormal appearance characteristics.
- Mixing alcohol and other in-



The Last supper. At this meal Christ himself and the apostles in all likelihood drank wine with the meal as was the custom in the area at the time.

toxicants or drugs (including prescription drugs) can be very dangerous.

That's about it for possible benefits, or not, of booze, and when one looks at what it really is and how it's made the picture that emerges is more than bleak.

When one looks at alcohol, stone cold sober and impartial as hell, the picture that emerges is not all that pretty. Alcohol is a bad tasting fluid and is for all intents and purposes the excrement of a yeast that nourishes on sugar. So simply put, alcohol is the piss and shit of a bacteria. And this is what the user drinks. Cheers!



# AMPHETAMINE

## Does 'Speed' Kill?

Amphetamine is synthetic; its molecule,  $C_9H_{13}N$ , is nowhere to be found in nature. Molecules somewhat like the amphetamine molecule are found in the human brain. Those molecules are *l-Phenylalanine* and *l-Phenethylamine* and their existence may explain why amphetamine works as it does. There are discrepancies in how amphetamine works. It doesn't work the same on all parts of the brain, although it has a big effect on the hormones *dopamine*, *serotonin*, and *norepinephrine*.

### General facts

- Amphetamine is a powerful drug that stimulates the central nervous system.
- Amphetamine is a close relative of met amphetamine but is stronger.
- Amphetamine can be swallowed, snorted, smoked, or injected.
- Methamphetamine was used extensively in the Third Reich as it was cheaper than coffee, particularly in the military.
- Amphetamine has been used in the military by all sides.
- Amphetamine is used by the

authorities to execute people by lethal injections in some countries.

### Pros

- Amphetamine is used in medicine for attention deficit hyperactivity disorder (ADHD), sleep disorders, narcolepsy, and obesity.
- At low doses (5–10 mg), the effects of amphetamine are increased alertness and concentration. It also reduces appetite and sleep cravings.
- It is useful for fatigue and lethargy.

## Cons

- Amphetamine can damage the mucous membranes in the nostrils if snorted.
- When smoked, the effects are immediate and users experience a more powerful high.
- When injected intravenously amphetamine has the strongest effect, but at the same time is the riskiest way to use. That route involves the greatest likelihood of serious health consequences.
- At higher doses, amphetamines stimulate well-being. At the onset of impact, users speak about experiencing rush, especially when amphetamines are injected intravenously/smoked. Other effects include increased blood pressure and body temperature and increased heart rate. Common side effects include headache, anxiety, paranoia, and delusions.

The biggest traffic jam in Euro-

pean military history can be linked to the use of methamphetamine. It consisted of 41,410 vehicles, including 1,222 tanks. It was 250 km long and those in it were almost all high on *Pervitin* distributed to soldiers in the Wehrmacht. Pervitin was *metamphetamine*.

There is little other use for amphetamine than recreational use. If you are thinking of using amphetamine, think again. Even yet again. The usual trip can last up to eight hours and the rumbling after-effects are usually in direct proportion. Sadness and depression are common and can last for days, even weeks. It's also very strange how the effects cease. In some cases, it's like throwing a switch and the user collapses from fatigue after being the life and soul of the party. This applies to other stimulants, as they block the signals the brain sends about fatigue so you are depleting the body's spare energy and can possibly be overreaching your abilities. Be-

aring all this in mind one can say that amphetamine for recreational use is rather bad news. It is not without reason that the slogan 'speed kills' was in fairly common usage among people with expertise of use.

Amphetamine has a long history in Hollywood as the stars were frequent users in their marathon parties. Unfortunately, that does not mean that you can do the same.

There is one thing that has to be taken into account and that is that since amphetamine on the street is in most cases made in primitive illegal labs, there is no way for you to know what it really is that you are snorting up your nose or shooting into your blood. There have been documented cases where street amphetamine was diluted with strychnine, which is a very powerful poison for rodents like rats. Are you are prepared to take such chances?

However, if you decide to take the chance and try, be prepared

that anything can happen. You can assume that the day after use you'll be extra tired since you have been burning the body's spare energy supply like there is no tomorrow and don't, repeat don't, be alone in case something adverse happens like an allergic reaction. Then your mate can call emergency services and possibly save your life.

On the other side of the coin, the experience could well be a good one and highly pleasurable, but you can never be sure, and it is completely idiotic to take a chance on something, as the drug is produced illegally by people who are only in it for the money and don't give a toss about you or your well-being.

The bottom line is that other stimulants are safer than amphetamine and you'll be better off using them instead. Whatever you decide, proceed with caution, and take good care of yourself.



# Cannabis

## A Most Popular Herb

The chemicals in cannabis are many and they don't identify with the molecules of any other drug, recreational or medical. The main, and most desirable for the user, is  $\Delta^9$ -THC, *delta9 Tetrahydrocannabinol* ( $C_{21}H_{30}O_2$ ) which is abundant in the flowering tops of the female plant. What also sets them apart is that they are not water soluble like most of the drugs already mentioned. They are however soluble in fat, oils and alcohol.

### General facts

- Cannabis has been used for at least 5,000 years.
- Cannabis has been used for food, medicine, and fibre.
- Cannabis can be used as a biodegradable substitute for all things plastic.
- Cannabis is stronger than steel.
- Cannabinoids are found in breast milk.
- The endocannabinoid system in humans was discovered recently.
- Cannabis is now being legalized in many countries, in Europe, America, and Asia.
- The dried flowers of the female plant contain the highest concentrations of the active and most desirable chemicals. The flowers are most commonly sold and used as weed or marijuana.
- Various products are produced from cannabis with higher potency, such as hashish (compressed pulp of cannabis resin) and cannabis oil.
- Cannabis is usually smoked but can also be eaten. It is most common to make joints for smoking, but pipes and bongs are also used.
- Before eating cannabis, the tetrahydrocannabinol (THC) needs

to be activated by heating in fat, such as butter or vegetable oils. Chocolate will do.

- When eating cannabis, doses range from 5–100 mg of tetrahydrocannabinol (THC) and effects vary greatly between people by weight, tolerance, and metabolism.

### **Pros**

- Cannabis has no record of anyone dying from use, ever.
- Cannabis is a soil replenisher and can be used to neutralize radiation in soil.
- Cannabis was used for about 100 diseases until about 1900.
- Cannabis has been scientifically proven to be effective against some cancers, Parkinson's, and Alzheimer's.
- Cannabis is very effective against glaucoma, spasticity, and seizures.
- Cannabis is powerful pain medicine.
- Cannabis reduces swelling.
- Hemp is good building material as used in Hempcrete (hemplime).

- During World War II farmers in the USA were ordered by law to grow hemp.

- In low doses, many feel cannabis as both sedative and stimulating. Most people say that their perception increases.
- Across the world, cannabis is used for medical treatment purposes. Cannabis is a powerful antioxidant.
- Cannabis oil is used, among other things, to treat brain tumours, arthritis, and reflux.

### **Cons**

- Cannabis was made illegal to stigmatize certain social groups, mainly coloured people.
- Cannabis reduces reaction time and can impair driving ability.
- Cannabis consumption may cause some discomfort, nausea, and paranoia for some consumers.
- Cannabis is still an illegal substance and conviction for possession and sale can cause serious legal consequences.
- Regular users of cannabis do



rarely become physically addictive and do rarely experience withdrawal symptoms when use is stopped.

- Cannabis can increase appetite. However, that depends on the type of plant consumed. Some varieties do not cause increased appetite – called ‘the munchies’.
- At higher doses, with stronger herbs, or when eating cannabis, the effects can be similar to the effects of hallucinogens.
- Consumers may experience mild hallucinations, anxiety, and paranoia.
- Cannabis can cause increased heartbeat, reddening of the eyes, and dry mouth.
- In individuals with underlying mental disorders such as schizophrenia, cannabis, as some other intoxicants, can trigger the onset of symptoms.
- Inhaling smoke, including cannabis, can damage your lungs, throat, and mouth.
- When smoked, cannabis is often mixed with tobacco. To-

bacco is a highly addictive and harmful substance; the use of pure cannabis is safer.

The main active chemicals in cannabis are THC and CBD but the hemp plant also contains at least sixty other related substances. As with all ‘natural’ medicines, the dose varies between plants. Where cannabis is legal, sales products are labelled with the strength of the active ingredients. The usual dose of smoked cannabis flowers ranges from 0.1 to 0.3 g but varies according to the strength and tolerance of the user. Dosage of stronger cannabis products such as hashish or cannabis oil are much smaller, and the usual dose of high-quality oil is less than 0.1 g.

When eating cannabis it can often take more than an hour for the effect to occur. Impatient users often eat more at this time, which can result in a much stronger influence. Always wait at least two hours before more cannabis is consumed.

Cannabis consumption does not lead to the consumption of stronger intoxicants, as has been stated. However, cannabis consumption can reduce consumption of other dangerous substances, in particular morphine-related painkillers. The greatest danger of use is probably that since the drug is illegal, in some countries consumers can get acquainted with or purchase much more dangerous merchandise from the same retailer.

For some users cannabis is a stimulant of sorts and keeps them awake but others use the hemp for sleep. Hemp can make the user annoyed and sad. That may be because of the difference in strains of the plant but could equally be because of the emotional state of the user. By selective breeding new strains almost equal in strength as strong hashish have emerged and its effects can cause anxiety in novice users.

If used orally, instead of smoking, the effects are stronger and more profound, taking longer to

start but lasting longer. They are also slightly different as it seems that the digestive juices alter the THC into *cannabidiol* and that may be the reason the users describe the difference when using orally that the effects are from the shoulders up. No adverse physical effects like lethargy and relaxation. On the other hand, it is a bit harder to determine the correct dose if used orally. It is easy to mix cannabis into food as it dissolves in fat, oil, and alcohol. Butter for cooking and chocolate are ideal. Users have been known to make sweets covered with cannabis-infused chocolate or make *Alice B. Toklas Brownies*. It should be emphasized that, orally, the danger of too high a dose is greater. It is not dangerous but can be unpleasant. Cannabis should not be used in combination with other drugs like alcohol, even if common. The combination with alcohol can be extra unpleasant. A high dose can result in vomit. Not very likeable, according to those with that particular experience.

## Ancient Adventure about Drugs

A very long time ago, in ancient times, three travellers came to a city. They were late and the gates to the city had been closed for the night so they couldn't enter. They were not pleased to have to wait and spend the night beside the city walls until morning to enter as night in the desert can be quite chilly.

Those travellers were an odd bunch; one was an opium eater, one used hashish, and one was a drunkard.

So, they sat down to discuss what to do and the discussion became somewhat heated as they all had a different idea about what to do. And soon a heavy argument started.

'Let's brake the bleedin' door,' the drunkard shouted angrily at the top of his voice as drunkards are apt to do.

'No, I've got a better idea,' the opium eater said dreamily. 'We can enter through the keyhole.'

'What's the matter with you?' The hashish user said. 'Let's just find a shelter and go to sleep for the night. The gates will be opened in the morning and then we can get in.'

Ever since I read this short adventure, years ago, I've thought this story very descriptive of the behaviour of those three groups of drug users, even though I don't think I've ever met an opium user. The behaviour of the drunk I know intimately as I expect most people do. I dear say that I've also met several people during my lifetime that use or have used cannabis and not one of them seems the worse for wear.



# Cocaine

## All Around My Brain

The coca bush has at least fourteen chemicals and *cocaine* is the most interesting one. The other chemicals seem to moderate the effect of the cocaine. Because of how the molecule of *cocaine hydrochloride* ( $C_{17}H_{21}NO_4$ ) is structured, there are few drugs that have as easy and as rapid a pass over the blood/brain barrier as does cocaine. In normal language that means it works extremely fast and its path to the brain is like a motorway.

### General facts

- Cocaine hydrochloride is a bitter, white powder made from the leaves of the cocoa plant, which mostly grows in South America.
- Until 1929 Coca-Cola contained cocaine (hence the name) and so did many other foods and medicines.
- Powdered cocaine is mostly snorted into the nose in short lines. Effects are felt within a few minutes and peak after fifteen to thirty minutes. The total duration of impact is about an hour.
- When smoked, cocaine is referred to as 'crack'. The effects appear immediately but are shorter.
- When injected intravenously, the effects are immediate and much more intense.
- Cocaine is a stimulant similar to amphetamine, but its effects last for a much shorter time.
- The usual dose of cocaine in the nose is 30–70 mg.
- The usual dose of 'crack' is 15–50 mg.

### Pros

- Cocaine is used by chewing the leaves of the cocoa plant or by brewing into tea. Cocoa leaves are used legally in this way in

many countries as a mild stimulant such as coffee.

- Some users talk about experiencing increased confidence, energy, and well-being.

### Cons

- Cocaine causes a sudden increase in heart rate, blood pressure, and body temperature.
- Those who regularly use cocaine quickly develop tolerance and tend to use it more frequently.
- As cocaine is illegal and unregulated, it almost always contains additives such as other stimulants, as well as harmless or toxic diluents.
- High doses and repeated use of cocaine can damage the heart and the vascular system and that can lead to stroke and heart attack.
- More than 80 per cent of cocaine in the United States is diluted with a substance called levamisole that can cause severe immune system disorders in regular users. Symptoms may include dark spots on the

skin and respiratory tract infections.

- Cocaine is a very addictive substance. Regular use can cause physical dependence.
- Withdrawal symptoms include depression and anxiety that can last for many days.
- The effects of cocaine last for a very short time and the after-effects can be very uncomfortable.
- The after-effects of abuse can result in restlessness, anxiety, and distress. This can easily lead to unmanageable redosing and fatal overdose.
- The intensity of the unpleasant side effects tends to increase when cocaine is consumed in larger and more frequent doses, and are much stronger when cocaine is smoked or used intravenously.
- Repeated use of cocaine in the nose can damage the nasal mucosa.
- Cocaine use, like all stimulants, can cause insomnia.
- Use of cocaine in combination with other intoxicants (includ-

ing alcohol) significantly increases the risk of overdose.

- Sharing tools to snort cocaine into the nose can cause hepatitis C and other infectious diseases.
- Cocaine is illegal and conviction for custody and sale can have serious legal consequences.

As can be seen from the list, cocaine use can be risky; several factors can go wrong. However, if cocaine is used seldomly and in moderation and the body is rested and restored, it is probably relatively risk free, but the thing is, the user doesn't know beforehand if they might be allergic to cocaine or if dilutants are non-toxic. And if that is the case and the user is so unlucky as to be far away from hospital the next stop is the mortuary.

Taken all together it is obvious that cocaine is not a very clever choice as a recreational drug. As with all drugs, though, it can be used, if one is very careful. It is used seldomly and in small doses. It's also prudent to point out that the coming down can be

downright unpleasant and may even take a while, hours even, and that is the price the user pays for fifteen to thirty minutes of pleasure. In my view the price is too high for such a short time. Better to get similar pleasure from going to the gym or jogging or some other activity by moving oneself. But the coca bush is quite pretty with its yellow flowers and red berries.





Photo by Pretty Drughthings on Unsplash



# LSD

## Powerful Psychedelic

**LSD** ( $C_{20}H_{25}N_3O$ ) is one of the strongest chemicals man has ever known. Doses are typically measured in micrograms but one microgram is one millionth part of a gram. We are talking about a few hundred thousand molecules per dose. It was one *Albert Hofman* who discovered LSD but in 1938 the chemical had been isolated from a quite common fungus (*Claviceps purpurea*) that grows on various grain.

### General facts

- *Lysergic acid diethylamide* (LSD) is a hallucinogen discovered in 1938 by Swiss chemist Albert Hofman.
- It was first consumed by the same man on 19 April 1943.
- LSD is often sold in small cardboards, but is also found in liquid form. LSD is exclusively swallowed.
- LSD is an extremely powerful material. The usual dose is in the range of 100–400 microg. Such a dose of pure LSD crystals is hardly visible to the naked eye. As a result, it is very difficult to measure it acc-

urately. One card or drop of LSD usually contains the usual dose, but may contain much more.

- When talking about the LSD experience, it is often described as 'a trip'.

### Pros

- If you choose to use LSD, keep in mind to what purpose: if it is intended for therapeutic purposes, for self-examination, or for entertainment purposes only. Knowing one's own intent can maximize benefits and reduce risk.

### Cons

- Due to a ban, LSD is illegal and

unregulated. Other and much more dangerous substances such as *25I-NBOMe* have been sold as LSD and caused many deaths. If you decide to use LSD, analyse it beforehand.

- The effects of LSD can sometimes be frightening and cause severe anxiety and fear.
- Although rare, some people 'relive' the 'journey' some days, weeks, or even years later in events called 'flashbacks'.
- In people with underlying mental disorders such as schizophrenia, LSD and other hallucinogens can cause the onset of symptoms.
- LSD can impair judgement. Never drive under the influence of LSD!
- Although rare, LSD and other hallucinogens can cause prolonged disruption called hallucinogen persisting perception disorder (HPPD) and can cause mild but persistent visual hallucinations.

When consuming all hallucinations, *set and setting* are important

factors for the consumer – whether the experience is a positive or a bad experience. To be in a state of good mental balance and being with good friends in a safe environment while consuming LSD reduces the risk of experiencing a difficult experience.

If the user experiences a difficult or demanding spiritual experience under the influence of LSD take the person to a quiet place where they can feel comfortable. Find a friend who can calm them down and explain that the fear and anxiety they are experiencing from use are all in their head and will disappear as the effects wear off.

In lieu of heated debate in the media and badmouthing of the drug, no direct evidence has emerged that LSD damages the brain, destroys genes, or causes any direct bodily harm. But one should keep in mind that ergot and derivatives of it cause contractions of the uterus so pregnant women should leave LSD alone.

## The First Documented Trip

As Albert Hofman, discoverer of LSD, kept very accurate diaries at his work for the Swiss Sandoz Pharmaceuticals in Basel, we know exactly what happened when the first 'trip' ever came about.

### 19 April 1943:

Preparation of 0.5% aqueous solution of d-lysergic acid diethyl amide tartrate.

4:20 P.M.: 0.5 cc (0.25 mg LSD) ingested orally. The solution is tasteless.

4:50 P.M.: No trace of any effect.

5:00 P.M.: Slight dizziness, unrest, difficulty in concentration, visual disturbances, marked desire to laugh.

Three days before Hofman had been working with *D-lysergic acid diethylamide tartrate* when he noticed that, all of a sudden, he felt kind of strange. The surroundings had changed as if in a dream. Objects were reshaped and all colours more vivid. Self-awareness and the sense of time had changed. This state lasted for two hours, and make note that this was only because of what he had inhaled accidentally. To be fair, Hofman later said himself that it might be possible that a small drop had landed on his skin.

This was the reason Hofman decided on the experiment four days later with himself as the subject. It is quite colourful the description Hofman later wrote down about this first documented LSD trip in history. This trip was not nearly as pleasant as his first trip, four days earlier. A doctor was called when the trip was at its peak, but he didn't find anything the matter with Hofman, other than a slightly weak pulse.



Photo by Pretty Drughthings on Unsplash

## MDMA

### The Empathy Drug

MDMA was originally developed for use in psychiatry and where it is permitted to study it the focus is on *cognitive behavioural therapy* (CBT) and *post-traumatic stress disorder* (PTSD). It seems to reduce anxiety and increase sincerity. MDMA is made from the oil of a tree originally from Asia that is a close relative of *cinnamon* and goes by the name **Sassafras tree** (*Cinnamomum cassia*). The chemical formula is  $C_{11}H_{15}NO_2$ .

#### General Facts

- MDMA or *3,4-methylenedioxy-N-methylamphetamine* is, as the name suggests, a close relative of amphetamine and has somewhat similar effects.
- It has in recent years become very popular among young people, particularly at 'raves' and in nightclubs.
- MDMA is the active substance in what was originally called 'ecstasy'. It belongs to a group of substances called empathogens. Others in this group include MDA, MDE, and MBDB.
- MDMA was first created in 1912 by the pharmaceutical company Merck in Germany, but never tested on humans. The use of MDMA as an intoxicant did not begin until the 1970s.
- MDMA is consumed in tablets, in capsules, or as crystals.
- The effects usually come on twenty to forty minutes after oral administration and maximum effects after sixty to ninety minutes.
- The effects of MDMA subside after three to five hours.
- For most people, the usual dose of MDMA is from 70 to 125 mg. However, some users need more to get the same effect, and others less. Dosage depends on body weight, gen-

der, previous use, and other factors.

### Pros

- Before being made illegal in 1985, MDMA was used for medical purposes.
- Nowadays it is being studied for the treatment of mental disorders including traumatic stress disorder, and it might be authorized as a prescription drug in the next few years.
- MDMA increases well-being and promotes a relaxed state of happiness. It does not cause hallucinations.
- Sensitivity increases in users, and the consumer experiences increased sympathy, emotional warmth, and self-acceptance.
- Most consumers say the effect is pleasant and manageable. Even at maximum effect the user can handle most important issues.

### Cons

- Taking additional dose of one-third to one-half of the initial dose may prolong the experience for a few hours. Consum-

ing more will only lead to increased side effects.

- MDMA is not physically addictive. However, the substance can have a major impact on people's life, and some can develop mental habits with this emotional state, which can lead to heavy consumption.
- Consumers are likely to use the drug, unconsciously, to treat underlying depression. MDMA, however, is not desirable as a long-term anti-depressant. For effective treatment, depression should be dealt with by a professional health worker.
- If MDMA is used too often, the desired effects can greatly diminish and even disappear completely. Users have said that the 'magic' will disappear. This can last for many years. Remember, less is more if you decide to use MDMA.
- Because of its legal status, MDMA is unregulated. As a result, there can be a big difference in strength of 'ecstasy' tablets and 'Molly' crystals.

Often, they contain no MDMA at all but may, however, contain other dangerous chemicals. It is important to always have MDMA tested before use.

- MDMA increases the risk of heat stroke. In the United States, about twenty people die annually from heat stroke after consuming MDMA. Remember to take dance breaks, cool off, and drink enough water if you use.
- Users have died after drinking too much water after using MDMA. This is called *hyponatremia* and occurs when the body salts become diluted. Drink enough water but not too much. About **two cups** an hour is enough.
- Studies have shown that high doses of MDMA can cause damage to serotonin neurones in animals. It is possible that comparable damage can occur in people who consume high doses regularly.
- Although most people feel comfortable the day after, and experience the so called 'after-glow', some feel depression symptoms after consuming MDMA.
- MDMA works by depleting your own hormones called serotonin and it takes about a week or two to renew your body's stock of *serotonin* depleted by MDMA.
- Mixing MDMA with alcohol, stimulants, or other drugs can increase the likelihood of negative side effects.
- MDMA can interact very negatively with anti-depressants. Selective serotonin reuptake inhibitors (SSRIs) may reduce MDMA's activity but *monoamine oxidase inhibitors* (MAOIs) can cause very harmful effects and even death.
- MDMA is an illegal substance and conviction for custody and/or sale can have serious legal consequences.

We will explore MDMA in greater detail in the second half of the book. If you decide to use, be careful and take precautions.



Photo by Sumita Roy Dutta on Wikimedia commons



# OPIOIDS

## The Hard Stuff

Raw opium has more than twenty chemicals, of which **morphine** ( $C_{17}H_{19}NO_3$ ) is most widely known. The name 'morphine' comes from the Greek god Morpheus. It was isolated from opium by the German pharmacologist *Fredrich Sertürner* in 1804 and marketed by Merck pharmaceuticals in 1827. That event marks the beginning of modern medicine, as morphine was the first drug isolated from a plant.

### General facts

- Opioids bind to the brain's opioid receptors. In the human body are found natural opioids called endorphins.
- Opioids are chemicals made or chemically manufactured to resemble materials from the poppy. Substances in this category include opium, codeine, morphine, heroin, contalgin, fentanyl, and oxycontin, as well as many others.
- Many opioids are sold as prescription drugs and are available in pills or patches, among others.
- Illegal opioids such as heroin are usually sold as white or brown powder.
- You can consume opioids by swallowing, smoking, nasal aspiration, and intravenous injection.
- The average dose of opioids can vary greatly by consumption method, type, purity, and tolerance of the user.
- When opioids are injected, the effects appear within a few seconds. The effects appear within minutes when smoked and within about ten to twenty minutes when snorted or swallowed.
- Effects of opioid products varies by type, user tolerance, and consumption method.

- Use clean or distilled water when preparing to inject intravenous intoxicants, and clean the area with antiseptic before injecting.
- If someone stops breathing, has no heartbeat or turns blue, immediately call an emergency helpline. Inform that breathing has stopped and begin resuscitation without delay.
- Naloxone (also known as NARCAN®) is a powerful overdose remedy that can reverse the symptoms of overdose. It's available in some countries without prescription.
- If naloxone is available, give it immediately to the person overdosing.
- Two or more doses of naloxone may be needed to reverse an overdose, especially in the case of fentanyl.
- and can slow breathing and heart rate and decrease blood pressure.
- Side effects include nausea, vomiting, drowsiness, diarrhoea, constipation, and itching.
- Opioids are often mixed with other intoxicants. Although the material may seem to have come from a pharmacy, they may actually contain dangerous additives.
- Opioids sold on the black market often contain fentanyl, a very strong opioid. Fentanyl and related drugs have caused a sharp increase in overdose deaths in recent years.
- Opioids mixed with fentanyl are the easiest group of drugs to overdose on, especially when injected intravenously.
- Mixing opioids with other intoxicants, especially other substances that affect the central nervous system such as benzodiazepines, significantly increases the risk of overdose and death.

### Pros

- Opioids reduce pain and can induce ease, bliss, and pleasure.

### Cons

- Opioids have a sedative effect on the central nervous system
- Opioids are highly addictive.

Withdrawal symptoms after prolonged use are physically and mentally painful and can last for weeks, months, or years.

- Sharing needles can spread hepatitis, human immunodeficiency viruses (HIV), and other infections.
- Repeated intravenous use harms the veins and causes blood clots and abscesses.
- Using opioids without proper prescription is illegal and conviction for custody and sale can have serious legal consequences.
- If opioids are used for several consecutive days that can lead to unpleasant withdrawal symptoms.
- The strongest opioid there is is **carfentanil**, which is 10,000 times stronger than morphine. A touch can kill.

Narcotic drugs are several and they have one thing in common; they are opioids and come from the opium poppy, *Papaver somniferum* – a common garden

annual that is easy to grow and rather pretty. The word ‘narcotic’ comes from a Greek word that means ‘unconscious’. The English translation of that word is ‘stupor’ and from ‘stupor’ comes the well-used word ‘stupid’, which everyone knows means ‘fool’ or ‘idiot’. It is, in a way, a fairly accurate description of how these drugs work.

In excavations, evidence has been found that the Neandertals used opium and knew its pain-relief properties. So did the ancient Greeks. But, at this time, it was used in tinctures and through the digestive system.

As opioids paralyse the visceral muscles they cause constipation almost instantly. Therefore, some doctors prescribe them for patients suffering from diarrhoea. That is probably why Keith Richards of The Rolling Stones cynically described his years as a heroin user by saying he had spent fourteen years on the loo with his guitar trying to write songs and trying to shit.



# Tobacco

## Up in Smoke

**Nicotine** ( $C_{10}H_{14}N_2$ ) is the drug that users most quickly become addicted to. As if this is not enough, no other drug is as difficult to stop using, **including** heroin and alcohol. On top of that, cigarettes are loaded with additives, such as *lead*, *arsenic*, *formaldehyde*, *cadmium* and *radioactive polonium-210*. A cigarette from Philip Morris International for example goes through more than 120 processes to standardize the product and prolonging the shelf life in the shop.

### General facts

- Tobacco is made from one of the many different plants that belong to the nightshade family and contains the stimulant nicotine.
- Tobacco is often smoked in cigarettes, cigars, or in a pipe. It is also snorted into the nose or placed in the mouth.
- A certain type of wet tobacco is smoked in a water pipe called a hookah or hubble-bubble.
- Nicotine fluids are also available in various tastes and people breathe in the vapours in vaporizers.
- Effects are immediate and may

last up to thirty minutes, depending on dose.

- The average amount of nicotine in one cigarette or a dose of tobacco in the nose or mouth varies greatly.
- If your girlfriend is pregnant and quits smoking, it is helpful (and mega cool) if you support her by quitting too during her pregnancy.

### Pros

- Those who use tobacco regularly say it reduces anxiety and helps them relax.
- Some users say that nicotine reduces appetite.

**Cons**

- Nicotine increases heart rate and raises blood pressure.
- First-time users often feel dizzy and nauseous, even after only a few 'puffs' from a cigarette.
- Smoking tobacco is carcinogenic. Those who smoke regularly are at a much higher risk of getting cancer of the lungs and in other organs than those who do not smoke.
- Nicotine in all forms is highly addictive. Repeated use may result in physical addiction with prolonged withdrawal symptoms.
- If you prefer to smoke tobacco, always smoke outdoors. Smoking indoors significantly increases the likelihood of lung cancer as the chemicals in the smoke may remain in the air for days or even weeks.
- Spouses and children of smokers who smoke indoors, who do not smoke themselves, are at equal risk of getting lung cancer as the smoker.
- Smoking indoors increases the risk of cancer in pets as well.
- Those who smoke often suffer from coughs as well as other respiratory disorders.
- Depression, irritability, restlessness, and anxiety are among the withdrawal symptoms of nicotine consumers.
- Smoking and oral use of tobacco can cause bad breath and discoloration of teeth as well as cancer in the mouth.
- Smoking during pregnancy can harm the foetus and cause low birth weight, among other problems. The children of smokers are born with withdrawal symptoms.
- Nasal and oral tobacco use can also lead to cancer of the mouth, nose, and throat.
- Although most of the signs are that a 'vape' is much less risky than smoking, there is still debate about the long-term effects of vaping on health.
- Vaping liquids are mostly unregulated. Ingredients may vary by manufacturers and some may contain carcinogens. Always keep vaping li-

quids away from children and in a safe place; the labelling and odour of the substances can be attractive to children, and they have died after drinking vaping liquid.

- Although vaping has helped many to quit smoking, it can be addictive in and of itself.
- If you want to stop using nicotine, avoid places and situations where many people smoke and get support from family and friends. Tips and assistance are available from helplines connected to the healthcare system and from non-governmental organizations (NGOs) for those who'd

like to stop using nicotine.

Nicotine is so strong and dangerous that the body very quickly develops tolerance. When you start smoking, tolerance comes in a few hours. This can be compared to heroin where it takes days or months, or to alcohol, where it can be years. Fortunately, the majority of people using alcohol can use it for pleasure without harm and abuse. This does not apply to tobacco. Almost everybody who starts experimenting with tobacco becomes a user/abuser. In other words, addicted.







## Magic Mushrooms

### Gentle Hallucinogens

**Mushrooms** have at times been called *the flesh of the Gods* and a few of them contain *psilocin* and *psilocybin* and it is the latter,  $C_{12}H_{17}N_2O_4P$ , we'll take a look at here. There are now known to be more than 190 species of psilocybin mushrooms, sometimes called *magic mushrooms*. The greatest risk of using is misidentification when collecting those little brown mushrooms so that a poisonous one is accidentally collected.

#### General facts

- Magic mushrooms are all types of fungi that contain the active substance *psilocybin* or *psilocin*.
- Psilocybin and psilocin are hallucinogens in the *tryptamine group* and have similar effects as *lysergic acid diethylamide* (LSD), except for a shorter period of time.
- Magic mushrooms have been used for thousands of years by indigenous communities around the world to alter consciousness in religious ceremonies.
- Magic mushrooms are usually eaten raw or brewed into tea. You can eat them fresh or dried, drying for later use.
- The psilocybin or psilocin level in a fungus can vary greatly between and within a species, which makes it difficult to dose them exactly.
- The usual dose of a common type, *Psilocybe cubensis*, is about two dried grams.
- The threshold dose (dose that is not quite noticeable) is about 0.25 dried grams, and 5 dried grams would be considered a very strong dose.
- Start at a low dose and then wait for an hour before consuming more so as to prevent too strong an experience.

- On an empty stomach full effect comes in approximately fifteen to forty minutes. With a full stomach it can take much longer for the effect to come on.
- When consuming all hallucinations, **set and setting** are the most **important** factor in whether someone will have a positive or a bad experience.
- To be in a state of good mental balance with someone with whom you are in a good friendship in a safe environment while 'tripping' reduces the risk of a bad experience.
- Magic mushrooms are easily grown in the home as long as sterilization is adequate. Spore prints and grow kits are available online from various firms.

### Pros

- In recent studies, psilocybin has been shown to be useful to treat traumatic stress disorder, depression, and tobacco use, and to reduce fear of death in mortally ill patients.
  - In minute doses, magic mushrooms can produce a similar feeling of relaxation as does cannabis.
- At higher doses, colours may appear brighter, moving objects may appear to leave a 'trail', and flat surfaces seems to 'breathe'. Visions can appear and users feel happy.
  - Users often talk about laughing a lot and finding things funnier than usual. The experience lasts for about four to six hours.
  - Many people say that the mushroom experience is 'more earthy' than other hallucinations; it increases emotional consciousness and causes less mental turmoil.

### Cons

- The greatest risk with the use of mushrooms is the consumption of a **poisonous** one by accident. There are more than 180 species of edible magic mushrooms, but only a few of them are common. Learn to identify them or buy them from a reputable person you trust if you choose to use magic mushrooms.

- In people with underlying mental illnesses such as schizophrenia magic mushrooms can trigger the onset of symptoms.
- The mushroom experience can sometimes be frightening and cause violent anxiety and fear.
- If someone experiences a bad 'trip' then take them to a quiet place and remind them that their feelings are due to the substance the person consumed and will soon disappear. A 'trip' takes place in only one place, inside the user's head.
- In a few users, fungi and other hallucinogens can cause long-term disruption called *hallucinogen persisting perception disorder* (HPPD) and can cause mild but persistent visual hallucinations.
- Magic mushrooms can impair judgement. Never drive a car under the influence of a fungus.
- Magic mushrooms are illegal in most places; custody and their sale can have serious legal consequences.
- Some users may feel nauseous when consuming magic mushrooms. Boiling them for twenty minutes, filtering the material from the liquid, and thus making a tea can reduce the likelihood of nausea.



Home grown Psilocybe mushrooms from a grow-kit.



Photo by Vinicius Amiano on Unsplash

## Chapter 3

### Drugs of All Kinds

This is the confusing part of this book because there are several kinds of drugs – *medical*, *pharmaceutical*, and *endogenous* drugs that the body itself generates. And then there are *recreational* drugs, sometimes referred to as *dope*.

The first dilemma one faces is one of definition. Definitions are *social* and *political* by nature and they change over time. Some drugs have multiple definitions as they have multiple roles. They can be recreational, medical, legal, illegal, and part of a religious ceremony all at the same time. Strange as it is, alcohol is in all categories.

Alcohol is highly effective for sterilizing. Recreational use is quite common. In the West it is freely available as it's legal. In predominantly Islamic countries it is more often than not illegal, and in Christianity it is part of a ritual in the church as it is a sym-

bol of the blood of Christ. Alcohol can also be used as fuel as it burns cleanly.

What we are concerned with here is the use of recreational drugs and their abuse. So let's take a look at abuse first.

The first problem is definition of terms. What abuse is for one, is use for another, since human beings differ. Just as social norms differ. Normal consumption of beer for a German can be abuse for a Japanese due to a difference in genes.

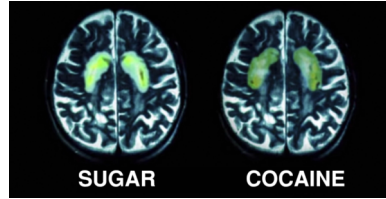
How would one define abuse of coffee? Three cups a day? Five? Ten or more?

However, I think it is safe to say that anyone who lets a substance more or less take over their life is abusing. I think we could all agree on that. If someone eats a lot of chocolate, and I mean enormous amounts, that person can be said to be abusing. The

same goes for junk food, which is quite addictive, as research has shown. But junk food and sweets are legal, and we all need food and nourishment. Food is also very profitable for fast-food chains like KFC.

**Opioids** are another example. Powerful painkillers are essential in surgery and medicine; they also have great potential for abuse, and it is easy to become dependent. However, that seems to be somewhat linked to use, as even after considerable time in a hospital on painkillers not many become addicted and go straight to the street to score.

What about **Laudanum**, which is an old opium solution originally created by *Paracelsus* who is considered the founding father of modern pharmacology? Laudanum was used by thousands of people ever since its invention in the early sixteenth century, as it contained 10 per cent opium. The usual dosage was ten to twenty drops in a glass of water or tea. It made

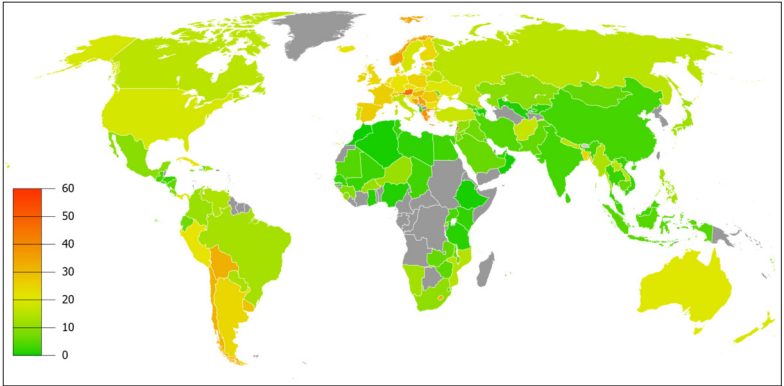


MRI of the pleasure centres in the brain.

hardworking, tired workers sleep better and alleviated physical pain. Is it abuse to use it for years on end, even in greater dosage than normal if use doesn't interfere with one's life? The problem with definitions of terms is that those definitions can be highly ambiguous and tend to change over time.

But what are drugs? Now here the definition is somewhat easier. *Edgerton Y. Davis, Jr* said that a drug is *any substance, which, if injected into a rat, generates a scientific paper*. There is a bit of truth to this. Davis's real name was Sir William Osler.

Let's examine some white powders that all have profound effects on the body, mood, and the brain. Those powders are sugar, salt, and cocaine.



Tobacco usage among males in the world in percents.

Is sugar a drug, you might ask. As magnetic resonance imaging (MRI) pictures show, sugar has a big effect on the brain. It lights up the pleasure centre of the brain more than cocaine. And sugar is highly addictive just like cocaine. The same goes for yet another white powder, heroin.

But salt? Isn't that a spice? Well, that's how it's defined. OK, if that is so, how come a lot of people can't live without it?

You are beginning to see the problems with definitions, aren't you? They depend on one's point of view. To make matter even more complicated the dist-

ance between a drug, medicine, and poison can be extremely narrow. All drugs become poison in high enough doses and many poisons can be very effective as medicine in a small enough dose. And some poisons can be very strong. It takes only 2 mg of carfentanyl to drop a 4 ton elephant. It's about the same as thirty to thirty-five grains of ground table salt.

Let's finish this with alcohol.

Alcohol is food when the body metabolizes it for energy like sugar; it can be used for sterilization and it can be burned like fuel. It gets you drunk by para-

Ef 200 íslensk ungmennt væru ógnátt í hrikarbygd á  
 öðrum myndast ekki að löndingur sem ekki væri  
 fús að leggja allt í höfurnar til að bjarga þeim.

# Framsókn

Framsóknarflokkurinn vill ráðstafa  
 1.000 milljónum króna til viðbótar  
 þvf sem nú er gert til bardattunnar  
 gegn fíkniefnum.

Aðrir flokkar ljáa yfir köldu stríði  
 hver við annan. Framsóknarmenn  
 ljáa yfir stríði gegn fíkniefna-  
 vandanaum.

Framsókn gegn fíkniefnum.  
 Vertu með!

## gegna fíkniefnum

Ný framsókn  
 til þýrrar  
 aldar

FRAMSÓKNARFLOKKURINN  
 Við látum verkin tala!

For political parties drugs can generate votes. The Progressive Party of Iceland advertised the promise ‘Drugfree Iceland by the year 2000’. No mention of alcohol and no additional funds for law enforcement and no emphasis on education. This ad is from 1999: But it got them votes.

lysing parts of the brain and in a big enough dose it will kill you by paralyzing the part of the brain that controls breathing so you suffocate.

Now it gets really complicated since we’re now moving into the

realm of **psychotropic** substances.

To label some drugs as dope is more often than not very arbitrary. As for antibiotics the definition is straightforward but for drugs that affect mood and the brain the shoe is on the other foot. Then the question of morals enters.

Should pleasure or well-being be a reward for some achievement or consolation for suffering? The answer is not obvious, as I think everyone has their own definition. But we know that using drugs is universal – in all cultures at all times. Using drugs is so common that it seems to be part of human nature and essential for our well-being like dancing, laughter, music, singing, and dreaming. That seems logical since nature herself drives evolution by reward and punishment. Rewards can be spectacular bliss and the punishment deadly.

But why should anyone label some drugs good but others bad? That is ridiculous, as there seems to be no universal rule or



consensus in attitude and belief. What one finds all right, another finds intolerable.

In the West almost all recreational drugs other than alcohol, tobacco, and coffee are considered more than intolerable. To complicate matters, and adding to the confusion, is that as time goes by attitudes regarding drugs change. Both by individuals and society.

When tobacco first came to Europe, in several places there was a capital punishment for use. Today society gets a lot of revenue from its distribution and sale. So even attitudes change over time.

Behavioural scientists tell us about a trait in humans that divides our perception of the world into two categories: good and bad. That seems to be fundamental in human nature. The existence of evil demands explanations and generates fear. Why this, that, and the other? Why unemployment, disease, famine, war, disasters? What can we do to avoid those things? One way is

to personify evil, whether it is a thing or behaviour. Then it is possible to ban it, avoid it, or even kill it. That is how prejudice and hearsay starts. It is uncanny and somewhat scary how easily superstitions, hearsay, and conspiracy theories come to us – particularly about things that fascinate us. Food, sex, and fun are important, and all kinds of hearsay and superstitions are connected to them. Christian fundamentalists, for example, despise lesbian, gay, bisexual, and transgender (LGBT) people and orthodox Jews and can't even look at a woman in a swimsuit.

As psychotropic drugs can be fun and may alter our views and how we think, behave, and relate to one another, they are ideal to generate prejudice and hearsay. Therefore, you should always keep in mind when you hear someone who either glorifies or condemns drugs, that said individual is also full of prejudices that have in some cases been imprinted from early childhood, and be-



Jesus converts water into wine at the wedding at Kana. Not to get everyone pissed but as a vital element of the current culture. Wine is still used by the church in religious ceremonies and it gives alcohol to minors at confirmation.

believes different information to you. It is easy for both sides in a debate to provide 'scientific' proof.

As drugs are so connected to people's fear and desires, finding neutral information about them can be somewhat tricky. I myself am no exception and therefore it is essential for you to verify what I say as best you can. I am only a human being trying his best to provide as accurate information as I can and be as neutral as I can. I believe that drugs are neither good nor bad. Drugs can be used responsibly or foolishly. My only aim is to forward information that can help users not to harm themselves. It seems that drug use is about the same as it has always been, probably with a slight increase but with more variety and more options, that is, different drugs, different use.

However, that being said, in some areas use has decreased of some drugs. But there is more variety for users to choose from for recreational use.

## Medicines

When you get sick you might be given drugs to battle your illness, usually according to instructions from a physician. They are called medicines and can be in various shapes and forms: pills, tinctures, by injection, or as an inhalant. Medicines usually come from a chemist shop or your local clinic. You should only take medicines in recommended dosage. They can be dangerous, too. And don't take medicines prescribed to someone else. At least not before consulting someone you trust. Medicines from the chemist has one thing that you'll not get when buying on the street – that is, a small piece of paper in the box and this piece of paper is genuinely brilliant as it lists effects and possible side effects of the drug. So, if you get a drug from the chemist, take precaution, and read the instructions.

## Recreational Drugs

Many people say that recreatio-

nal drugs should not be used under any circumstances – not even if they can alleviate pain or help with an illness. Most of them are illegal anyway in many instances, such as cannabis, magic mushrooms, MDMA, and LSD. Alcohol and tobacco are recreational drugs as well. So is coffee, which includes caffeine, which is stimulating for humans. Caffeine is also an ingredient in fizzy drinks such as Coca-Cola and energy drinks.

Coffee is relatively harmless and, in some cases, seems to be beneficial.

Alcohol and tobacco are a very different story altogether. Both drugs are very harmful to the user, but they are legal because of tradition and alcohol is also a part of our culture as the Church uses it to represent the blood of Christ. When you go to communion or are being confirmed in your church you are given a small sip of wine. Such use is probably harmless, and some scientists even claim that in



Those are roughly the areas in the brain where certain functions are situated.

small doses alcohol is beneficial – particularly wine and beer in moderate use.

When people talk about drugs, they are not talking about legal drugs, such as alcohol, tobacco, or coffee. They are talking about cannabis or other illegal drugs.

### **And Drugs Work Like?**

The way that drugs work is fairly straightforward. They enter the bloodstream and once there

they quickly travel to the brain where they trigger various receptors. If the drug is taken by mouth it takes longer to take effect than if it's smoked. If smoked the drug passes from the *alveoli* in the lungs into the blood.

Once in the blood the time it takes to reach the brain is short as the blood runs very fast; in some parts of the body the speed is about 100 km an hour. Bet you

didn't know that. If smoked the dosage can be smaller than if taken orally for the same effect. It also wears off sooner – the reason being that it takes longer for the drug to filter through the digestive system.

The effect comes when the drug reaches the brain where it primarily affects the central nervous system that controls how you feel and behave from one minute to the next. The brain has been called the most complex biomass in the universe and, as such, it is extremely complex and different parts of it control different things – as can be seen in the graphic on the previous page.

If some of those parts are interfered with by drugs you could see things differently. You might even 'see' or experience things that aren't even there. That is called hallucination and is only in your brain.

If the part that controls emotion and judgement is affected because of a drug it can make

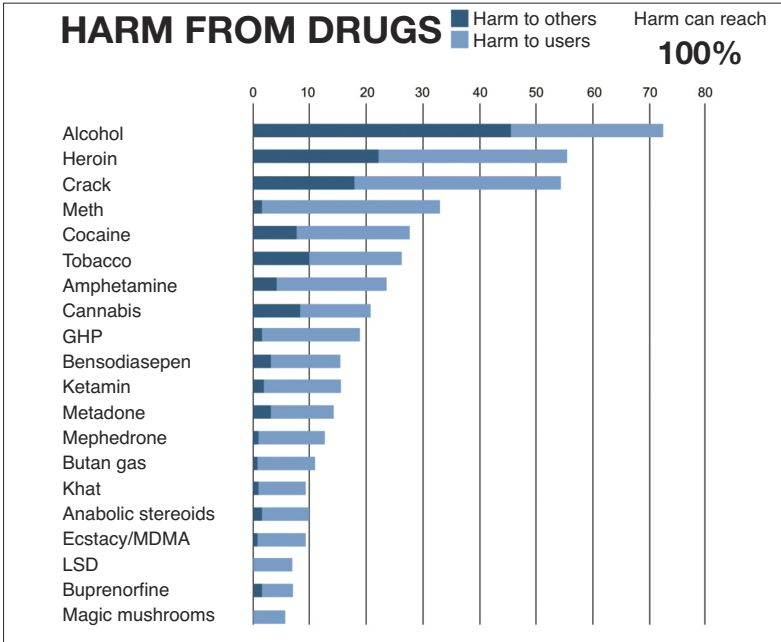
you sad or happy depending on how you feel at the time of taking the drug. It can also reduce or eliminate restrictions, so you do something totally inappropriate like taking a stroll, stark naked, down the high street.

When you take a drug all areas of the brain are affected and, in some cases, the results can be unpredictable. Like how you see or hear and how you feel.

Since the brain is your *primus motor* and controls everything you do and how you feel it is wise to treat it with respect and not take any unnecessary risks.

The difference between the brain and the body is that you could lose a limb and stay alive. But if you damage the brain you are in very deep shit. You could end up a complete comatose and the only link between life and death would be life-support machines. Now that is some serious shit.

You may have seen an individual, either in real life or on television, with brain damage.



Another picture of how science estimates possible harm from drugs.

Such cases do not have to be because of drug taking. It can happen for various other reasons like accidents, disease, or lack of oxygen at birth. These unfortunate people often move erratically if they can move at all. Even 'safe' medications can cause brain damage because we are all unique, and some can have violent *allergic reactions* to a given medicine such as *penicillin*

that can send them into severe shock. Such allergic reactions are worth keeping in mind when you are offered something you've never tried before. You have no idea how your body will react to a given drug. If so, it's too late to say, 'Oops!' So please keep this in mind.

As the brain is so important everything that affects it can radically alter our perception and be-

haviour. Not only by drugs but other chemicals that are *endogenic* such as **adrenaline**, a very powerful chemical. A real and extreme panic can encourage the adrenal glands to pump adrenaline into the blood like there is no tomorrow. But we have no control whatsoever in the production of endogenic drugs. This we all know; just as we know that nothing about drugs has anything to do with magic. It's all just plain and simple biology and chemistry. Sorry to burst your bubble.

### **What Drugs Do**

As there are hundreds or thousands of drugs in the world and new ones almost every week, and as they all affect you in their own unique way, we need to study their effects. Those that are used recreationally all have effects that are somewhat similar. Here is a list of those effects.

### **Drugs Can Please You**

Drugs sure can give you euphoria. Most of the drugs in this book do

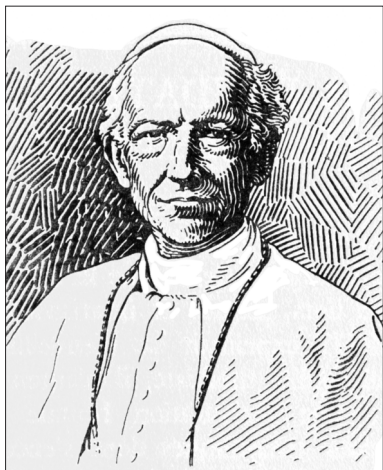
that when used. The user feels good and happy. They are 'high' as it's commonly called, drunk or stoned and euphoric. How they feel when the drug wears off can be a different matter altogether. That goes for alcohol, MDMA, and barbiturates to name a few.

### **Drugs Can Make You Hallucinate**

Hallucinations are when the user sees things that aren't there. Similar to when dreaming. The most common terms for those drugs are hallucinogens or psychedelics. Those drugs can be dangerous because they are still being studied and we don't know exactly how they work and sometimes the pleasant dreams turn out to be a nightmare. Example of these drugs are LSD, magic mushrooms, ayahuasca, mescaline, and drugs that are called deliriant.

### **Drugs Can Relax You**

Drugs can relax, sedate, and calm the user and ease pain. Such



Pope Leo no. 13 was known to enjoy a stiff drink. He drank in moderation though. His favourite was **Vin Mariani** which was heavily laced with cocaine. His holiness liked that immensely and wrote a glowing letter of thanks to the producers.

drugs mostly belong to the *opioids* and the *barbiturates* group. Sleeping pills and heroin are prime examples of relaxing drugs.

### Drugs Can Stimulate You

The user feels fresh and alive and the feeling of tiredness can be entirely absent when using stimulants. But as with other things in life, there is a catch.

They use up the body's own supply of energy and coming down after use can be quite unpleasant. When you withdraw energy heavily from your body there is a lot less to draw from when you come down. Amphetamine (speed), cocaine, and coffee are stimulants. And to a certain extent ecstasy /MDMA.

### So Why Use Them?

This is a valid question. Everyone has heard that drugs can be dangerous, and some can ruin their life by use. Still they use them. Why?

Obviously, there are many diverse reasons but the most basic one is to change the way one feels. To feel good. No one takes a drug to feel bad. It's not in our nature.

People also take drugs to alter their perception of the world.

Also to alleviate pain, and such use has been recorded in animals.

But both people and animals also take drugs for fun.

For example, cats, which are



very fond of catnip and **Garden valerian** (*Valeriana officinalis*). Garden valerian is often used in herbal tea, which has a sedative effect on humans and some drink it before going to sleep at night. But for cats Garden valerian is a stimulant and they more or less freak out before settling down. At least that's my experience, and I've known them to sleep in the sink where the rest of the tea is discarded.

There are, however, other ways to alter perceptions – means that are safe and just as effective and pleasant and completely legal. Music, dancing, sport, falling in love, sex, or watching a film to name a few.

As I said before, children seem to be very inventive of these such ways and seek to alter consciousness, experimenting from a very early age: turning around until they are dizzy and falling down; rolling down slopes and trying to stand up. Such behaviour seems to indicate that this strive for different consciousness is so-

omething that all humans share, as such behaviour exists in all societies and cultures.

But as kids get older they discover other means to alter consciousness, often drugs or other chemicals. And as man is by nature a lazy and opportunistic animal, those chemicals are a quick and far too easy way to experience different consciousness. In other words what is called being 'high', which is a state of well-being and lightness.

When examined it turns out that people who never use drugs also seek this state of affairs.

It may even be argued that such a state may be necessary for our well-being and good mental health. To get high once in a while may be necessary just as dreams are necessary. It may be possible that this drive for an altered state is the reason people seek this experience even though they know it may have unpleasant drawbacks.

But even though this drive may be in our nature people do

drugs for various reasons. Among those reasons are the following.

### Curiosity

Perhaps curiosity is the root cause of people trying drugs. From a very early age kids see drug use: on TV, in movies and pop songs, and by their parents. So come age nine or thereabouts, the seeds planted in their subconsciousness sprout and bear fruit. And they long to try. How it feels, how it works, if it's as cool as it looks. And curiosity mounts. The drawback is that the media is highly unreliable in their stories about drugs. That is because more often than not the media people don't know, or care, very much about drugs and are busy and don't have enough time for accurate research. On top of that media people are just like you and me and take the shortest and easiest route to the goal. They also have to make the story so that customers will want to buy the paper or see the



One of the reasons people use recreational drugs is because inhibitions and social norms evaporate very quickly.

film or whatever. So, media people dress up their story. That is sometimes labelled tabloid reporting.

If you see something in the media about drugs, ask yourself what might be the reason the piece is written as it is. Why is it written and published and why is the particular information given deemed so important for the reader? Try to get reliable information about the subject and talk to someone who knows.

### Other People Do It

This reason is probably almost equal to curiosity. That's not saying much, is it? We know that standing out is an invitation for isolation and being ostracized – even being considered a threat and being picked on and bullied.

But, even though it's hard, one does not have to be like everybody else. Being independent and strong can benefit you in the long run. If others are using and you don't want to, don't use even if uneducated and poorly informed stars do.

Most people can handle drugs responsibly but it is far from certain that you can since drugs can take control and I don't think you would want to be a slave in the chains of some substance, do you?

### The Search for Meaning

It is very, very rare that drugs can aid someone to a better understanding of oneself and then only with the help of a trained professional like a doctor or a

psychologist who can guide and explain what is happening. A normal individual should not expect to find the answers to the meaning of life through drugs.

However, all through history people have used drugs in religious ceremonies and to get in touch with nature and oneself. Cannabis was used in ancient India and various plants play a role by indigenous people in North and South America for this purpose. Alcohol plays a role in Christian ceremonies and by the Jews, and in what is termed primitive people, psychotropic plants are regarded as gifts from the gods.

### To Find Oneself

Some curious individuals have used drugs for self-reflection. Those individuals have tried to explore a part of the psyche that, all things being equal, one has no access to. Among them is the writer *Aldous Huxley* who experimented with mescaline in the early sixties. He wrote a book



Aldous Huxley views LA in early may 1953 when he cleansed the doors of perception with 400 mg. of mescaline.

about those experiments by the name *The Doors of Perception: Heaven and hell*. Under pressure he revised the book some years later and backtracked somewhat as he had maintained that everyone should experience *mescaline*. Other known individuals to experiment are *Oliver Wendell Holmes* who experimented with *ether* and *William James* who experimented with *nitrous oxide* (laughing gas). *Sigmund Freud* used *cocaine*, *William S. Burro-*



William James.



Sigmund Freud.

ugh opioids, Ram Dass and Timothy Leary LSD, and John Lilly experimented with *ketamine*.

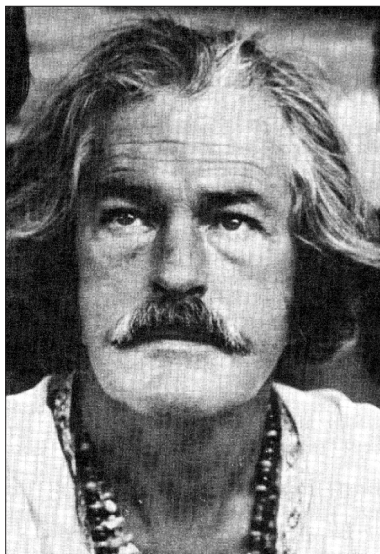
### To Alter How One Feels

A lot of people take drugs to try self-healing from depression, numbness, or insomnia. Most opioid abusers are probably trying self-healing because of a *psychological trauma*. Even just to get rid of boredom. This reason can be blamed on the pharmaceutical industry, sometimes cal-

led **Big Pharma**. Big Pharma has been very busy selling the public at large the idea that there is a drug available to solve all of our problems. *'Feeling down? Take Prozac!'* A large portion of drugs sold in the world today are for changing the way we feel. Parents are taken in, and the role model the kids see is that it's quite all right to pop a pill to change how one feels. It must then also apply to illegal drugs. Right?

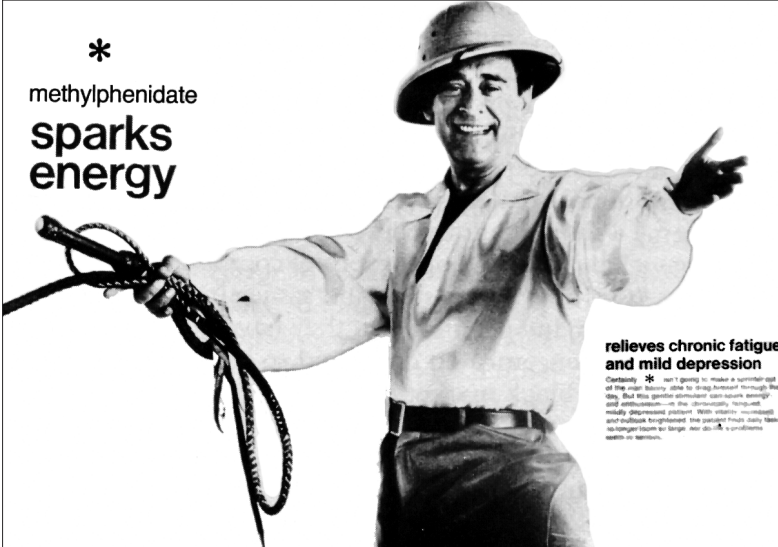


Ram Dass.



Tim Leary.

\*  
methylphenidate  
**sparks  
energy**



**relieves chronic fatigue  
and mild depression**

Certainly \* isn't going to make a sprinter out of the most lousy able to drag himself through the day. But this generic stimulant can make people feel enthusiastic—in the chronically tired and mildly depressed patient. With regular treatment and medical supervision, the patient feels daily better. (Ritalin) helps to bring out the best in people who are tired.

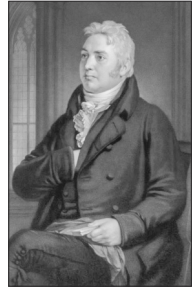
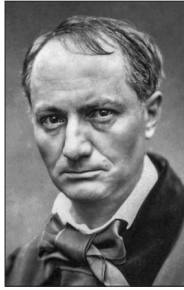
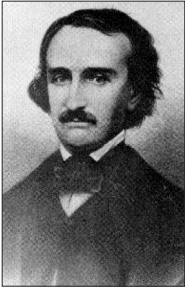
Ad from an American magazine from the 70's, last century, Ritalin fixes everything.

### To Stimulate Social Interaction

'Would you like a cup of coffee?' is perhaps the most common sentence where drug use is promoted. It is perhaps not as common to offer an alcoholic drink, although in certain areas it is even more common. Like a communal meal, communal drug use is a kind of excuse for relaxed interaction. Coffee breaks, smoke breaks, and cocktail parties are prime examples, but those drugs are legal. Illegal drugs can bond people more

closely, as then the authorities are being given the finger. Different cultures have different customs and in some places in South America the indigenous people think nothing of taking a break and chewing on coca leaves or drinking maté, just as we drink coffee. And in the South Pacific *kava* is part of the culture.

Apart from tradition for consuming various substances, the chemical workings of a drug often make people more open



Edgar Allan Poe. Charles Baudelaire. Alexandre Dumas. Samuel T. Coleridge.

and freer and alcohol is a case in point. It has been said about alcohol that it's a lubricant for business and one might wonder how many business deals are made during lunch or supper where alcohol is being consumed. And how many unwanted pregnancies and marriages have come from use through the ages.

### To Enhance Pleasure

The whole human race is constantly seeking pleasure and we are particularly ingenious in discovering ways to do that. The drawback, however, is that the more often we do something that gives us pleasure, the pleasure diminishes with repetition. Then a bigger dose is needed. Even in

sex, which is one of the fundamental traits, in all animals. That is why all this energy and money is being spent in the sex industry, and drug use is closely linked to it – something new and exciting that can increase the pleasure. That's probably why drugs and sex are as old as humans. That's because drugs can, while they work, make the ordinary seem extraordinary. On top of that, for example, alcohol reduces inhibitions and lowers the moral threshold, to say nothing of judgement, which alcohol destroys.

### To Aid Creativity

Writers have sometimes used drugs for inspiration. The famous poem *Kubla Khan: or, A Vision in a*



Photo by Tom Sam on Unsplash

Tour de France has long been riddled with drug scandals. Lance Armstrong comes to mind since he was disqualified and all his records and all his trophies were taken away from him. There are rumours that some countries give their athletes drugs and hormones to boost their performance.

*Dream: A Fragment* by the English poet Coleridge was inspired by one of his opium dreams. Charles Baudelaire, a French poet, used hashish and opium for inspiration and his countryman Alexandre Dumas used cannabis often as they were both members of *Le Club de Hashishciens* whose members included many of France's greatest intellectuals at that time. Edgar Allan Poe depended on opium, Sigmund Freud cocaine,

and Berthold Brecht and Hemingway on alcohol. Musicians seem to be fond of cannabis and *The Beatles* and *The Rolling Stones* are probably the most famous. Those two bands also experimented with LSD. Many of the most famous jazz musicians in the USA were heroin users and many have paid a heavy price for use. They've died from *alcoholism*, *overdose*, and *hepatitis*. I have not seen many studies on creativity and



drug use. It's possible that in some cases drugs can help in artistic or creative work but I should think that one has to be sober to make good use of such 'help'. Recent studies, however, seem to suggest that **micro dosing** of LSD or psilocybin could be beneficial for users on some subliminal level.

### To Increase Stamina and Endurance

Certain drugs can increase strength and endurance but as there is no such thing as a free lunch in this world, what happens is that one is wasting the body's energy supply, and it is just as certain as  $2+2 = 4$  that one has to pay the price.

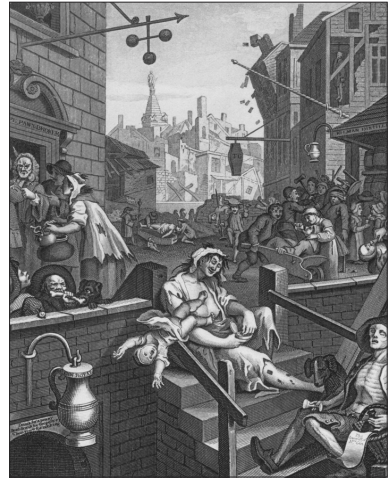
### To Rebel

As some drugs are illegal and linked to hearsay they invite users to rebel against the general views and attitudes in society. To break the rules is an obvious way to send authorities a message. Kids learn quickly that they can shake both parents and



Judy Garland or Ethel Gumm as was her real name was a nerd and started using at an early age to 'better fit in' as she put it. She used alcohol and prescription drugs and combination of those and a wild and unhealthy lifestyle cut years of her life.

teachers by drug use. Particularly if the drugs are illegal. That seems to be a part of growing up and becoming independent. The flaw is that by making those drugs illegal, they tend to cause more harm and on top of that they become more exciting.



William Hogarth, a British painter, did those two pictures which are meant to show the situation in Britain in the 18th century. They are called Beer street on the left and Gin lane on the right. At the time pubs advertised that customers could get totally drunk for 2 pence. The difference in behaviour in those two pictures is enormous.

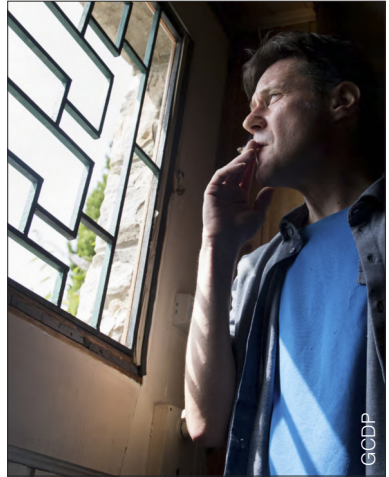
## Peer Pressure

We are told that peer pressure is one of the reasons people start taking drugs. However, I have never seen nor heard of a 'peer' doing the pressure. I've only seen the 'victim' of such pressure. Perhaps the greatest pressure comes from the media. If you think about it, everything is peer-pressure. What, for example, do advertisers do? They present characters in their ads that you,

as a consumer, can identify with. Peer pressure? When you show up somewhere and someone says, 'Would you like something to drink?' or, 'Coffee, anyone?' is that peer pressure? I think we can all agree that the term is highly ambiguous and really is nothing more than a convenient slogan. So, I have my doubts how much weight we should give the term when it comes to recreational drug use.



Wikimedia Commons



GGDP

Cultural drug users, past and present. On the left the drugs used are coffee and cannabis and on the right nicotine. Social cost of use of the former is negligible but much higher from the use of tobacco. Yet smoking was until very recently advertised and encouraged. Now, ask yourself which use is more problematic or bad?

## Cultural Use

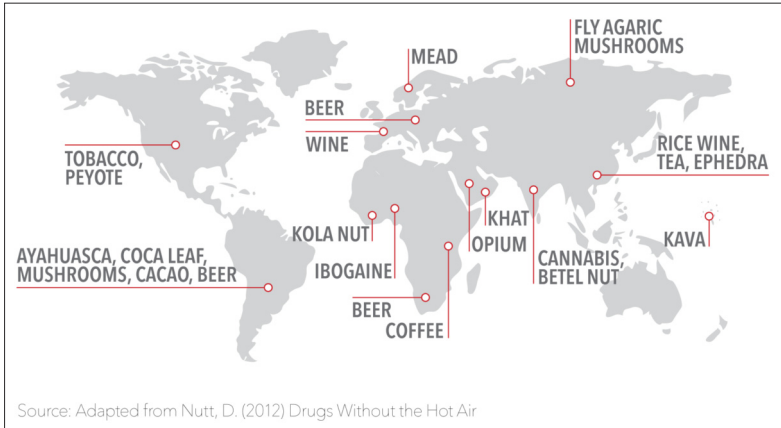
When discussing drugs and why they are used, one thing has to be taken into consideration. That is cultural use. As said before drugs have been used in every corner of the globe at one point or another. Such use has always been taken for granted and even encouraged. Just as advertising coffee and alcohol is in modern society today.

This is the normal state of

things; drug use is encouraged as long as it is profitable for vested interests and is culturally acceptable.

On page 90 is a picture that shows traditional cultural drug use in the world. Take note that some of the drugs there are illegal today.

What changed? Why are those drugs banned by law and regulations and severe punishment enforced on users?



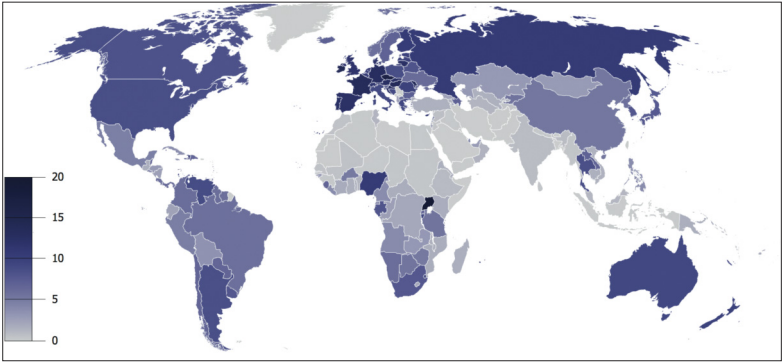
Different regions, different cultures, different drugs. Of the drugs mentioned Peyote, Ayahuasca, Cocaine, Mushrooms, Opium and Fly agaric are illegal in some or most places. In spite of a long history of cultural use.

Is it possible that some, who make a lot of money on current state of affairs battles, fight fiercely against any slack of regulations? After all an unregulated market is not profitable for alcohol producers or the tobacco industry. To say nothing of the big pharmacological companies.

The fact remains that through hundreds or thousands of years recreational and ceremonial drug use was part of daily life. People learned to use them so as not to harm themselves or disrupt social order.

Since this peculiar species, *Homo sapiens*, has not changed all that much, in all those years, there is no reason to expect that a society would suffer if the greatest danger of illegal drug use – criminalization – were to be removed from the equation.

However, that being said, society is very different today compared to earlier or ancient times. One factor sticks out like a sore thumb: transportation, both of people and goods, is vastly different now from what it was even twenty to thirty years ago.



Alcohol use around the world.

### Is drug use an escape from life?

The prohibitionists maintain that using drugs is an escape from life. It's more complicated than that. In some instances it can be, particularly when the user is doing drugs to get relief from pain in the soul. As *Dr. Gabor Maté* has said; "anything that is "wrong" with you, began as a survival mechanism in childhood". That means childhood trauma. It doesn't have to be more serious than getting lost in the supermarket for a few minutes as *Dr. Francine Shapiro* discoverer of EMDR (*Eye Movement Desensitization and Reprocessing*) stated in her book about her discovery.

Some use drugs to escape boredom as was the case among US troops in Viet Nam who used high grade heroin to escape boredom while stationed there.

To do drugs to solve problems comes with a catch, it doesn't work. Problems in the soul should be addressed by a professional. It's unlikely that doing drugs will help. It may alleviate the pain for a short period of time but the problems might be worse when the drugs wear off. It's better to connect to someone emotionally and socially. Even a pet can suffice. I don't think the old saying that many have saved themselves by fleeing applies to drug use.



A lot rides on how things are displayed. One can show them in a positive and unthreatening light or as the custom is, on a table at the police station with smirking officers standing proudly by. The photo displays Peyote buttons, a succulent, in a box after picking from the desert.

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## CHAPTER 4

### Definitions

#### Types of Drugs

Drugs fall into several categories. Those we're dealing with here mostly fall into two categories. They are either *chemically* made or *natural*. Amphetamines and barbiturates are examples of chemically made drugs, either in laboratories or drug factories. They are very pure when they are made but often diluted for more profit on the street. The second group are drugs that either are *endogenetic* (are created by one's own body) or grow as plants, and sometimes they are a mix of the two. The difference between these two groups decides how they are used, and you should be aware of it.

#### Endogenetic Drugs

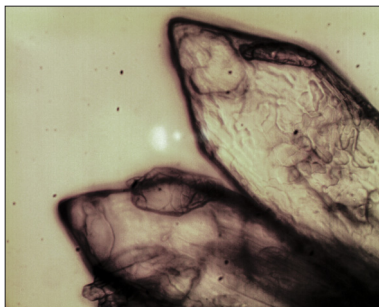
The human body makes very powerful drugs in the brain and in various glands in the body. Those drugs can have great effect on how one thinks and

behaves. Those drugs are called endogenetic. The name originates from ancient Greek and it means to be created by the organism. Many of those *endogenetic* drugs are very similar to those drugs that people take recreationally. The discovery of those endogenetic drugs is relatively recent as scientists discovered them in about 1950 when they found out that psychotropic drugs worked in such a way that they bound to specific receptors in the brain and on the nerves like a key in a lock. Only when the molecule of a drug fits a receptor does it have effect, that is, works. Because then the nerve cell sends out its own signal, either chemically or electronically. The drug can also work in such a way as to prevent those signals. This discovery is the foundation of current theories about drugs and the nervous system.

For example, it was discovered that heroin and morphine lock onto special receptors in the brain. But why should the brain in humans have special receptors for a molecule that are produced by the **opium poppy**? There was a lot of guesswork about this in the scientific community and various theories floating around, but the one with the most numerous followers was that the brain, or the body, probably made something similar to opioids. In 1975 scientists discovered that this theory was accurate when they discovered a group of chemicals in the body called *endorphins* that are the brain's own painkiller.

### And This Raises Some Questions.

Is it possible that those with a high threshold for pain produce more endorphins? What about those who produce less? Are they compensating for this when they are abusing opioids? And why have humans and the opium poppy developed chemicals that



DMT crystals enlarged 400x are an example of indigenous drug. It is a powerful hallucinogen if the amount in the body increases above normal levels.



*Chlordiazepoxide* is probably better known as **Librax** or **Librium**. This drug was prescribed to millions of more or less healthy individuals as it became, through marketing, sort of fashionable. Librium is still used in spite of newer, and probably safer, as well, and better drugs.



are so alike? Is that the reason for this experimenting of man with drugs from plants? What does it mean of the nature of doing drugs? Is it possible that endorphins and other endogenous drugs are the main reason for the effect of all drugs? What about other effects that people experience doing drugs? Is the euphoria that people experience after workout in the gym the result of endogenous drugs? Have those individuals learned some method of increasing those drugs in the body? The questions are numerous as the brain does not only produce painkillers. It makes substitutes of all drugs in this book. The brain makes *adrenaline* and *noradrenaline* for stimulation. *Serotonin* and *gamma aminobutyric acid* (GABA) for sedation. Sex hormones are far

better than any chemical made in a laboratory as an anti-depressant, and probably the brain also makes its own hallucinogen in a chemical that is similar to *dimethyltryptamine* (DMT). This chemical is made in the pineal gland. All those chemicals are currently being studied by scientists and probably will be for a long time as there is always something new

**Migraines, Névralgies, Rhumatismes**

Demandez à  
votre Pharmacien

**l'Aspirine**  
"USINES du RHÔNE"

En TUBES de 20 COMPRIMÉS

LABORATOIRE des PRODUITS USINES du RHÔNE  
21, Rue Jean Goujon, PARIS

An ad for one of the first of modern medicine, Aspirine.

to learn and it should be very interesting to follow these studies as those chemicals are really powerful. What is particularly interesting to find out is whether the use of similar chemicals will affect the production of said chemicals. Will the result be that the body will stop producing those endogenous drugs and the individual become an addict? The

body is by nature fairly lazy and if it can get by without too much effort it is just as likely that it will decrease or stop production. We can see a similar situation regarding increased hygiene on the immune system. The greater the hygiene the more cases of asthma and allergy, research has shown.

### **Drugs from Nature**

Most psychotropic drugs come from the flora. And there is a plethora of plants that produce drugs of one kind or another. Numerous drugs from plants have been utilized in some way or another, at one time or another, somewhere. There is one thing those plants have in common and that is they taste rather bad, and one even horrible, but people have found a way to circumvent this with ingenious methods. Those methods make the plant useable and, in some cases, even increase the effects they give, as the methods used by indigenous people in South America regarding coca leaves. They



Opium poppy in an Amsterdam garden. The white liquid from the wound is raw opium which is then collected and used.

dry the leaves and mix them with a base (*alkali*) to have them work. Such methods are also used to this day with coffee. The fruit of the coffee shrub is slightly poisonous but by extracting the seeds and roasting them they can be used after grinding to make a stimulating drink. Many of these plants contain numerous chemicals and some of those chemicals cause the effect desired; others don't.

Pharmacists and doctors call these chemicals the *active ingredients* but that's not entirely accurate as such terminology suggests that the other chemicals are inert and unimportant. That is probably the main reason that doctors today have very limited interest in herb medicines and consider them old fashioned. It goes without saying that this lack of interest makes them ignorant of plant medicines as they don't know the difference.

There is an obvious difference between these two types of drugs that becomes apparent

when used. If a plant is used, more often than not, the drug is less poisonous and, in some cases, easier to control. Just think how difficult it would be to control caffeine dosage if taken pure in a pill or powder. I suspect more users would use it like amphetamine.

The drugs in plants are generally a lot fainter in comparison to industrial drugs. Coca leaves, for example, have only 0.5 per cent cocaine in them whereas factory-produced cocaine can be 100 per cent pure. This goes for many other drugs, both medications and recreational drugs. Further-



Religious ceremony by the Russian Orthodox Church. The ceremony is full of rituals where alcohol has a substantial role. Even for underaged kids.

more, the drugs from the majority of plants go through the digestive system where the digestive acids break them down and may change their effects. The pure stuff is in many cases put into the nose and through the *mucosa*, or straight into the bloodstream with a syringe and thus the body has no chance of modifying the drug. The fact is that each plant contains many active ingredients and some of those ingredients act as moderators and are therefore safer. This safety factor is lost when the drug is pure. As an example, we can take



C. F. Gerhardt.

aspirin. Aspirin was discovered by a French scientist who noticed that an Indian tribe in North America chewed young branches of a certain type of a willow to ease pain. However, the bark of a willow tastes terrible. So probably very few people will consider chewing it without a good reason and certainly not more than needed. This scientist, *Charles Frederic Gerhardt*, found out which chemical was responsible for easing pain and called it *acetylsalicylic acid*. This happened in 1853. It is now known that this stuff, acetylsalicylic acid, is far from safe as it wreaks havoc on the kidneys and stomach. Read about it on *Wikipedia* and be ready for a surprise.

In many cases natural remedies are the safest, or *least dangerous*, drugs. They also have the added safety factor that they are harder to abuse. So, if you want to try, or use drugs, do yourself the favour of using plants if possible. In that way you may reduce the risk of problems somewhat.

## Processed Drugs

Morphine, cocaine, and mescaline are examples of recreational drugs that are made chemically, called processed drugs, that are made by isolating the chemicals from plants. So is LSD and various other drugs and medications. Some of those drugs are sold legally as well as illegally and are fairly easy to obtain. Some of those drugs are possible to make wholly chemically but it's more convenient and cheaper to let mother nature do the job of production. Whether 'natural' drugs are isolated from a plant like caffeine or made chemically like MDMA, they are **probably** not as harmful and dangerous as those drugs that are made in such a manner that its molecule is unknown to mother nature like the barbiturates. Perhaps that is why the interaction between natural and endogenic drugs seems less problematic in general as they work better with the chemical workings of one's own body. And maybe that's

why they work so like endogenous drugs do.

## Modified Drugs

Chemists often take common drugs or compounds and change the molecular structure. It's easier than starting from scratch. That's what happened in the case of aspirin. German chemists knew that an Indian tribe used willow to ease pain, so they started to in-

**BAYER**  
PHARMACEUTICAL  
PRODUCTS.

Send for  
samples and  
Literature to

**ASPIRIN**  
The substitute for  
the salicylates

**HEROIN**  
The sedative for  
coughs

**LYCETOL**  
The uric acid solvent

**SALOPHEN**  
The antirheumatic and  
antineuralgic

FARBENFABRIKEN OF  
ELBERFELD CO.

40 STONE ST  
NEW YORK.

This ad from Bayer Pharmaceuticals, is for drugs that come from nature but the chemicals have been altered for stronger effect.

investigate. They soon found a pain-reducing chemical in the willow's bark. They added vinegar acid and aspirin was made. Aspirin is a lot more potent than the willow's bark but also much more poisonous. Similar methods are used when morphine is made into heroin. It goes without saying that heroin is a lot more potent than morphine. By doing this, the chemists altered the molecule that reduces pain. There are some interesting myths regarding heroin and one of the strangest is that heroin is the only medicine that cures the common cold. Addicts can have various



Even such artistic display of coffee can't change the fact that it is a stimulant.

diseases and ailments, and frequently do, but never do they have a cold, the myth goes. Imagine for a moment if this was true and think about what Big Pharma would do, since it makes a fortune selling all kinds of cold remedies to the unsuspecting and gullible public.

There is another reason for modification of drugs. To make the drug soluble in water for example, so as to make it possible to administer with a syringe.

Sometimes such modification experiments are a big surprise.

A certain fungus grows on grain and is called *ergot*. This fungus has always been considered poisonous. When the growing season was wet it was known to grow out of all leaps and bounds in grain for human consumption. So, when people ate the grain and bread made from contaminated grain they went out of their minds because of this 'poison' *ergotamine* that the fungus produces. This behaviour was called the *Saint Vitus Dance*. When this

chemical, ergotamine, was modified at Sandoz Pharmaceuticals in Basel in Switzerland, 16 April 1943 by *Albert Hofmann*, the result was a chemical that was so potent that a small drop on a human skin was more than enough. Thank you very much. This chemical is LSD.

Such meddling of chemicals by humans raises the question if it's all right to meddle with mother nature. The answer is not black and white since in the case of food production it obviously is yes. There are several fruits that have been developed from insignificant berries to big juicy fruits, like apples and pears.

## Synthetic Drugs

The drugs that have molecular structures that are completely alien to nature are called *synthetic* drugs. *Valium*, *phencyclidine* (PCP), and the barbiturates are examples of such drugs. It may well be that those drugs are the most dangerous and are probably the hardest to use responsibly and wisely.

## Getting Hooked

If you've ever gone fishing you know what happens when the fish takes the bait. The hook is firmly fixed, and the fish can't get free. It's hooked, as is also said in the case of drugs. It can happen to anyone who starts



Photo by David Herite on Unsplash

When the fish takes the bait it's hooked. Take care not to get hooked on drugs.

using and then one is in deep, deep shit. Not only is one a drug slave but also a slave to the dealer and neither will let go. Don't let that happen. It's quite enough to be a slave to the taxman. You really don't want to let some dealer make a lot of money on your misery while he lives high on your money while you are perhaps in a severe case of a withdrawal because you don't have money for the next fix.

Addiction, getting hooked, is a lot like being like a fish with a fishhook in the mouth. As soon as the drug becomes an all-important part of your life it's hard to stop using. You may not even like what the drug is doing to you, but stopping is almost impossible, even though that is what you really desire. If that happens, seek professional help from a health worker who specializes in addiction.

### **Abuse**

Before we look at individual drugs, we should briefly consider

the question of *abuse*. The trend of calling some drugs bad and some drugs good has resulted in some being called drugs of abuse. **All illegal drugs fall** into this category. So, every user of those drugs is automatically labelled *abuser* or *addict*. That is not quite fair, is it? What about the users, who use, for example, cannabis three, four, or five times a year? Are they addicts or abusers? Or those who snort cocaine once in a while? In my opinion I don't think it's fair to call such users addicts or abusers. On the other hand, I'm certain that those who smoke tobacco daily, even if they have developed a respiratory or heart problems, are abusers. Also, those who drink so frequently that the drinking interferes with their life. So, what is abuse? I suggest that it is the use of any drug that threatens normal health, social, emotional, and economical make up of an individual. As an example, we can say that an alcohol user who misses work is an abuser or addict. Opioid addicts who have to resort to pros-

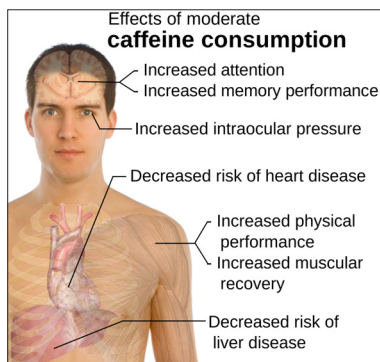


titution to finance their habit are obviously addicts. However, it is possible to use those drugs without becoming an addict. It's hard but doable if you take precaution and know how these drugs work and what to avoid. The majority of people can use alcohol without abusing it. Abuse is not a question of which drug one uses but **how** it is used.

There are several factors that influence how people use drugs. The drug itself is obviously a big factor but there are others that we will explore later on. *Pharmacology* is the science that is all about how drugs work. Unfortunately, the effect of drugs are somewhat irrational. Different individuals demonstrate different effects to the same dosage of the same drug. That may be because people have as different chemistry as their looks are different. The same person can also react differently to a drug at different times. Those deviations are what pharmacists try to eliminate. They study the drug and test them in the lab and try

them on both animals and humans and those studies show that the majority of recreational drugs work in mostly two ways. They stimulate or sedate the central nervous system.

These tests also show something else. That dosage is the main factor for the effects. Small or large doses can have radically different effects. A small dose of alcohol relaxes and generates well-being but a large one can induce nausea, unsteady gait, slurred speech, and confusion.



According to this, coffee should be good news, shouldn't it? It's a question about the effects on the eyes and research has linked caffeine to increased occurrence of cancer of the pancreas.

But Big Pharma labs are not life itself and therefore only certain aspects of the effects of a drug on the general public can be studied. It may happen at one time or another that when someone takes a drug at home its effects might be very different from what the experts or makers say. The reason being that the environment is radically different from the lab. That particular stage of affairs is called *set* and *setting*. *Set* refers to what the users expects from the drug and *setting* is the environment like the company of others.

**Set** is probably the greatest factor in how a recreational drug affects the user. Let's take for example a teenager who is sharing a bottle of alcohol for the first time with his mates. He might think that he's eager to try or give the impression that he is. But subconsciously he's scared shitless. That is quite normal, as it is normal for humans to be apprehensive, not to say afraid, of the unknown. This teenager will have no idea of what might hap-

pen. Such subconscious fear can be far more effective than the drug itself. It's a very curious phenomenon that has been demonstrated in scientific studies that what you get from a given drug is what you, to a large extent, expect. Tobacco users, for example, light up to calm themselves but they also smoke to stimulate. Both work since they expect it. Kind of like 'Two for the price of one' offer as far as nicotine is concerned.

**Setting** is also important as was discovered when the American troops returned home after the Vietnam War of them had been heavy users of high-quality heroin while stationed overseas as it was easily available but most of them stopped upon returning to the familiar surroundings of home and family. In Vietnam they mostly used it to escape boredom because for many American troops, Vietnam was first and foremost boredom and heroin has the effect of making time seem to go by faster. So,

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surroundings, setting, pushed them into use and when they got home and left the world of war to very different surroundings, they could easily stop using. This has been verified by animal experiments such as in the famous *Rat Park Experiment*. Google it.

But you are not in the military and not in Vietnam, so it's not at all certain that you could stop even if you are only going to 'try'. All abusers started by trying. Keep in mind that scientists have ventured the theory that about 10 per cent of all humans are by nature addicts because of their chemical make-up. You could be one of those 10 per cent. However, if you find that you are becoming a bit more dependent on a substance than you feel is prudent, it is well worth the effort to totally change your set and setting: new place to live, new friends, new interests, new job and so forth. That could really help you to stop.

Combined, set and setting can radically change the effect of a drug. In the nineteenth century, physicians gave their patients cannabis tincture and there are very few reports of patients reporting this curious side effect of getting high. Maybe because they didn't expect it. This fact and that the effects of drugs can differ from one person to another, from culture to culture and one time to another points to how ridiculous it is to categorize drugs as good or bad. You can only call the use of a drug good or bad. It's more than likely that someone calls it absurd that drugs can be used in a responsible way. Those individuals obviously do not realize how many drugs are socially acceptable. Or is it abuse to drink a glass or two with a meal occasionally, perhaps ten to twelve times a year or less often? Personally, I don't think so, but I'm equally convinced that five or more pints of beer, five or six times a week, border on abuse. Beer drinking nations such as Britons, Germans, or the Danes might think differently.

**An optimal relationship with drugs has four things in common:**

1. Acknowledgement that the stuff you are using is in fact a drug and knowing what its effects are on your body, soul, and mind. Coffee is more than 'just a drink'.
2. Experience of good effects over a substantial period of time. Many discover to their dismay that the pleasurable first effects are gone. If that happens, you are using too much and too often.
3. Easy to stop use.
4. Slight or no adverse effect on health or appearance.

Whether a drug is legal or illegal, accepted or not, from a doctor or the black market, if the user knows it and its effects, can use it for a long period of time without harm and interference on life and health, can easily stop using, and is free from adverse effects, then its use, not abuse.

Abuse starts in ignorance of the drug and leads to increased use and difficulty of not using, and

can end in social and health related problems. Not to mention the legal ones.

**All drugs can be used responsibly** no matter how bad the reputation, but it is also easy to abuse all drugs even if they are widely accepted and 'harmless'.

**There are no good or bad drugs. Only good and responsible use or abuse.**

**Stimulants**

Those drugs that excite or irritate the central nervous system and thus make the user feel more alive and vigorous are called stimulants. There are a lot of them around. Some are from plants, but some are chemicals made in laboratories and factories. They all have similar effects, although they may take a different road to the goal and work for a different length of time.

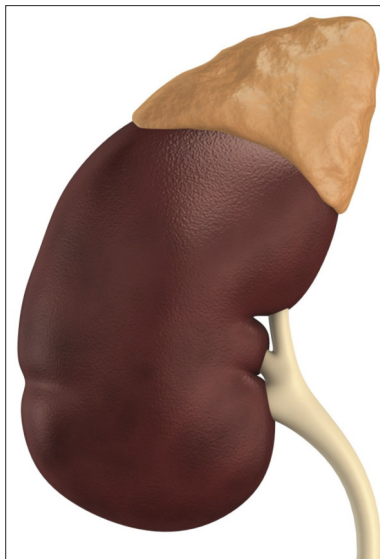
To understand this, we need to know how the nervous system functions.

Nerve cells communicate by *electronic* and *chemical* means.

This process is called *firing* and is extremely rapid. The nerve cells are connected to a nerve cell, gland, or muscle. However, there is always a minute gap between the nerve cell and the next cell. To bridge this gap the cell emits a chemical and these chemicals are called *hormones*. They are extremely powerful as they are in a very small quantity, only a few molecules. Those molecules forward the message to the next cell, which then uses an electrical current within the cell to pass on the message. Some of those hormones make muscles contract, glands secrete chemicals, and other nerve cells fire an electric pulse. The hormone that is the most common is *noradrenaline* or *norepinephrine*. It is similar to adrenaline (or *epinephrine*) and comes from the *adrenal glands* that sit on top of the kidneys like a hood.

By doing this, stimulants increase the production and release of noradrenaline and other stimulating hormones. Even though

different drugs do this in different ways the result is in all cases the same: the increased release of stimulating hormones. And that tells us that the stimulation that user experiences is because of their own private chemicals, in their own private nervous system. What the stimulants do is they make the user release their chemicals in more quantities than



The chemical factories of the kidneys, the adrenals, sit on top of each kidney.

The adrenal glands produce the powerful chemical adrenaline.

is normal. That makes the user more alert, more awake, and usually happier. They increase heart-beat and can increase blood pressure. Because of this altering of blood flow, the fingertips and the tip of the nose can become colder. They are also known to cause tingling in the stomach in the majority of users and can cause diarrhoea. Some of those symptoms are mitigated by the autonomic nervous system but one of its primary purpose is to react in need and prepare the body for the well-known reflex of *'fight or flight'*. This it does by shutting down non-essential functions and increasing functions that are vital in a time of danger. The autonomic nervous system relies on nor-adrenaline for communication.

*Noradrenaline* works in much the same way as adrenaline, which the adrenals make in times of danger. Experience that makes the adrenals increase adrenaline in the blood is very similar to the experience the user gets from stimulants – the

feeling of excitement one gets on a roller-coaster ride or bungee jumping, not to mention free fall in parachuting. It is somewhat similar to the feeling one gets using amphetamine, so perhaps the popularity of those activities is for the same reason. People find that they are more alive and with increased energy, both mentally and physically. At least during the trip.

But stimulants can mess up one's *biorhythm*. One's biorhythm controls how one feels from moment to moment. Awake in the morning and sleepy at night. Now, let's say you have to do something that requires accuracy late at night. Like meeting a deadline doing computer programming. By this time of day your biological clock is telling you to sleep and rest. In a case like this it may seem tempting to take a stimulant to force one's body to release its stored energy.

Another reason to use stimulants is that they diminish appetite. That was the case some years back

when variants of amphetamines were sold over the counter without a prescription as a slimming aid. The reason for this effect of stimulants is probably that in times of danger, digestion becomes secondary. It's more important that the individual is alert and can react instantly. So, in a state of stress the emphasis switches from the digestive system to the brain, heart, blood, and muscles. Today, the rules regarding stimulants medically are very strict as it was thought that their use could be somewhat risky.

Stimulants seem to work differently on different individuals. Some people find their effects unpleasant just as not everyone likes bungee jumping. This writer once had a shot of stimulant in a hospital. I had a tube through my nose to my stomach since the doctors wanted samples of my digestive juices. After about an hour and a half as the jar at the other end of the tube was almost empty, the nurse gave in and called a doc-

tor. He didn't hesitate and stuck a needle in my hip, and I have to say that the feeling I experienced was one of the most unpleasant ever. It felt as if my stomach took a somersault and I got instantly drenched in sweat. The jar filled in a few seconds. Thanks, but no thanks. I have no desire to repeat this experience, ever.

Some can't sleep for a long time after taking stimulants. For example, after heavy coffee drinking. Others just feel downright rotten with irregular heartbeat, diarrhoea, and frequent peeing.

The main drawback to stimulants is that instead of giving you extra energy for free, like some miracle, they force the body to deplete energy that the body keeps in reserve. So, when the effect fades you are that much more tired and need to replenish your energy. And that may be the exact same feeling you took the stimulant in the first place to avoid. Slightly worse, I should imagine.

If, and this is a big if, you are prepared to pay this prize and let the body replenish its energy it is probably all right to use mild stimulants like coffee or cola once in a while. The problem is that most people are not prepared to pay this price. Many, maybe all or most, like feeling good and take another dose. It is very easy to fall into the pattern

of using more and more to avoid paying the price of usage. Unfortunately, stimulants are highly addictive when used in such a manner, Therefore, most stimulants are either banned or subject to strict regulations.

But there are exceptions as we will see. There are almost always exceptions. That is exactly what life is like.



Cocaine crystals.



## Chapter 4

### Plethora of Drugs

More than a thousand years ago a group of Muslims started using coffee in religious sermons. Maybe they needed something to keep them awake reciting from the Holy Koran. The use spread slowly, mostly in Islamic countries, and when coffee reached Europe in the seventeenth century it caused a lot of controversy. There was a lot of opposition against its use as it

was regarded as a new and unapproved drug. The powers that be tried to ban its use but to no avail and finally some genius came up with the idea that perhaps it would be better to just tax it. One wonders why it's not done with other recreational drugs today.

The use of coffee spread rapidly in Europe and then around the world. Coffee became a very



The coffee plant *Coffea arabica*.



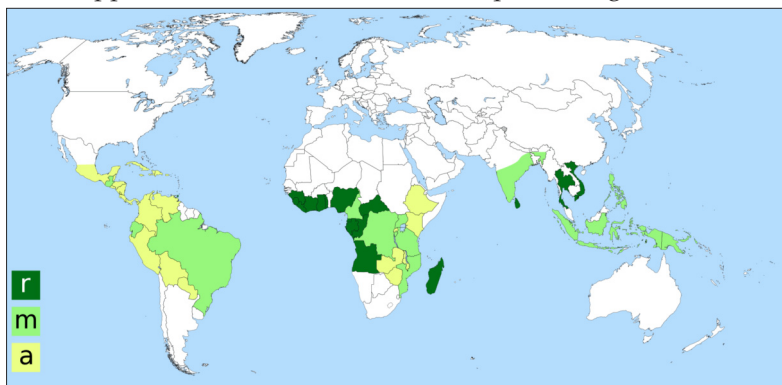
The coffee bush flowers profusely.

fashionable drug and many of Europe's greatest intellectuals worshiped its merits, *Johann Sebastian Bach* among them. He is supposed to have been a coffee addict and was so fond of this drink that he wrote a cantata about it, the famous *Coffee cantata*. The French writer *Honoré de Balzac* supposedly could not work without coffee. He consumed such quantities of strong thick coffee that it looked like a soup. Then he complained about stomach cramps!

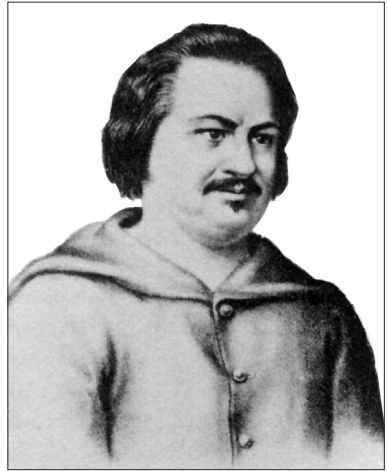
The truth is that coffee is some way off from being as harmless as it appears. Scientists have

ventured the opinion that if it was being discovered today it would possibly be banned. The effects of coffee on some parts of the body may be less than ideal.

Caffeine is found in drinks other than coffee, such as in fizzy drinks like *Coca-Cola* and *Pepsi*. **Coco** and **chocolate** and various types of tea have caffeine as an ingredient. In cola drinks the caffeine is processed from the cola nut, which is the seed of the cola tree. Caffeine use is on the increase in the energy drinks, but in them the caffeine is processed from **guarana**, a South American vine. The energy drinks can be quite strong as I have seen



Map of coffee growing in the world today. **r** is robusta, **m** is mocha and **a** is arabica. Those varieties are the most popular.



Johann Sebastian Bach and Honoré de Balzac were both coffee addicts.

in the list of ingredients of such drink. The said drink was about eight to ten times stronger than normal coffee.

As strange as it seems it looks like other caffeine drinks are not

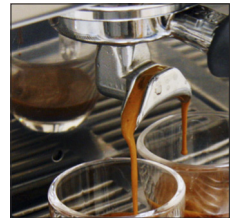
as 'poisonous' as coffee. I am talking here about adverse effects that are so minute that they can only be measured with some difficulty. For example, tea is not nearly as irritating for the body



Coffee break in Palestine in 1912. Ground in a mortar and then boiled in a pot



Ethiopian lady makes coffee



the old way. There is a lot of difference in her methods and the espresso machine.



Coffee fruits, berries, on a branch and a bag of gourmet coffee in a shop. Good coffee is fairly expensive and a lot different from the coffee sold in supermarkets. I've seen an ad for gourmet coffee from Hawaii where the prize was \$200 for the pound.

as coffee even though it may be similar in caffeine content. And on top of that it is extremely rare to hear of a tea addict. That may be because coffee has various other chemicals beside caffeine and those chemicals increase its effect. But tea is most certainly a stimulant and if you drink an enormous amount you get the same effect as from coffee: tremors and insomnia. This does not apply to herbal tea, but her-

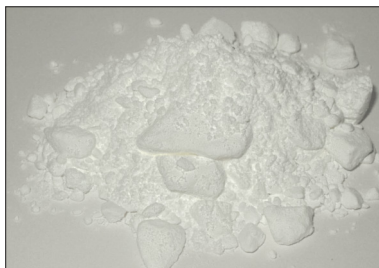


bal tea can include other chemicals that can be either sedative or stimulating.

The **cola nut** comes from a tree



Unripe berries, ripe berries, roasted beans and pure caffeine. It is used in medicine and energy drinks and is a lot stronger than coffee.



that grows in the tropics. Beside caffeine it also includes a chemical by the name of **theobromine** ( $C_7H_8N_4O_2$ ). This chemical, *theobromine*, increases heartbeat and has diuretic properties as well. In spite of increasing heartbeat this chemical has been in use to lower blood pressure. In some places in Africa the cola nut is so valuable that it is known to have been used as currency. The cola nut is very bitter when chewed for stimulation. On the other hand, cola drinks taste nothing like the nut and generally have

only a minute amount of cola caffeine, if at all. Usually the caffeine in cola drinks is synthetic or caffeine from coffee or tea. So, it is safe to say that Coca-Cola and Pepsi can be categorized as recreational drugs. In any event people can become addicted to them just as they can become addicted to coffee. Beside caffeine those cola drinks often have a lot of sugar or sweeteners in them. That mix, caffeine and sugar, seems to be especially addictive.



Ripe fruits of cola and pure cola from Parke, Davis & Co. Pharmaceuticals.

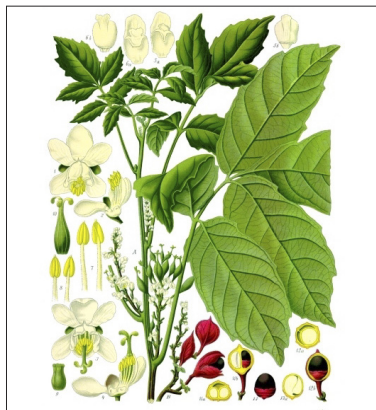
There are a lot of people who consume a whole lot of cola drinks during the day and tell themselves that they are merely quenching their thirst. But rest assured, these people are consuming many other chemicals, and calories, beside caffeine. Chemicals such as acid and sugar that slowly destroy their teeth and possibly disrupt their body chemistry are also present in the drink.

One more caffeine beverage



is starting to become popular in Europe. That is the national drink of Brazil, **guarana**. Guarana comes from the seeds of a shrub that grows in the jungle of South America. Guarana is higher in caffeine content than coffee and here in the Western Hemisphere it is used in energy drinks. That begs the question when some entrepreneur markets the national drink of the Argentinians that is also a caffeine drink, called **maté** and made from the leaves of a shrub. *Morning Thunder* tea from *Celestial Seasoning* has maté among ingredients.

By far the most popular source of caffeine use, however, is **chocolate**. It is also made from a seed of a tropical tree. Chocolate is rich of fat and terribly bitter tasting and is therefore loaded with sugar to make it palatable. I'm quite sure you personally know someone who gobbles down great quantities of the stuff every day. The Aztecs regarded the plant holy and used it religiously.



*Paullinia cupana*, the Guarana plant.

In moderation, chocolate is a rather pleasant ingredient in other food or on its own, but abuse is common and can be risky for various reasons as this recipe of sugar, fat, and stimulants is particularly addictive. Those who value the looks of their body should try not to abuse it.

### **Coca and Cocaine**

The **Coca** shrub comes from the warm and humid valleys on the eastern slopes of the Andes Mountains and has been grown by the indigenous people of South America for thousands of years. The plant is legal in Peru and Bo-

livia where millions of people chew on the leaves every day for stimulation and as medicine.

The leaves have several vitamins and minerals that are very important for the indigenous people who chew the leaves. The coca bush is thought to be instrumental in preventing deficiency diseases among the population.

Coca leaves are chewed in about half an hour by the user and the juice is swallowed but the rest of the leaves are discarded. But here is the catch. In order to feel any change one more ingredient is required. An alkaline base is needed. Usually ash or lime.

After this mix has been chewed for a few minutes the effect sets in. The mouth and tongue become numb, insensitive, and in fact cocaine is used as a local anesthetic in medicine. Then the user starts to feel the usual effects of stimulants. But there is a big difference between cocaine and caffeine. Cocaine soothes the stomach and does not produce trembling. It also seems more ef-



The fruit of the cacao tree.

ficient at turning the user's mood to a good one.

But nothing in life is free and that goes for cocaine as with everything else. Biologically cocaine works by blocking the uptake of serotonin, norepinephrine, and dopamine in the brain, which are very important hormones and necessary for body chemistry. If this delicate balance is disrupted in some way the consequences can be bad.





DEA Drug Enforcement Agency

Cocaine hydrochloride in powder form  
and as a liquid.

Cocaine constricts arteries, increases body temperature and causes arrhythmia and higher blood pressure. Heavy use for a long time destroys neurotransmitter receptors and can cause severe itching and insomnia. On top of that, if snorted, it destroys the mucosa in the nose and demolishes the sense of smell. It's relatively common that the user becomes paranoid and aggressive. Read about cocaine on Wikipedia.



Paravis



Cocaine for the kids. When cocaine hit the market it was supposed to be a miracle drug and even cure influenza. Below is a cup of coca tea which is perfectly legal in some countries and sold in coffeeshops.

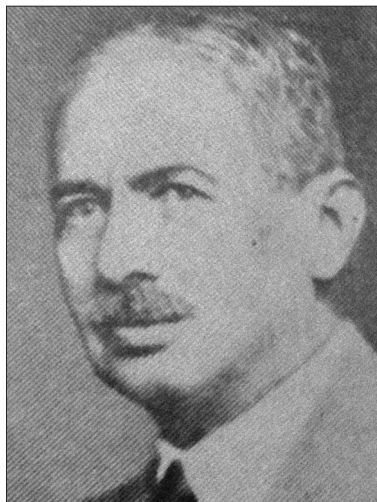
### Amphetamines/speed

Amphetamines are not made from anything from the flora but are rather a synthetic drug entirely made in a laboratory, factory, or illegal underground facility. The Romanian chemist *Lazar Edeleanu* first made amphetamines in Berlin in 1887. The name derives from *alphamethylphenethylamine*, which is the chemical name of the drug. Amphetamine stimulates, reduces appetite and fatigue, and increases concentration. The list of



its effects is quite long and includes some very dubious effects. It seems that amphetamine has no effect whatsoever on some of the brain's *neuroreceptors*. This is a question that scientists have researched but so far have failed to come up with an answer to. It seems to have, for example, no effect on the D2 receptors for dopamine in the *Hippocampus* area of the brain but the Hippocampus, it is speculated, mainly deals with memory and memories. But amphetamines sure work on the brain pleasure centres. It creates tolerance quickly like cocaine and users rapidly learn that for the same effect they have to increase both frequency of use and dosage.

There are other things about amphetamines that are curious. It seems to work differently on children before puberty than on adults. It calms children but excites adults, and hyperactive children were until recently administered amphetamines to calm and sedate them. A recent study suggests that after use before puberty, amphe-



Lazar Edeleanu.

tamine restricts normal memories from this age.

Amphetamine was widely used until 1970 to treat battle fatigue and as anti-obesity drug. It was part of standard supply in the Second World War for soldiers on both sides. In the case of the Germans it was actually **met-hamphetamine**.

Amphetamine has been used by many prominent people through the years for stimulation and among those who have admitted publicly to using the drug are *Paul*

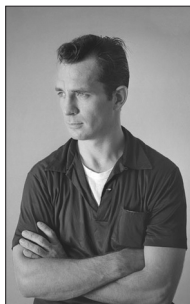


Amphetamines crystals.

*Erdős*, mathematician who used it instead of coffee from the age of fifty-eight until the day he died at eighty-three years of age. *L. Ron Hubbard*, the founder of *Scientology*, used it, as well as the writer *Jack Kerouac* and the musicians *Lou Reed*, *Motörhead*, *The Who*, and *The Rolling Stones* to name a few.

### **MDMA or Ecstasy**

Since the drug is illegal in most countries, E-tablets, which are confiscated by the police, are studied before being discarded. Those studies have shown that, on average, MDMA is only 34 per cent pure but can range from 1 per cent to 80 per cent. The drug is produced in

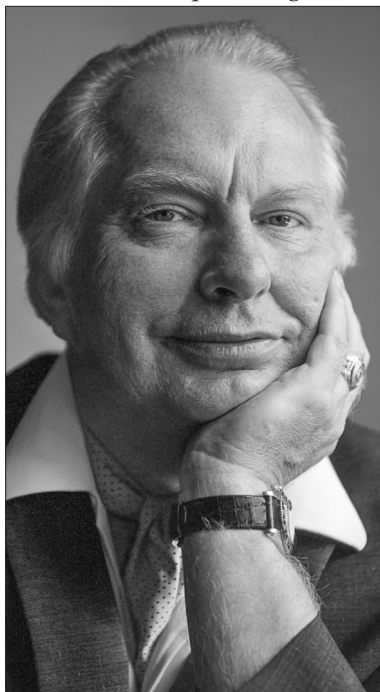


Labeled speedfreaks, Jack Kerouac, Lou Reed and Motörhead.

a highly suspect environment where concern about sterilization is probably not all that great. The list of effects is quite long, and it



Paul Erdős.



L. Ron Hubbard.



Ritalin® is probably the best known of the amphetamines. It is available in both tablets and capsules and is still being prescribed by doctors.

takes on average twenty minutes to an hour for MDMA to take effect. Those effects include altered consciousness, inner peace, less anxiety, less aggression, increased confidence, greater perception, higher alertness, increased concentration, and lower threshold of pain to name a few. The list is so impressive that one might wonder if this is not a miracle drug. But, in 2001 a report was published that listed less desirable side effects: problems of concentration, grinding of teeth during sleep, loss of appetite, and dryness of the mouth.

Harvard University conducted a study and, in a report published in 2008, the conclusion was highly ambiguous. The conclusions were more or less on and off and the main finding was that experiments with rats did probably not apply to humans. Take note that they probably were trying to prove that MDMA was dangerous as hell. There have been other studies, notably by *Professor David Nutt*, with a somewhat different conclusion. And from what I've read I'd put my money on *Professor Nutt*.



*Cinnamomum cassia* with its insignificant flowers is not grown for its flowers.

However the oil in the bark is a different matter altogether.

The plant is a close relative to cinnamon, muscat and mace.

But, MDMA can be risky because it is produced illegally without any safeguards and therefore one might accidentally take more than is ideal. It might also be said that one can kill oneself by use. Not because of the dose, although it could probably be possible, but because of the behaviour following too big a dose. The risk of *dehydration* is very real and then the user starts drinking an enormous quantity of water or

other liquid and the body's salt and mineral levels fall through the floor and that can cause death. Water can, it seems, kill you by other means than by drowning. One may also wonder if it is out of the blue that the sadness that sometimes follows use is sometimes referred to as *suicide Tuesday* or *Tuesday's blues*. At least it is known that MDMA interferes in the body's *serotonin* levels somewhat but studies are at odds



MDMA crystals. Since counterfeit MDMA is common it's almost impossible for users to know what they are buying and it might not give the effect expected.

with one another if this effect is permanent or not. It might depend on who sponsors the study. Or the age of the user.

A lot has been written about MDMA and views differ. As the drug is relatively new it is to be expected that studies are incomplete, but one can say the same about lot of other things and if you really make an effort you can kill yourself on the good spice coriander.

However, it does not change

the fact that MDMA can be risky, especially for young people as their brain is not fully developed, and MDMA seems to damage *dopamine* and *serotonin receptors* in the brain but those two hormones are instrumental in the feeling of pleasure and happiness. It is downright unfair to spend one's life without those experiences. We all know people who can't feel happiness and/or pleasure. It's someone like me, grumpy old geezers, constantly



sulking and endlessly negative. Make note that all the happiness and *all the pleasure you experience comes from four molecules – serotonin, dopamine, oxytocin, and endorphine* – and if your brain can't make use of those hormones it means a less pleasurable and happy life. So realize that if you use MDMA it can have long-time adverse, even permanent, consequences. As said before, scientists differ in their opinions, so the question is if you would take the risk.

It is worth noting that the *Global Commission on Drug Policy* (GCDP), the *Advisory Council on the Misuse of Drugs* (ACMD), the *Federation of American Scientists* (FAS), and the *World Health Organization's Expert Committee on Drug Dependence* have all advocated that punishment for use should be redefined and reduced, that is, from the same category as heroin to the next one down where the drug would be in the same category as cannabis and other similar drugs.

However, if you want to experiment, or use MDMA, there are a few pointers to keep in mind. MDMA is usually in pills, capsules, or as crystals. The effects set in after about twenty to forty minutes but can take up to an hour. Emotions are heightened and the user usually feels greater compassion, emotional warmth, and better self-esteem. The effects wear off in three to five hours. Most users describe the effects as pleasant and manageable. Even very high, supposedly, one can more or less function. The usual dose is from 70 to 125 mg. Bodyweight and gender influences effects. If used often, the effects can diminish, and users have described it as if the 'magic' stops. This can last for years so remember that in the case of MDMA, less is more. MDMA increases the risk of heatstroke. Take dance breaks to cool off and drink water. Do not drink too much water as you might run the risk of **hyponatremia**, which happens if the



MDMA confiscated by the DEA. The pills look quite innocent and even tempting. Not to mention professionally made.

sodium level of the body gets too low. So, drink enough but not too much. About two cups of water per hour is sufficient. It takes about a **week** or two for the body to replenish the serotonin lost during one session of MDMA. SSRI medications can reduce the effects of MDMA, and **the drug should not be mixed with alcohol or stimulants** because of the risk of negative side effects.

### **Tobacco and Nicotine**

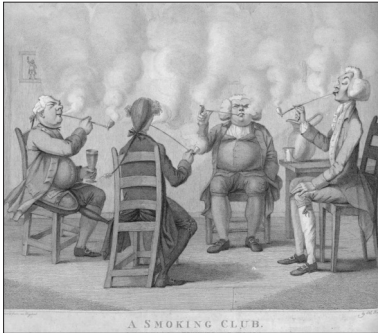
The tobacco plant (*Nicotiana tabacum*) makes the highly stimulant drug **nicotine**. It is one of the most poisonous chemicals in use. An average cigarette contains enough poison to kill several men. The reason that they are not deadly is the fact that most of the poison burns during smoking.

Here is an example from a firsthand experience. At fifteen years of age I had my first real



MDMA pills and capsules confiscated by the Drug Enforcement Administration.

summer job in a furniture factory. This was long before any EU regulations regarding the work of minors. During the morning coffee break my fellow workers decided to pull my leg and make fun of me. So, after a few minutes of deliberations they decided to make a wager on me smoking a whole cigarette down into my lungs. Only one of my coworkers protested. I'm not going to reveal how I did it, but I won the bet and collected a tidy sum of money from the table. I couldn't wait for the work to end in the afternoon but as soon as it did, I went to the nearest kiosk and bought a packet of cigarettes with the money I'd won. I felt I needed this pleasurable experience again. From that day for the next fifty years I smoked. First cigarettes, but I quickly switched to the pipe, which I smoked until I decided to eliminate the *carcino-*



When tobacco became accepted in Europe, smoking clubs were established. The picture on the right is supposedly of the first smoking European.

*gens* from my habit and took up vaping.

It is a well-established scientific fact that smoking is the main cause of heart and respiratory diseases, not to mention cancer in the lungs and mouth. Of course, we've all heard stories of someone who smoked like a chimney their whole life and didn't seem to have been affected. We hear less about those who, because of smoking, end up six feet under. We are not all identical and one doesn't know in which group one will end unless by undertaking the activity and then it might be too late. Pipes and cigars seem to be slightly less

dangerous than cigarettes, as you are not sucking the smoke of burning paper into your lungs, but the difference is negligible.

Some prefer to chew or snort tobacco instead of smoking. It's just as addictive as smoking but has the advantage that the smoke is away from the equation. So, the risk transfers to the nose and mouth in the form of cancer, instead of respiratory disease and cancer of the lungs.

Tobacco and nicotine are probably the most studied drug humans use and there is a lot of information about it available. For some time, when studies



Flowering Virginia tobacco in a field which must be a sight to see when flowering.



Basma tobacco leaves drying in the sun in Xanthi in Greece before processing.

began, the tobacco companies themselves did the studies and ever since the 1930s they knew how highly addictive tobacco was. At about that time the tobacco companies formed a cartel and decided to standardize the product and how much a user should smoke. Until that time the average user smoked two to eight cigarettes per day as the tobacco was that much stronger at the time. Dig this, a bunch of guys in suits came together in a

meeting and decided how much you and everybody else should smoke so as to maximize their profit! By doing this they greatly increased the sale of cigarettes and their profit skyrocketed. They knew at this time that almost everyone who tried became addicted and would continue to smoke a packet a day for the rest of their life. One can't really think of a better commercial product for a producer. It was estimated that in the year 2000, 1.22



Two kinds of tobacco from the Dunhill tobacco company, loose on the left and flakes on the right.

billion people smoked. Now, take the price of a packet of fags and do the math.

I saw a graph from *Data Market* (now *Click*) about imports of fags to Iceland. The import line went almost straight up in 1949 and at this time all the soldiers who were stationed there during the Second World War were back home. I think more people than me would call the behaviour of the tobacco companies a conspiracy. Even criminal conspiracy.

The tobacco plant originally comes from America but these days it's nowhere to be found in the wild. *N. tabacum* is the vari-

ant that is the most used in America but *N. rustica* is mainly used elsewhere. *Rustica* burns faster but is also milder, but there is a lot of truth in the old saying, 'It is all the same tobacco.' Tobacco came to Europe in the middle of the sixteenth century.

In the eighties, last century, the tobacco company *Brown & Williamson*, by selective breeding, managed to grow a new variant and increase the nicotine content of the plant from 3.2–3.5 per cent to 6.5 per cent. When news of this came to the attention of the authorities they finally had had enough and they sued the tobacco



Tobacco fields, in Turkey on the left and in Poland on the right.

companies for damages their product had caused, knowing full well what they were doing. There are enormous sums of money the government spends for health care because of tobacco – not to mention painful early deaths that could have been prevented. As luck would have it, increased knowledge and more information have reduced smoking in the Western Hemisphere. So, the tobacco companies now direct their attention to the developing parts of the world where education and information is not as good as in the West. And I dare say that it will surprise you to learn that the

biggest cigarette producer in the world is China. China makes 40 per cent of all cigarettes made.

Growing tobacco is far from beneficial for the environment, which is a bit of a surprise as the tincture of the plant is a fairly good insecticide and more or less environmentally neutral. But as the quantity grown is measured in millions of tonnes, it goes without saying that huge amounts of land for the fields is required. Forests need to be cleared, and the Brazilians are the biggest culprit in that department. It's estimated that 60 million trees are felled just for drying and processing.



Iranian tobacco drying in the sun until ready for further processing.

The plant requires a lot of fertilizer and depletes *potassium*, *nitrogen*, and *sulphur* from the ground as if there is no tomorrow. And even though the plant is dangerous to insects, other rules apply when grown on an industrial scale and the fields have to be sprayed up to sixteen times per annum with chemicals that seep into the ground and into the groundwater – as well as into those who are unfortunate to work on the fields and in processing.

So much has been written about tobacco that it is measured in shelf-kilometres. This writing is very different in quality but most of it has one thing in common. Tobacco is bad for your health, and tobacco is almost the only drug where there is a general consensus about its dangers. Tobacco kills even though some last longer than others. There is a famous story about when the late writer *Kurt Vonnegut* was asked in an interview what he was up





The tobacco plant is very beautiful as it blooms in this field in Poland.  
It is widely grown in gardens and indoors as an ornamental plant.

to these days. Vonnegut replied that he was busy committing suicide by cigarettes. It was just taking too long. He smoked two packets of *Pall Mall* a day.

But what exactly happens when you smoke? Well. Increased heartbeat. Blood pressure goes up and animal testing shows that the drug reduces the beneficial effects of oestrogen in the body. Nicotine attacks the whole body – even the teeth, hair, and nails – and is almost the

only recreational drug that does that.

But is it possible to use nicotine and tobacco without harm? The short answer is no. However, in recent years vaping is on the increase and yet research has indicated that vaping might be a *relatively* safe way to use nicotine. But vaping is still being studied and as with all science not all the answers are in. There is probably some knowledge that the scientists haven't discovered yet. But if

used very sparingly and seldomly one might use nicotine without great risk. Particularly if snorted, chewed, or vaped. As said before tobacco is highly addictive and the withdrawal symptoms are nothing to joke about. If smoked, it should be done outdoors as the chemicals in the smoke can linger in the atmosphere for days. Second-hand smoking is just as risky – for the smoker, their children, and pets.

Those who smoke are often plagued with coughs and shortness of breath. Depression, irritability, and anxiety are common when trying to quit. Smoking and chewing tobacco cause bad breath and yellow teeth. Smoking during pregnancy can harm the foetus and babies are born weighing less than is normal. **They also spend their fist days of life in withdrawal.**

So, to sum up: no one should use nicotine and tobacco if one values one's health and economy.

### **Other Stimulants**

**Cola** and **chocolate** are in widespread use, although not as a drug. There are cases to be found of such use, but they are few and far between. Particularly in the case of cola but also green tea, which is known to be in some cases more than twice the strength of coffee. The cola tree comes from the rainforests in the tropics where the nut from the tree was chewed. The nut has a rather bitter taste but gets sweeter with prolonged chewing. The cola nut used to be one of the more popular stimulants of West Africa but today fizzy drinks like cola and **energy drinks** have largely replaced it. Cola was originally used in Coca-Cola as a stimulant and as a flavour but today synthetic chemicals have replaced it. The name Coca-Cola says a lot about how this beverage was in its first years, but it was introduced as a **medicine** in 1886 by *John Pemberton*. Originally both cola and cocaine were found in the drink and it was said to be

very invigorating and stimulating and useful for various ailments. The predecessor was called *Pemberton's French Wine Coca* and was Pemberton's response to *Vin Mariani* and its popularity in Europe. In 1886 a law was passed banning the sale of alcohol in Atlanta and Fulton County where Pemberton's headquarters was. And thus Coca-Cola was marketed as a non-intoxicating beverage. At that time a fair amount of cocaine was in the drink and this remained the case up until 1904 when coca leaves, after distilling the cocaine away, were used instead of cocaine.

**Green tea** varies highly in potency, depending on the producer and where they are at. China produces the strongest tea, and the only time I've tried it was a rather curious experience. I'm not interested in trying again. I got totally messed up mentally, repeating the same sentence over and over. My wife got worried and wanted to call an ambulance and get me to an emergency ward.



Colatree and fruit (*Cola acuminata*).



The most famous brand and the most famous cola beverage in the world.



Photo by Jia Ye on Unsplash

Green Tea.

The next day, after a good night's sleep, I was my old self again. This tea was bought off the self in a supermarket in Beijing.

**Chocolate** is slightly stimulating as it contains *theobromine* ( $C_7H_8N_4O_2$ ) and *phenethylamine* ( $C_8H_{11}N$ ). Those two chemicals alter the serotonin levels in the brain somewhat, but theobromine is also slightly toxic, particularly for other mammals like cats and dogs. Cats generally avoid chocolate like an open fire but, as we all know, dogs will eat anything.

It's relatively easy to become an abuser of chocolate and barely make it through the day without

it. As chocolate contains both sugar and fat it's very fattening and it doesn't matter whether the chocolate is normal, light, or dark. It comes from America and among natives it was considered the food of the gods. Supposedly it was the *Aztec* chief *Montezuma* who introduced it to the Europeans when he offered it to *Hernán Cortés* in a feast in his honour. The beans used to make chocolate come from the tree *Theobroma cacao*. Today, the production of cocoa beans is predominantly in Africa, and the



Photo by Simone van der Koelen on Unsplash



Photo by Maddi Bazzocco on Unsplash

Chocolate in solid form and as a drink.

*Ivory Coast* produces about 40 per cent of annual production.

**Coca** and chocolate are probably the most popular food in the world. It is used as sweets, in desserts, cakes, and biscuits and as an additive in a wide variety of food.

Scientists studying chocolate found out to their surprise that chocolate had a greater impact on heartbeat than passionate kisses!

In spite of that chocolate seems to be beneficial in some way on the circulatory system and may prevent heart diseases by preventing

*low-density lipoprotein* (LDL) cholesterol sticking to the inside of the arteries. So chocolate, and its use, is both good and bad. Moderate consumption is probably quite all right, and one should not be overly concerned unless of course the consumption goes through the roof as then obesity looms in the next room.

#### **Four exotic plants**

There are several people in certain parts of the world who smile to the world with teeth

that reminds one of the burnt ruins of a village in darkest Africa ages ago. Those are the **Betel** users. Betel comes from the vine *Piper betele* and comes from South and South-Eastern Asia. Betel is a mild stimulant and mostly used where hunger is fairly common, as it eliminates the feeling of hunger. So, it could be argued that Betel is used in self-defence. The leaves are chewed along with some base like ash or lime much like cocaine. In some areas like Vietnam and Papua New Guinea it is sometimes mixed with *areca* nuts, which are also a stimulant. In India it is also mixed with *tobacco* for extra stimulation. In areas where it is widely used, cancer of the mouth and throat are rampant compared to the Western Hemisphere where Betel use is almost unknown.

I don't know how common **Khat** is outside Africa, but Khat is widely used in northern and middle Africa. It is a small shrub or a small tree, *Catha edulis*, that



Hernán Cortés was the first European to taste chocolate or cacao.

grows in the wild, all around the continent. The chemicals are *cathinone* ( $C_9H_{11}NO$ ) and *cathine* ( $C_9H_{13}NO$ ), which are mild stimulants somewhat similar to amphetamine. The risk of addiction or dependence is considerably less than from speed or booze. In many places, Khat is perfectly legal. But in other places it's banned. The problem with Khat, from the producers', and the users', point of view, is that it has to be used fresh. As soon as it dries it loses its stimulating pro-



Betel (*Piper betle*) leaves at the market.



Khat bush (*Catha edulis*).

perties, which are similar to strong coffee. It increases heart-beat and blood pressure. Withdrawal symptoms can be lethargy, irritation, and melancholy. There are some concerns that Khat can reduce sexual stamina and sex drive. We don't want to lose that now, do we?

Khat has been used from the times of ancient Egypt, for thousands of years. It is a big part of the Yemeni economy and one of the main reasons that the groundwater supply in the Saana basin is almost depleted, but the Yemenis are responsible for 40 per cent of Khat production in the world.

**Yohimbe** ( $C_{21}H_{26}N_2O_3$ ) is one of fifty-five alkaloids in the tree *Pausinystalia yohimbe* from Africa. It comes mostly from the bark of the tree and has been used through the ages as medicine and cure for impotence in males. However, research in recent years has shown that it is rather random whether it can be used as such. It seems to depend on the individual. It is used as the main ingredient in medicine sold at pharmacists in the USA. It has also been used as a drug to unearth depressed memories in the treatment of traumatic stress disorder.



Khat fields in Western Yemen.

Yohimbe increases heartbeat and blood pressure. In large enough doses it can cause insomnia and may even produce hallucinations, anxiety attacks, and headaches. The effective dose of Yohimbe is very small – only 15–30 mg – and the gap between an effective dose and a dangerous one is very short. Because of that there is a real danger of consuming an excessive dose. It can cause a heart attack and even death.

No one with a heart, liver, or kidney problem should ever think about using Yohimbe. Neither should a depressive nor melancholic individual.

**Ephedra** or *Mormon tea* has been in use for a long time. It has similar effects as coffee does and that is the reason it's called Mormon tea. The Mormon religion strictly forbids the use of coffee so the Mormons used Ephedra.

Ephedra or Mormon tea comes





Bark of Yohimbe (*Pausinystalia yohimbe*)  
in a mug of tea.



*Ephedra sinica*. The half shrub that is  
used in Mormon tea.

from the small shrub *Ephedra sinica* that commonly grows in the wild just north of the equator. The properties of the plant have been known and used in China for more than 5,000 years mostly for the treatment of hay fever, asthma, and even common cold. In the West the plant was used mainly for dieting and to increase blood pressure up into the last century, but after a few deaths directly attributed to use were confirmed, it was banned.

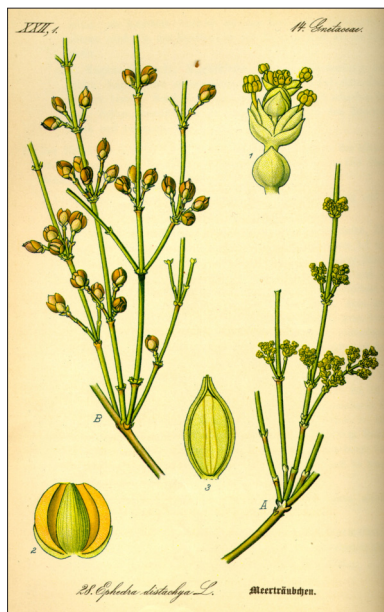
Ephedra has the alkaloids *ephedrine* ( $C_{10}H_{15}NO$ ) and *pseudoephedrine* that constrict arteries and increase blood pressure and heartbeat. It also seems to dilate

pulmonary embolism and thus aid breathing.

The side effects are a long list and not a pleasant read. Included are severe irritation of the skin, irritability, nervousness, heavy sweating, dizziness, headache, insomnia, dehydration, itching of the scalp, vomiting, overheating, irregular heartbeat, seizures, heart attack, stroke, and death.

To sum it up, you better leave Ephedra alone. It's not worth the risk for such minor effects. And that's just pure economy. One does not risk something of value, like one's life, for some trinket.

**Maté** is a horrible tasting tea that comes from South America. It



*Ephedra sinica*.

comes from the leaves of a tree that goes by the name of *Ilex paraguariensis* in the scientific community. The leaves and the beautiful red berries are commonly found in Christmas decorations.

In Maté one finds caffeine, *theobromine*, and *theophylline* ( $C_7H_8N_4O_2$ ) and in many countries in South America the use of Maté is quite common.

Research has shown that the

use of Maté lowers the LDL cholesterol up to about 8.7 per cent after forty days of using 330 mg a day. What was surprising was that the high-density lipoproteins (HDL) cholesterol increased by 6.2 per cent. That would suggest that it could be used to battle heart disease. The other side of the coin seems to suggest that it might cause cancer in the mouth and throat.

It is sold in the West in some health shops and I once bought a packet of it to test it but found it so unpalatable that I threw it away. It could be made tolerable by adding sugar or honey, but I haven't used that particular drug, sugar, for years.

There are a lot of **dieting products** on the market that one can buy that one can use to alter consciousness. Most of those products have caffeine as an ingredient but I've also seen on the information slip that they can contain chemicals that I personally would never put in my body. Anyway, it's ridiculous to use fat-reducing



Mate tea from a shop.



Mate tea in a special cup.

*Ilex paraguariensis*.

and dieting stuff for a slight high. It would probably be equivalent to using **nutmeg** for tripping. According to what I've read about that 'prison psychedelic', nutmeg, probably no one tries it more than once. Not even prisoners in American jails.

*Paulina cupana* is a creeping shrub from South America. It is rich with caffeine and widely used in energy drinks. But the guarana plant does not only have caffeine. It also has *catechutanic-acid*, *D-catechin*, *guanine*, *hypoxanthine mucilage*, *saponin*, *tannin*, *theobromine*, *theophylline*, *timbonine*, and *xanthine*. That

means it's a drug cocktail of some measure and we should all be aware of what disasters can follow drug cocktails.

Average dose of this 'cocktail', 75 mg, seems to sharpen attention and memory and 75 mg is considered a safe dose. Guarana is categorized as safe by the Food and Drug Administration (FDA) in the USA.

To finish off this part of the book, and of stimulants, it is well worth to point out again that most of those drugs can be used safely if appropriate precautions are taken. But it is also clear that some of those drugs can be risky.



Diet pills from Roche® and from a Canadian Pharmaceutical company.

Anyway, it shouldn't be all that hard to use stimulants safely if one is cautious. They are not the answer to normal biorhythmic ups and downs, and no one has ever promised you that life would always be like dancing on roses to a full orchestra.

To use stimulants against normal mood swings can quickly

lead to trouble. Stimulants are not giving the user something for nothing. As a user you'll always pay for the energy spent during use. If you are aware of the dangers regarding stimulants, and proceed with caution, you should be able to use them without harm and addiction. Just be careful. OK?

### Sedatives and Anesthetics

It's like a contradiction of terms to use drugs that lower the



*Paulinia cupana*.



The fruits.



Ground fruits ready for consumption.

**Here are eight rules one should bear in mind  
in regard to experimenting or use:**

1. Limit how often you use. Make a rule not to use two days in a row.
2. Set a clear purpose why you are using. To take a drug just to make one feel terrific is a bad idea and is an open check for trouble. If using, use the effect for physical or mental effort.
3. Don't use just to make life bearable. You should be able to get up in the morning and face the day without chemical help.
4. Take stimulants by mouth. It is far less risky than snorting, smoking or injecting.
5. Use mild stimulants rather than chemically pure. The milder the drug, that much easier it is for the body to metabolise it and the "morning after" is also that much gentler.
6. Take care of yourself and make sure you exercise, rest well and eat healthy food. Remember it's necessary to give the body a chance to fill the batteries after use and besides if you are in good shape, the interest to try stimulants should be diminished.
7. Don't, DON'T, mix stimulants with other drugs particularly sedatives. On top of that a cocktail of drugs is always a bad idea.
8. Be very vary of fake or false drugs. When buying on the street you have no way of knowing what you are buying.

workings of the nervous system for fun and recreation, but that is precisely what *sedatives* and *anesthetics* do. What's worse, it is, by far, much easier to kill oneself using them than all other drugs. We've all heard about the opioid crisis in America and elsewhere. Yet, those drugs are among the most popular of recreational drugs that humans use.

Maybe it is because in small enough doses these drugs make people relax and feel good and happy. Prime example is alcohol. A drink or two makes most people happy but when the drinks become several it's seldom much fun anymore. Behaviour and movement bear ample witness that some workings in the brain and nervous system are not as they should be.

Scientists differ as to why small doses seem to stimulate users. One of the theories on the matter states that alcohol first of all turns off those parts of the brain that under normal conditions moderate the mind, someti-

mes called *Default Mode Network* (DMN). As intoxication increases, more parts of the brain take a break with the result that the central nervous system also slows rapidly down. Big enough doses can cause unconsciousness and coma and still bigger doses turn off those centres in the brain that control breathing, and the user dies from lack of oxygen.

Sedatives and anesthetics are more dangerous than stimulants as they intervene in vital brain activity. Their effects are more varied, too, from elation in small doses to death in large doses.

We can split this into two groups due to the nature of these drugs.

### **Sedatives**

The yeast most widely used for production of alcohol are *Saccharomyces cerevisiae*, *S. bayanus* and *S. boulardii* and it was *Louis Pasteur* who first demonstrated the part yeast played in fermentation in 1876.

There are several types of alcohol – *methanol*, *ethanol*, *isopropyl*

*alcohol* and so forth – and these types all have a similar molecular structure, but some are more poisonous than others. We can take *methanol*, sometimes called wood alcohol, as an example; only 10 mg are required to severely damage the optic nerve and cause blindness and 30 mg are lethal in most cases.

But alcohol isn't all bad. It is used for sterilization, for energy, as it burns very 'clean', in industry, in food, in various products, and as a popular recreational drug.

Ethanol is very common in nature. It is produced when seed sprout, when fruits and berries mature, and in almost all places where bacteria and fungi exist, and bacteria and fungi are the most common lifeforms on Earth, and elsewhere in the universe. Ethanol has been found in space, too. It coats small dust particles with ice in the *Lagoon galaxy*. No wonder we can't contact the aliens; they are probably drunk and frolicking in space.



Alcohol has been a part of all recorded history and probably for most of 200,000 years. Fermented fruits or berries may have caused the first time humans to become drunk.

The types of alcohol we will look at here are beer, wine, and spirits. Let's take a look at them.

### **Beer**

Beer and *ale* are perhaps the third most popular beverages in the world. Only water and tea are used more for refreshment. Beer

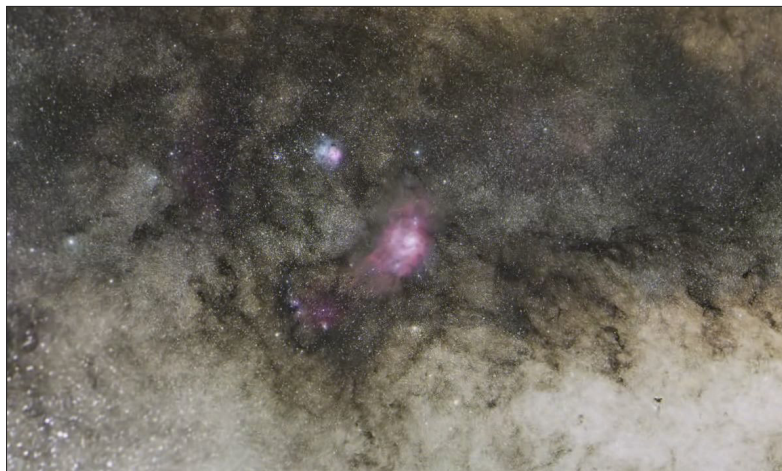
has been a companion of humans from prehistoric times and evidence is of the *Neanderthals* brewing beer. So, we have a lot of experience of ale and beer and perhaps it's about enough experience of booze.

Beer is mostly brewed from grain, barley, rye, and wheat and into the brew, hops (*Humulus lupulus*) are added as a natural preservative and for a slightly bitter taste. Beer is usually 2-5 per cent in strength but can be much stronger. By *ice distilling*, as water freezes long before the alcohol, it

is possible to make 60 per cent beer. There are a few variants like stout, pilsner, and ale as well as just plain beer.

### Vine

Wine is brewed from berries and fruits, particularly grapes and apples, plums and cherries. The wine from fruits is usually a tad stronger than wines from berries but it is far from without exception. Red wine and white wine are usually about 9–16 per cent strong with the exception of *Sherry* and *Madeira* that are about 30 per cent



The Lagoon Galaxy, where everyone can easily get really plastered.





Waitress serves beer. Painting by the impressionist Edward Manet.



Absinthe drinker by the impressionist Edgar Degas.

strong. Sherry is brewed from white grapes and Madeira from plums. They are mixed with alcohol to make them stronger.

The brewing of wine takes a lot longer than brewing beer as more often than not a proper ageing is required for the wine.

Wine has been our companion for at least 8,000 years and it is speculated that it came from Georgia to Europe about 4,500 years ago. It has been intertwined with our culture, religion, and art all this time. By the Jews, the Greeks,

and the Romans. Even Muslims, as the Prophet Mohammed wasted no time in banning it as sources claim he was appalled by the drinking of his followers. But still the Islamic world produces excellent quality wine as they have done for hundreds of years. Tunisia is a good example as are some predominantly Islamic countries in Eastern Europe.

### **Distilled spirits**

The strong stuff has the highest alcohol content; it can be almost



Wine barrels in a wine cellar where it matures before being placed on bottles or "bubbles". Both wine and distilled spirits are matured in wooden barrels, usually oak.

100 per cent pure, although it is rare to find spirits stronger than 75–80 per cent. The most common strength is about 40–42 per cent. It is brewed from various substances, as it's not a vintage product, but a standardized industrial one. It's common to brew from potatoes, grain, and rice. There are few things that can't be used, if one has access to starch, water, sugar, and yeast that pusses alcohol. Then the

brew is distilled and as alcohol evaporates at a much lower temperature than water 100 per cent pure alcohol, comes out of the distilling equipment. Then the alcohol is diluted with water or some other fluid and spiced for a particular taste that can then be hyped to boost sales. Examples are *whisky* and *Cognac*, not to mention *liqueurs*.

Alcohol is so common and in such general use that it's safe to

say that almost everybody has at least some experience of it, both the pleasure of a small dose and the curse of the drunkard. Who hasn't had to deal with a really pissed individual? Not fun. And in most families, there is at least one alcoholic.

It has been said that alcohol is a curse. I don't agree with that but, on the other hand, I agree that alcoholism is a curse. Not only for the abuser, but also for their family. And if it is a fact that alcoholism is a disease then it must be the use of the alcohol, not the alcohol per se, that is the curse. No one chooses or decides to be ill. We have no say in the matter if we get sick.

On the other hand, alcohol is obviously poison. *'Delightful poison'* wrote the English writer *Colin Wilson* in a book about this delightful poison.

Now you might ask; can this be true? Yes, alcohol is poison, and it is a very effective killer of life. So effective that it is used for sterilization. It is so effective that



Colin Wilson.

it even kills its maker when the fermenting passes 12 per cent volume. Then people drink this.

As alcohol is so highly poisonous, and in fact the most poisonous drug in this book, we need to study it further.

For some time, I've found it paradoxical, if not surreal, that the most poisonous and brutal intoxicant in use by humans should also be the most popular. It must say something about the human race. I'm just not sure what.

It is very illustrative how distilled alcohol was originally produced. And why.

Wine barrels and beer kegs took up a lot of space in the old days of small wooden ships around the globe. To the New World in particular.

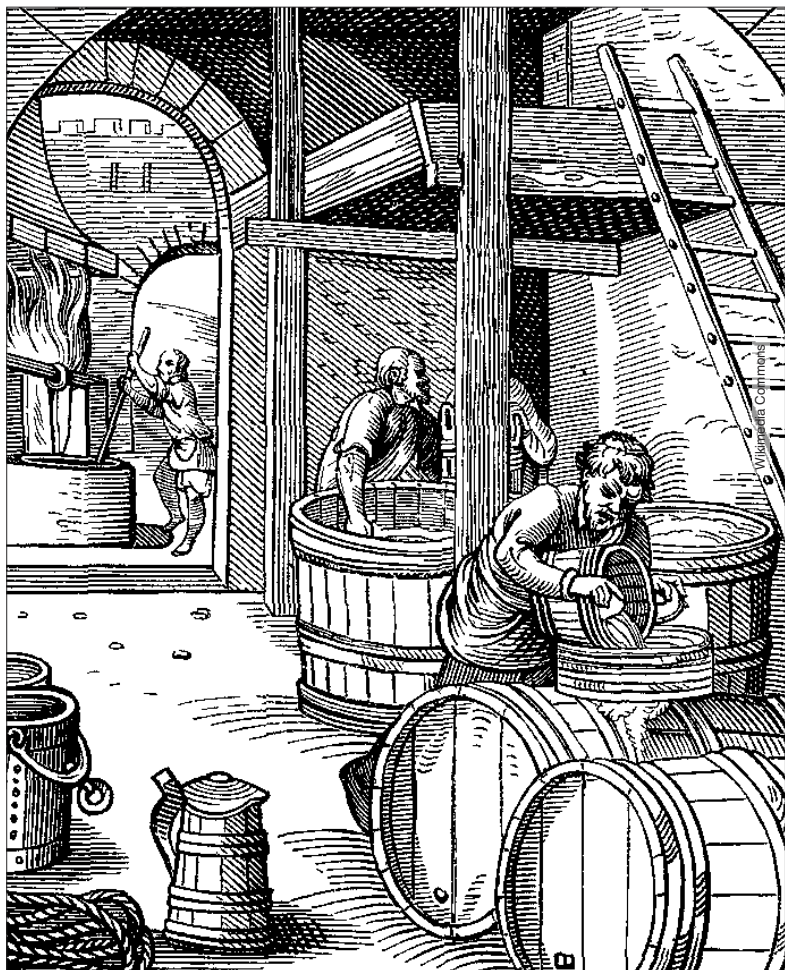
At this time distilling had recently been invented and someone had the brilliant idea of *distilling* the brew and getting rid of all this bulky water during transportation and diluting the distilled liquid at the destination. What happened of course was that when people got their hands on the strong stuff, nobody bothered to dilute it. The result was that immediately strong distilled alcohol flooded the world. Never mind the quality, the strength was predominant.

From time immemorial nobody had had access to stronger stuff than 12 per cent, and in most cases the strength was not even that. It was used as food and in religion and the consumption was a social event

where people gathered, relaxed, and enjoyed the company of one another. Alcohol at this time was a big part in social bonding within the community. But I also have no doubt that our ancestors noted that some individuals didn't seem to handle it well and became *abusers* or *alcoholics*.

When one looks at history one comes to the conclusion that drinking is more or less as old as humankind. Evidence has been found in excavations that suggests that at the last part of the *Neolithic* period and the first part of the *Chalcolithic period* brewing and use of alcohol took place. That means our ancestors, more than 5,000 years ago, used it. There have also been discovered sediments of wine in stone jars in Georgia that have been dated as about 8,000 years old.

The uptake of alcohol through the digestive system is relatively fast and it is not easy for the body to absorb it. The liver does most of that. The body burns some of it as energy, but the rest



Brewery in the middle ages.

is discarded by breath and through the kidneys in the urine.

The effects of alcohol depend on

the amount in the bloodstream. A small dose generates warmth, vigour, self-confidence, and so on.

Most people enjoy this experience. It is worth mentioning that some of these effects are **probably false**. Particularly the self-confidence. That is because alcohol is different from other sedatives in the way it slows down the brain and the nervous system, even though you may feel differently. This is one of the main dangers of sedatives. False self-confidence may result in activity you are not really capable of doing like driving a car. Your responses are slower, and your judgement is impaired. So, don't ever do that.

The feeling of warmth is **false**, too. It stems from increased blood flow to the skin, which means greater loss of heat and thus a **lower core temperature**. So, if you are drinking in the winter and in cold weather, make sure that you are wearing adequate clothing to **keep warm**.

One more example of the falsehood of alcohol is worth mentioning: its **aphrodisiac** effect. A lot of users claim that alcohol makes them better lovers since alcohol lo-

**wers restraints and lessens prudish behaviour**. Since alcohol sedates the nervous system it could just as well prevent a hard on or adequate lubrication. Even Shakespeare wrote about it in Act 2, Scene 3 of Macbeth where *Macduff* and a Porter have the following conversation:

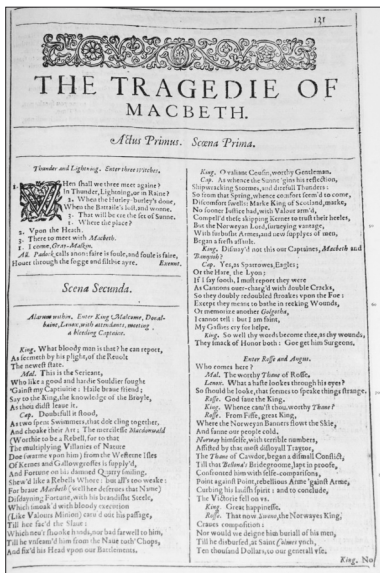
MACDUFF

*What three things does drink especially provoke?*

PORTER

*Marry, sir, nose-painting, sleep, and urine. Lechery, sir, it provokes and unprovokes. It provokes the desire, but it takes away the performance. Therefore, much drink may be said to be an equivocator with lechery. It makes him, and it mars him; it sets him on, and it takes him off; it persuades him, and disheartens him; makes him stand to and not stand to; in conclusion, equivocates him in a sleep, and, giving him the lie, leaves him.*

People under the influence should keep in mind that what they feel and think may not necessarily be as is. Users should also



First edition of Macbeth.

realize that the effects of alcohol heavily depend on setting. The same dose can make radically different effects depending on mood. It can make you the king of a party but also make you sad and lonely if you are drinking alone and you are bored or depressed.

There are a few factors that decide the amount of alcohol in the blood:

1. the strength of the drink

2. how fast you're drinking

3. stomach content

4. how fast the alcohol is metabolized.

Regarding the first point it should be obvious that if you drink like someone in the desert would drink water, the blood/alcohol index rises quickly, and you become drunk sooner. In that mode, you are going very fast through the pleasurable stage of drinking into the problematic and undesirable stage.

Food in the belly, especially milk, slows things down. Therefore, to drink on an empty stomach is an open cheque to becoming drunk faster and more so. That is the main reason that where wine is an integral part of the culture, people usually eat while drinking, the better to control the effects – *tapas* in Spain and *olives* and *cheese* in Italy. In those two countries you would be hard put to find a drunken local stumbling around on wobbly feet around town. There the wine is a part of a meal and it is considered



The beer in the glass is a tempting sight when shown in this light.

very impolite, not to say rude, to drink without eating.

Individuals differ in how fast they metabolize alcohol. Unfortunately, contrary to belief, it does not depend on body size. That is because of the logical reason that big people have an equal size brain and nervous system as small people. But as with other things in life, it's not black and

white. Some people simply have a different metabolism and break the alcohol down faster than others. A specific gene has been found in some Japanese people that seems to control the effect of alcohol on them and how they metabolize it. They tend to get really plastered from a dose that would have negligible effect on someone in the West. It has also





Tapas bar in Barcelona top and some tapas courses below.

been demonstrated that in regular users, tolerance builds relatively quickly. And abusers can have a very great tolerance. They can even tolerate a dose that would kill a normal user.

When the alcohol level in the blood rises it paralyses the central nervous system more and more. Thus, the normal drinking behaviour becomes more obvious: **slurring speech, incoordination of movements, higher threshold of pain, and inappropriate behaviour.**





Fermentating Pinot Noir Grapes. The rapids float on the surface.



Alcohol and drinks have long been an inspiration to artists and poets. Here is a picture by Pablo Picasso of an Absinthe drinker but Absinthe was fashionable before the turn of the 1900's.

Also, less judgement, as those centres in the brain are the first to take a break from service. But how drunk people get is highly individualistic and that seems to depend on personality; how the individual is, mentally and physically, when the

drinking starts; and set and setting. Some become **noisy** and **pushy**; others become a bit too **friendly** and **sincere** and can even **confide** in complete strangers the innermost personal **secrets** of their life. Such behaviour is better suited in a close family circle. Some become **angry** and **aggressive**, even **violent**, and still others turn into **whining cry babies** wallowing in their own self-pity.

Abuse of alcohol is a serious problem in many places. It causes serious **accidents** and **untimely deaths**. When **restraints** and **judgement disappear** like the morning dew on a sunny morning it is not unlikely that the user does something he would never do if not under the influence: **cheating** on a spouse, **rape, assault and battery, murder**, and so forth. What's worse, in many instances the culprit has no idea of their behaviour. That is because alcohol **paralyses** the brain centre that deals in **logic, rational thought**, and **memory**.

Some of those who go drinking end their 'entertainment' in a

coma-like sleep. When such individual wakes the morning after they are invariably **hung over**. They may have a **headache, tremors, fatigue, depression symptoms, difficulty focusing**, and **problems thinking clearly**. This is caused by alcohol's poisonous effect on the body and is particularly unpleasant.

As alcohol is very diuretic the body loses a lot of body fluids when drinking and dehydration could be one of the causes of this bad feeling the morning after. Everyone experienced enough in drinking recognizes the terrible **morning after-thirst**.

As alcohol makes life less unpleasant for a short time it might seem tempting to take a drink to make one try to feel a little better. That is a bad idea, since it can lead to abuse and alcoholism.

And alcoholism is nothing to joke about. An alcoholic will do anything to fulfil their need for a drink. They will **lie, steal, sell themselves**, and do just about anything to get a drink. The wit-



Large sums of money goes into cool bottle design to make the product tempting.

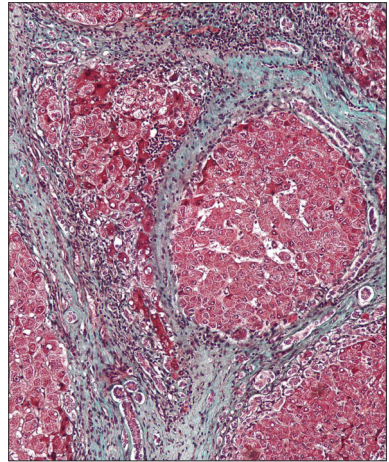
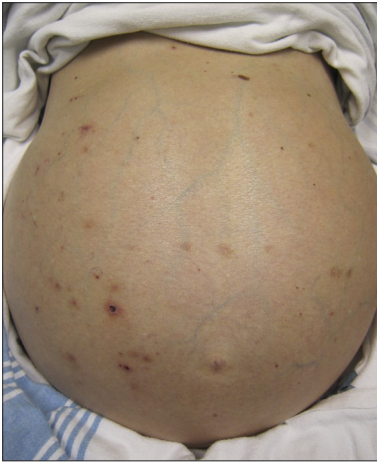
Withdrawal symptoms are not funny either. They can be deadly as alcohol is the only drug known to man that can kill you if you stop using it.

On top of this, alcohol is so strong and poisonous a drug that use over time can cause **serious bodily harm** as well as **psychological**.

Since the liver bears the brunt of dealing with alcohol in the body by metabolizing the stuff, it is the first one to come to harm. Cirrhosis of the liver is quite common among heavy

users, especially among those who drink strong distilled alcohol. The fermented juice of grapes seems to be not as bad in this regard, why ever that may be.

Alcohol **lowers sex drive** and **lowers the efficiency of the digestive system**. Other body parts that take a beating are the **brain** and **nerves**. Heavy drinking may lead to **permanent shake** in the limbs, **loss of memory**, and **loss of intelligence**. This might indicate permanent damage to the nervous system. It has also been



Cirrhosis of the liver and the liver. Minimal blue should be seen.

demonstrated that the **foetus** is made **vulnerable** by their mother's drinking during pregnancy. Particularly in the first few weeks.

The list of bad side effects of alcohol is far too long to list everything, but hospitals all over the world are smack full of people with alcohol-related problems. In addition, alcoholism is one of the most **stubborn problems** when it comes to curing it. Most doctors agree that the only cure is total abstinence. However, relatively new studies in America seem to *indicate* that

the problem of alcoholism is not as black and white as it has been made out to be. There seems to be a middle stage that is termed *alcohol use disorder* (AUD) and those who fall into this category can learn to control their drinking with professional help from doctors and psychologists. *SSRI* medications seem also to work for this group. Needless to say, Alcoholics Anonymous (AA) and the drug treatment industry are not impressed as their method is mostly based on religion and abstinence.

I did see a report of a study of using psychedelics in the treatment of alcoholism. As yet, the results are not proven, as far as I know, but those studies seem very promising.

This is in accordance with results at the *Native American Church* in America that have used *peyote* to battle drinking among the native Americans. They use the *mescaline* cactus **peyote** and complicated rituals and the results are impressive.

As strange as it may seem, not everyone who drinks regularly becomes an alcoholic. It's quite the opposite if you look at it from a purely scientific point of view. It becomes stranger when you look at the statistics, as the statistics show that the children of alcoholics are more prone to become alcoholics, but also the children of tee-totallers are more prone to become alcoholics. That seems to indicate that role model is probably the best indicator of drinking habits of youngsters when they become adults.



A glass from 1694 in a museum in Thüringen in Germany. The ornamental painting on the glass is religious.

The most obvious sign of problems is the habit of the user to always get seriously and utterly pissed. To not be able to stop after a drink or two, in parties or with a meal. But it's not very pleasant to be utterly pissed now is it? Not during or the day after. So why do people over consume this 'delightful poison'?

That's the big question. It is almost the only question and if we had an answer we'd be well on our way to understanding alcoholism. Actually, a guy I know, an alcoholic, said at one time when I was criticizing his drinking that it was no problem. 'My drinking is not a problem. I drink, I get pissed, I pass out.' Now that is what I call an ingenious excuse to not to deal with a problem when alcohol has taken all the power in an individual's life. But it's bleak and and it's sad.

Maybe the answer to this question is that alcohol is very tricky to use. Most people like the first effects but the drawback is that it is far too easy to cross the line into abuse. If you are an adolescent just starting to experiment, be aware that this line you can only learn to recognize by **experience**. Those who can't, and it's **not easy**, as judgement is one of the first things to be impaired, are at even greater risk of becoming abusers and turning into alcoholics.

Alcohol is one of the most difficult drugs to control that humans use because of its strength and how varied the effects are on individuals. If used responsibly it can be beneficial to reduce tension and increase appetite. It has even been claimed that in small enough doses it helps to reduce heart diseases and aid in digestion. That may be true, but some can never learn to use it in moderation.

Wine, that is, fermented grape juice, has some chemicals that seem to benefit health. The problem is that there is this undesirable side effect, getting drunk. The first of the chemicals is *resveratrol* that studies indicate can benefit the circulatory system and the heart and possibly inhibit some forms of cancer. *Polyphenols* that are found in red wine seem to act similarly. It has been demonstrated that in wine there are some chemicals that are not all that healthy for *Streptococcus*. There was as well, in a 2007 study, indications that chemicals in wine



Pouring vine. From an old manuscript.

could prevent lung cancer in males. Why ever not in women?

The effect of alcohol on the brain has been carefully studied and one of those studies said that wine made from *Cabernet Sauvignon* grapes was useful against *Alzheimer's*.

On the other side of the coin, Professor *Valerie Beral*, the author of the *Million Women Study*, was quoted as saying that there was simply no evidence to back up the statement that wine was good for the user. *'It is a complete myth that red wine is beneficial for you.'*

So, when taken together it is quite a surprise that alcohol should be the recreational drug of choice for a large number of people. As it is, and as it works, it most surely would be banned if it was invented today. Alcohol is strong stuff indeed and if the same rules regarding use were applied to other drugs, then a manual for use would be handed to the user as well as advice not to combine its use with other drugs. Not even a warning not to operate machines is printed on the bottle.

There are many types of hard liquor made today. There is *whisky*, *Cognac*, *rum*, *genever* (jenever), *gin*, and other types and at regular intervals there are 'scandals' that emerge in the media regarding production. It should not be surprising, as it's ridiculous to assume that alcohol producers have stronger moral fibre than the average drug pusher. The main difference is better clothing. It has been revealed that **anti-freeze** and **methanol** have



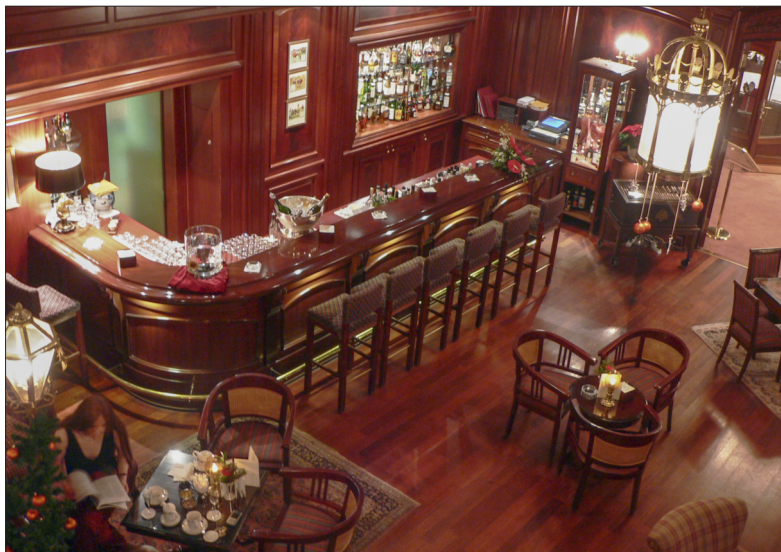


Light and dark beer. Beer types are innumerable and each has its own characteristics. In colour, taste, strength and texture.

been used as additives to wine. In my view such behaviour is more than a scandal. I would call it criminal, even attempted murder.

### Directions of Use

1. If you are running a fever then about two tablespoons before going to sleep might ease your discomfort.
2. Make a rule when not to drink.
3. Never drink alone.
4. Never drink on an empty stomach.
5. Don't drink while working. Particularly if your work requires driving or operating machinery.
6. Learn to know your limits.
7. When the alcohol is in your bloodstream there is nothing you can do to sober up. Only time can do that.
8. Drink weak alcohol. Mix the strong stuff considerably.
9. Make a habit of drinking slowly.
10. Learn to say no when you



Bar in Switzerland. Looks attractive enough without guests. That changes somewhat when it is filled with abusive, noisy guests.

11. Make sure to drink a lot of water or other fluids while and after drinking alcohol.
12. Don't hang out with heavy drinkers. Find drinking buddies who drink moderately.
13. Don't hang out with those who encourage you to drink more than you like.
14. Take care not to develop a pattern in your drinking, for example every weekend.
15. Don't drink while dealing with emotional problems. Your sorrows are quick to learn to swim.
16. It's hard to control drinking at any age. Indications are that the younger you are, the harder it is.
17. Alcoholism develops over time if you are not careful.
18. Alcohol has a lot of calories and is fattening.
19. If you drink regularly make

sure your life is in other regards healthy, with adequate nourishment, adequate exercise and adequate rest.

20. If the **slightest** suspicion arises by you or those who know you about alcoholism, seek professional help. It is almost impossible to deal with alcoholism without help.

Regarding side effects I refer to what I said before about the delightful poison, alcohol. And of course there would be warning on the bottles or cans about not driving.

### Sleeping pills

**Barbituric acid** ( $C_4H_4N_2O_3$ ) was discovered on 4 December 1864, so it has been around for some time. It was the German chemist Adolf von Baeyer who is credited for this discovery. Millions of people all over the globe use it every day and the *Bayer pharmaceutical company* has made enormous sums of money on this discovery of its founder.

And Bayer is one of the biggest pharmaceuticals in the world. In 2007 there had been made more than 2,550 variants of barbiturates and from fifty to sixty variants are prescribed by doctors.

Barbiturates are a classic example of a drug that is wholly synthetic and tweaked for different roles. In the beginning, the older types were of such a kind that no one would ever dream of using them recreationally. It was a sleep medicine and quite adequate as such. Well, at least it worked. In a few isolated cases it was prescribed as a sedative. As the half-life of the first barbiturates was ninety-six hours the users were often a bit under the weather when they woke up.

Today there are variants used in healthcare that work instantly but are also light so it's easy to wake the patient instantly if some complications emerge during an operation. All those variants are made from the same stuff, apple pomace and urea, which is a fancy scientific name for pee.



Barbiturates pills.

When the fast-acting barbiturates hit the market in about 1950 the use of those drugs changed. The new variants belong to the category called *Benzodiazepine* or *Chlordiazepoxide*. The quick-acting barbiturates work a lot like alcohol. The most famous one is probably *Seconal*. A small dose gives a pleasant feeling when the effects set in. Because of this, it quickly gained popularity and flooded the black market.

**No one takes** the quick-acting varieties like Pentothal **for fun** or pleasure, as they cause unconsciousness and loss of memory.

The barbiturates affect the central nervous system like alcohol and in actual fact they work a lot like it or it's probably more logical to note the differences of the two drugs.

The first thing one notices is that unlike alcohol they are absent of calories and therefore not fattening. The body must resort to other processes to get rid of them than burning them off. They are not as poisonous with prolonged use and not as damaging to the liver. Tolerance develops by prolonged use but there is one **curious difference**. With regular

use, tolerance to the psychological effects develops more quickly than does fatal dose. And that is the reason it is easier to kill oneself 'accidentally' on barbiturates. For example, someone takes one tablet for sleep every night, which gradually turns into two and then four for desired effect. One night the dose taken is the dose that stops the breathing. A bit late to say, 'Oops!' when that happens. And, furthermore, it is particularly dangerous to mix alcohol and barbiturates. They increase the effects of each other, and the result can easily be more than embarrassing. It can be fatal. There are too many deaths that can be attributed to the fact that someone didn't know this simple fact.

As with most recreational drugs the effects are influenced by set and setting to a large degree. They also work differently on different users.

**For safe use:**

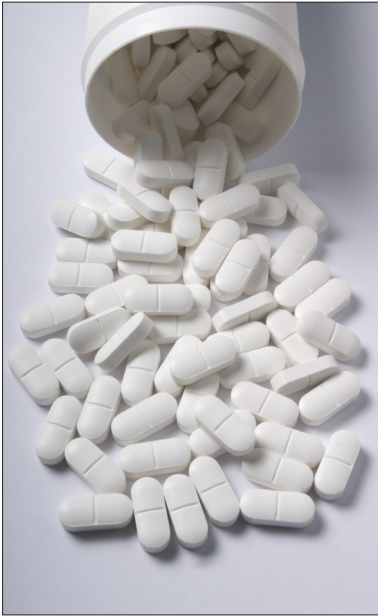
1. Never take a bigger dose than prescribed by a doctor. In



Barbiturates capsules.

many cases a smaller dose will suffice.

2. Never drive a car or other vehicle while using.
3. Be extra careful not to mix with other sedatives and alcohol.
4. Don't depend on drugs for sleep. Use other methods such as not taking stimulants like coffee just before going to sleep.



Barbiturates are available as pills, solution and capsules. Morbital is a morbid name.

5. Beware of using sleeping agents to change mood for the better.
6. Don't use with stimulants just because it may feel nice.
7. Don't use while sick unless prescribed by a doctor .

### Minor Sedatives

Minor tranquilizers emerged in the sixties and the most famous are *Valium* and *Librium*. The

producer grew from a small drug company, specializing in vitamins and antacids, to one of the biggest pharmaceuticals in the world.

Although termed 'mild' or 'minor', it is just a term to make them apart from other drugs as there is nothing minor or milder about them and how they work nor the problems they can create for the user or their abuse.

They have been prescribed by



The death chamber in San Quentin. Here, prisoners are killed with a deadly injection of barbituric acid. Why not use an opioid like Carfentanyl? Where a touch is enough.

the billions and are the most prescribed drugs, ever. And first to hit the market was *Miltown*, later known as *Equanil*, and pretty soon Miltown parties were common where people got high together.

Big Pharma spent millions in marketing to convince doctors how revolutionary these drugs were. Keeping in mind that many small things together makes huge profit.

In reality those drugs are almost identical to alcohol regarding side effects and addiction.

Compared to the barbiturates the minor tranquilizers are slightly less dangerous regarding taking a large dose and mixing with alcohol. The withdrawal symptoms are also not as bad.

They are useful for the relaxation of muscles and they don't make the user as sleepy as other sleeping medications so they can

be used during daytime hours. However, no one should dream of driving if using those 'minor' tranquilizers. They might also make the mind somewhat fuzzy and users are far from clear headed. They induce sleep if taken at night and might therefore be a better choice than the barbiturates.

Recreational use is for the same reasons as other sedative drugs are used. To reduce anxiety, lighten mood, reduce inhibitions, and lubricate social interaction.

Most cases of abuse can be traced to irresponsible prescription by health workers. When the pharmaceutical companies were marketing the drugs they went as far as to invent symptoms from the turmoil of everyday life and of course the drugs would fix the problem. There are several examples of clever marketing, not to say ridiculous, in the medical journals from this time as that is where the propaganda was mostly published.

This is one of my favourite.



There are all kinds of shapes and sizes in barbiturates production.

Librium for college girls: *'recently emerged curiosity about the uncertain state of affairs, both domestic and abroad, might make her insecure and worried.'* In normal everyday language this is what is being said, *'If the news freaks her out, give her Librium.'* The bored housewife? Take Librium. And who remembers the *'battered wife syndrome'* that Valium or Librium could fix?

This marketing campaign of



Big Pharma was so successful that the story goes that in 1965 it was estimated that 65 per cent of British housewives were regular users of Librium or Valium. At this news, the minister of the interior supposedly went to see the minister of health about this sad state of affairs and what to do about it. The minister got the reply from his colleague that if millions of housewives came out of the homes, stone cold sober and into the work field, it could ruin the economic system of the country. It's just a story but the story is good and descriptive of the state of affairs at this time. Fortunately, doctors today have reversed course. There are two reasons for this – new and better medicines – and they are very aware of the side effects, so they curb their prescriptions. And then there came *Prozac*.

Those who criticized the marketing of Big Pharma pointed out that the adverts were more often than not targeted at women. Just like the pharmaceutical compan-



Librium 25 mg.



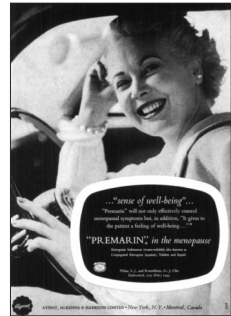
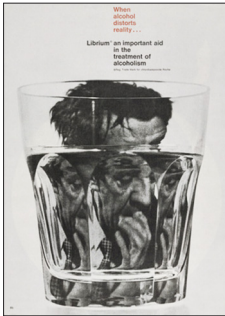
Xanax.



Valium 10 mg is probably the drug, most often prescribed around the world.

ies had done a decade earlier with amphetamine.

To intend to use a sedating drug to deal with life has consequences: long-term drug addiction.



The advertising of the pharmaceutical companies promises a better and easier life if the drugs they produce are used, supposedly they would help alcoholics as well.

Even if the drugs are slightly better than alcohol and the barbiturates the result is identical. No relief from underlying problems, just a small relief of symptoms and a legal addiction.

Big Pharma tried as best they could to get the drug recognized to deal with alcoholism. Some doctors were taken in and were extremely happy as their patients reduced their alcohol intake. Until someone pointed out that Valium was whisky in a pill.

### Avoid Problems

1. Be aware that the minor tranquillizers are very sneaky in their strength, almost like alcohol, and can create unpleasant



Amy Winehouse. Cause of death at 27 years of age was a combination of alcohol and Librium.

reactions and addiction for users.

2. The same goes for these drugs as goes with the sleeping pills in the previous chapter.
3. If you use those drugs, either by prescription or recreationally, don't use them every day. Use

## What's to be learned about 'Miltown' from 50 studies with children?

...if you don't give tranquilizers to children.

Quite a bit, we think. One important indicator of the general safety and patient acceptance of a drug—particularly one that is usually given as a "child's" drug—is the degree to which it is tolerated by children.

It is in this regard that 50 (fifty) meprobamate ("Miltown") studies with children.

These studies evaluated the effectiveness of "Miltown" in a wide range of cases (for anxiety or acute convulsions of children and adolescents, ranging from tic and tics to "school headaches" and "stammering"). In the majority of these studies, "Miltown" was given quite satisfactorily effective.

But, even in particular: Adverse reactions to "Miltown"—other than occasional "drowsiness"—were rarely observed. Physicians in these studies often explained the absence of side effects, rather than their presence.

"Miltown" was usually well tolerated. In one study only one, in some cases for a year or more, and often at higher than recommended dosage, did not produce action on several effects, except in rare instances when the drug was sleeping withdrawal.

Age appeared to be no limitation in its use as an anxiolytic was compared. Infants to given 50-100 mg, to older age groups, and preteens tolerated "Miltown" as well as did disturbed older teenagers 800 mg doses.

Children like meprobamate. Doctors don't—particularly from the drug they prescribe. One significant result of 11 years' experience and 1,000 published studies (including the 50 with children) has been to reduce the negative content of "Miltown" in actual usage.

Our point in presenting a second look at an old standby is not to imply a marked superiority of "Miltown" over the many tranquilizers available today, but simply to emphasize what may have become obscured by fear. Fear, namely: "Miltown" has no known, and the knowledge has been reinforced by evaluation, not by implication.

Helping children adjust to hospitalization  
A controlled study of meprobamate (375-450 mg t.i.d.) and diazepam (10 mg b.i.d.) responses to meprobamate.



A line graph showing the percentage of children who were 'good' or 'poor' responders to meprobamate and diazepam.

Percentage of children who were 'good' or 'poor' responders to meprobamate and diazepam.

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## Miltown (meprobamate)

**Indications:** Meprobamate is effective in the treatment of anxiety and tension. Also, in addition to the above, meprobamate has been shown to be effective in the treatment of acute and chronic alcohol withdrawal. Meprobamate has been shown to be effective in the treatment of acute and chronic alcohol withdrawal.

**Contraindications:** Meprobamate is contraindicated in patients with known hypersensitivity to meprobamate or any of its components. Meprobamate should not be used in patients with known hypersensitivity to meprobamate or any of its components. Meprobamate should not be used in patients with known hypersensitivity to meprobamate or any of its components.

**Precautions:** Critical evaluation of the use of meprobamate is indicated. Considerable sedation may occur, particularly in patients with a history of alcohol abuse. Meprobamate may be used in patients with a history of alcohol abuse. Meprobamate may be used in patients with a history of alcohol abuse.

**Side effects:** Drowsiness, ataxia, and other effects may occur. A range of idiosyncratic reactions may occur, generally developing after one to four doses. If these reactions are severe, they may be fatal. Meprobamate should be discontinued immediately if these reactions occur. Meprobamate should be discontinued immediately if these reactions occur.

**Usage:** Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day. Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day.

**Warnings:** Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day. Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day.

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**Other information:** Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day. Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day.

**Keep out of reach of children:** Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day. Meprobamate should be given in divided doses. The usual adult dose is 400 mg, 3 or 4 times a day.

**© 1970, Parke-Davis & Co., Detroit, Michigan**

**A good morning after a sleep-through night**

That's how you'll feel after a restless night's sleep governed by Quaalude 300 (methaqualone). You'll feel good and ready to face the demands of the day. Quaalude 300 (methaqualone) is a powerful sedative and hypnotic without addiction. "Hangover" is usually less severe and night "weariness" is usually less pronounced. Quaalude 300 (methaqualone) is a powerful sedative and hypnotic without addiction. "Hangover" is usually less severe and night "weariness" is usually less pronounced.

Quaalude 300 (methaqualone) is a powerful sedative and hypnotic without addiction. "Hangover" is usually less severe and night "weariness" is usually less pronounced.



How about a little Miltown for the kids? Or give the old guy some Quaaludes so he stops beating the family? The pharmaceutical companies often create symptoms that the drugs are supposed to fix. Symptoms that do not exist.

them seldomly to avoid dependence.

## Anaesthetics

Anaesthetics are very powerful and are used during operations in hospitals and clinics and are rarely seen outside the operating theatre – except one. *Laughing gas.*

Anaesthetics had their prime time at the beginning of modern



Photo by Laurynas Mireckas on Unsplash

The reality of day to day life for millions of people courtesy of Big Pharma. Subscriptions to numerous drugs fatten the coffers of the pharmaceutical industry.

medicine. They cross the blood/brain barrier very fast since most of them are inhaled through a special mask. *Ether* and chloroform are examples of those drugs. *Chloroform* is used by veterinarians, if used at all today. The strong stuff causes unconsciousness very quickly and the hang over after use is something one has no desire to experience more than once. That is one of the reasons of their dwindling popularity and use. They can also

quite easily kill you these drugs, if you are not careful. That goes for other drugs in this category as well and that is the reason an **anesthetist** handles them and monitors the patient. These inhalant drugs stop working almost as soon as the patient stops inhaling them and wakes up. Then, the ether is highly flammable as it mixes with oxygen, as people discovered in the 1850s when using it began in surgery. No lightbulbs but gas lamps, only steam, ge-

nerated by fire, for sterilization. Jokers said that the patients came from surgery with a bang.

There are confirmed cases of ether addiction but they are few. My guess is that users think it more convenient to use something less poisonous, without such a terrible smell and not as flammable and explosive.

Laughing gas is like that. No smell, not poisonous and not flammable. It can, however, fuel fire just as oxygen does. Laughing gas is still used today in childbirth and dentistry and in industry. It is laughing gas that is in the small containers in the whipped cream dispensers.

When my youngest son was born I took my liberty and took the mask with the laughing gas my wife had been using. Everything was clearly marked so I turned off the oxygen and took a very deep breath. Then the door opened, and the midwife came in and asked very innocently with a mischievous glint in her eye what on earth I thought I was doing.

When I answered and heard my voice I got really embarrassed. She started to laugh as my voice sounded like the voice of Donald Duck. And it was quite funny.

**Laughing gas** or *Nitrous oxide* ( $N_2O$ ) is sometimes used for fun precisely for that purpose. People pay a small fee, inhale the gas, and sound as if it were Donald Duck himself making a speech and everybody laughs their heads off for about 30 seconds. Then the effect of the gas abruptly stops.

Artists and philosophers have tried laughing gas in the hope for an insight and inspiration. Revelations always seem to be just out of reach under the influence. Others have used it to become hilariously drunk.

When certain precautions are met, laughing gas is relatively safe. But there is a **danger** that accompanies use. In its containers the gas is under enormous pressure. So, when released, it **freezes instantly**. It is very painful to get into the lungs and down the windpipe and it can damage

vocal cords as well as the mouth. So, if you want to use it release the gas into rubber or silicon balloons to reach room temperature. Then it can be safely used. And remember to use it sitting down as it reduces con49roll of movement instantly. You won't fall down and hurt your bottom if you are sitting on it.

It can cause nausea, particularly shortly after a meal and, if used heavily, it may produce slight hangover symptoms. So, the word is from those who've experimented heavily that it is a complete waste of time.

## Narcotics

About narcotic drugs one can write a long and detailed description as there are aspects of use that call for speculation.

**Opium**, which comes from the poppy, is horribly bitter tasting and one wonders why people in prehistoric times started using it. Opium is said to be slightly worse tasting than the white milk from the stems of dande-

lions. Why would our prehistoric forefathers discover and use such horrible stuff? Was it perhaps the old saying fight fire with fire or evil with evil?

As smoking is an invention of the New World it was unknown to the Old World until 1492. There is a recipe that is centuries old and is still in use, albeit modified. This is the drug *Laudanum*, which was quite popular in about 1900.

As **morphine** is water soluble its popularity rose by the invention of the syringe in 1853. Now it was possible to inject it straight into the body. And as the myth goes, the wife of the inventor *Alexander Wood, Rebecca Massey*, was the first morphine addict. It really is a myth, as she outlived her husband by ten years until 1894.

**Codeine** ( $C_{18}H_{21}NO_3$ ) or *methylmorphine* is another chemical from opium. It **differs** in one notable respect from other opioids as it works best in tablets. Codeine is still widely used and prescribed



Liquid ether.

to this day as it is relatively safe as a pain killer. The main drawback it has is constipation, which it generates in users. Constipation is common to most opioids.

At the end of the nineteenth century, chemists started fiddling with the molecules of morphine and other chemicals in opium. One of those experiments led to the invention of **heroin** or *diacetylmorphine* ( $C_{21}H_{23}NO_5$ ). It is stronger than morphine and smaller doses are required for the

same results. The fact is though that heroin very rapidly turns into morphine once inside the body. There are a lot of opioids on the market, both from the poppy as well as synthetic. They all have their characteristics regarding strength, how long they work, whether they work better as tablets, and how they work on the mind. The effects of opioids are stronger and last shorter if injected and that leads to it being easier to become addicted to.

Primarily the effects of opioids are on the mind and the intestines. In the brain they mitigate pain, turn off the cough reflex, irritate the vomit centres, increase relaxation, and increase sleep and drowsiness. Studies seem to suggest that they can lessen the ability to focus. They, however, work slightly differently on different individuals. Some they stimulate; others are knocked out. They may cause vomiting and nausea as all strong painkillers and can kill by stopping breathing.



Old chloroform vials in a museum.

Narcotics are the main tool doctors have to relieve severe pain. They are also used in coughing syrup even if in minute doses and are good medications and effective in right doses. And they are also safe in the right doses. Those who have had an accident with great injuries are sure to bear witness about the blessing of those drugs for pain relief.

Yet the opioids have been furiously attacked and generated

more fear than any other group of drugs. The **standard image** of an addict is a junky in an alley, out cold, still with the syringe in his arm. The reason being of course that it is very easy to become addicted. Much too easy!

The narcotic addict is the stereotype of dependence, and the actual fact is that the scientific criteria of addiction is based on the narcotic addict. What defines addiction are three things: craving of the drug, build up of to-





Containers of laughing gas for domestic use.

lerance, and withdrawal symptoms. This definition was made by observing opioid addicts.

A lot of what has been said about narcotic drugs is simply not true. It is built on emotions and prejudice. I think we can all agree on the following: people can quickly become addicted, tolerance builds rapidly and can become incredible. As an example, we can take the poet *Samuel Taylor Coleridge* and the writer *Thomas De Quincey*. Coleridge used two litres of Laudanum per week and De Quincey used up to 8,000 drops daily. The

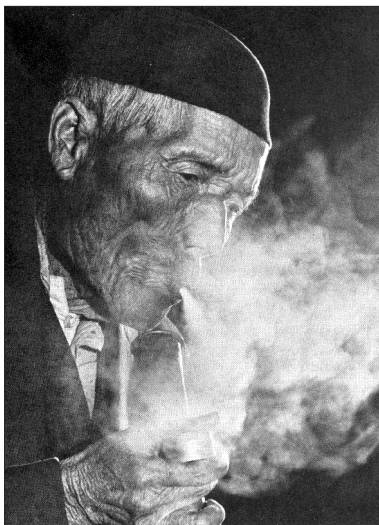
normal **recommended dose** is twenty drops in a glass of water, four to six times a day. The doses used by Coleridge and De Quincey would instantly kill a normal human being.

There is a certain difference between the narcotics and the sedatives. As stated before, tolerance to normal dose develops more quickly than tolerance to lethal dose with sedatives. It's the other way around with narcotics, so in that regard they are safer. But, of course, we hear of users who overdose on narcotics. In the majority of cases this



Raw opium above and a Chinese man in the last century smoking opium below.

is because of an accident. Since the user is buying on the street, he has no way of knowing the strength of what he's buying and thus administers what is normal for him. Then one fine day he gets a drug that is maybe 40 per cent pure instead of the usual 7–10 per cent and dies. This is on the increase, as today *fentanyl* from China has hit the street market in the West and *fentanyl* is much, much stronger than heroin. On top of that, the





From left. Modern Laudanum. Morphine ampoules for health workers and Heroin.

street user can expect to shoot additives that are far worse for him than the narcotic he craves. *Strychnine* was used for a time but as the customers of the dealers decreased rapidly the practice stopped.

Withdrawal from narcotics, if unpleasant, is not as dangerous as withdrawals from alcohol and the barbiturates, which have confirmed cases of death. Unpleasant as they are, with profuse sweating, vomiting, and more, the withdrawal from narcotics very rarely causes death.

It is confirmed and agreed upon that those who take good care of themselves and can afford this expensive habit don't seem to harm themselves, neither physically nor mentally.

There are many documented cases of people who have used opiates for most of their life dying of natural causes in ripe old age. Thomas De Quincey, for example, started to use Laudanum regularly in grammar school and enjoyed good health all his life. He was seventy-four when he died.

As far as the body is concerned, the opiates don't seem to have adverse effects other than constipation and that is a far cry from cirrhosis of the liver and lung cancer from the most popular drugs in recreational use. It is even claimed by users that heroin keeps them healthy and they are completely rid of respiratory diseases. It has even been claimed that heroin actu-

ally cures the common cold and is the only medicine that does so. I hasten to add that I have not been able to confirm this claim in spite of the power of the Internet and that of Mr Google.

The main critique of the opioids is how strong the hold of the drug is on the user. However, those with the experience claim that the craving for alcohol is about the same and the craving for nicotine is stronger.

Anti-social behaviour has been noticeable in the debate. Studies, however, show that those who get addicted in hospitals don't demonstrate this anti-social behaviour in question. There are a lot of cases of health workers, doctors, and nurses using opioids all their professional life, seemingly without adverse effects. So that would indicate that there is a difference of behaviour between those who become addicts by experimenting or because of medical procedures.

As strange as it may seem, the majority of those who try opioids



Patrick Baumbach

Keith Richards, guitar hero of the Rolling Stones playing, not on the loo.

for the first time are not altogether happy with the experience and even find it unpleasant. There can be profuse sweating, nausea, and an unpleasant feeling. But it seems that something pulls, either curiosity or disbelief, and some try for a second time. And the path to addiction is that much shorter. The opioids never let go, ever. Only tobacco is worse in that regard. Like the addict said, *'It is so good you should not even try it once.'* William S. Burroughs puts it this way in his



From left. Heroin powder, heroin dissolved in water and user shooting up.

novel *Junky* published in 1953: *'Junk is not a kick. It's a way of life.'*

The physical effect of opioids that comes first is the need to not go into withdrawal. Actually, it may well be the strongest motivation of the user. This need to avoid withdrawal takes complete

control. The user will do anything to avoid withdrawal, whether by experience or because of fear of unpleasantness that they have been led to believe they may experience. The aforementioned Burroughs said in a *Playboy* interview that quitting heroin,



Cydane

Laudanum.



Thomas De Quincey.

when he finally did it, had taken a week and the experience was comparable to a bad case of the flu. He was a user for more than twenty years. He could, however, not stop smoking tobacco.

It is a full-time job being an addict. It's tough and dangerous. The prospects are a one-way street and flexibility and freedom on the job is nil. That is why it's so absurd that the actions taken to curb use have in most cases only resulted in more use, making users criminals and the dealers rich. When one looks at the history one can't but ask dumbfounded who invented this system and were they retarded?

It is not easy to help an opioid user to stop using. What seems to have a semblance of results is to administer a substitute drug as doses are gradually lowered and dealing with complications when they emerge. Like tobacco dependence, relapse is common. Some go straight from rehab to the street to secure the next fix.

Some relapse after a few weeks or months but it is quite common to relapse two or three times the first year and no one is secure in their abstinence for up to **ten years**. To use another opioid for treatment, like the practice is in *Medical Assisted Treatment (MAT)* by using Methadone, has one positive plus – but only one. The user is a legal junky and health-care pays for the drug. So, consider this, if you never try opioids, you will probably see no reason to use them, will you?

### **Rules for Safe Use**

1. Opioids are very powerful drugs with a high risk of addiction and should only be used medically.
2. Using opioids to avoid life and its normal ups and downs quickly leads to addiction.
3. Never, ever inject a narcotic just for fun.
4. If you try it once and feel extremely good, don't do it again. Never, ever. You have **had** the first experience of the



Morphine sulfate for injection. This is strictly hospital stuff.

drug and you can't repeat it. It will never come back.

5. If you start using narcotics occasionally without injecting and think thereby that you can control the use, remember that most regular users had the same idea.

### Hallucinogens

Hallucinogens is the most colourful category of all drugs that humans and animals use. They are also the most controversial. They are also called **psychedelics**. I couldn't care less about the scientific community arguing which name to use. The name's got not-

hing to do with how they work. It's not surprising that the public and the media can't form an informed opinion or discuss them since the scientific community is still in a heated debate about which name to use. About seventy years after their study began. In a word? Idiotic.

Almost all users, and that in itself sets them apart, recommend these chemicals for deeper insights and better understanding of oneself and the world. Those who fear them think they lead to insanity and suicide. One can't really discuss them on those terms since both groups are, at the

same time, right and wrong. But packaging sells and the media is eager to make big headlines when those groups battle.

One thing is certain though, completely undisputed. One can't abuse those chemicals as they have built-in safeguards. More on that later. Medically speaking, these are probably the safest of all drugs in use by humans of all known drugs. Even in gargantuan doses they will not kill the user. People use them at intervals, sometimes years, throughout their life and are none the worse for wear. Physically or mentally. And they sure don't cause addiction.

In the right hands of medical professionals these drugs can produce a dramatic cure both physically and mentally. At the same time, they can in the hands of a novice produce as horrible an experience as one has ever known and leave scars on the soul. Such cases are very few and for the majority of users the experience is more like, *'The most profound and meaningful experience of my life.'*



William S. Burroughs at a book signing.

Primitive peoples knew and used psychedelics long before history began. Even animals use hallucinogens as cases have been recorded of the jaguar of South America using a hallucinogen. They were mostly known and used in the New World as there seems to be abundant supply of such plants there. In Europe, Asia, and Africa real hallucinogens are much less common. **Iboga** is one of Africa's hallucinogenic plants and the hallucinogen is processed from the roots. They are used in a brew that is consumed in religious ce-



remonies among some tribes in West Africa.

On the other side of the Atlantic Ocean, among the tribes in South America the use of hallucinogens in religion, magic, and as medicine is common. *Shamans* and *witchdoctors* have used them to communicate with the spirit world. This is very common in the jungle around the Amazon River.

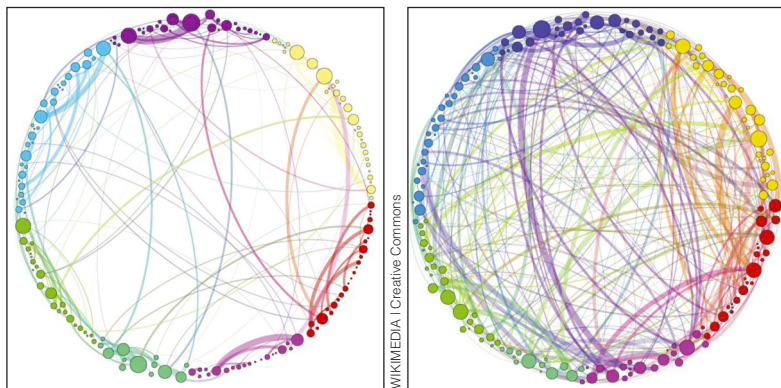
Most hallucinogens are bitter on the tongue and cause nausea and sometimes vomiting when the effects set in. They then alter consciousness. And, if the eyes are closed, can manifest incredible visions inside one's head. But that's not all, since it appears to be crucial how they are consumed, set and setting. Visions are far from some sure thing during a trip, if the ritual is not met. The Indians of Amazon take them at night around the village fire and they believe religiously in those visions. So, it appears that set and setting are crucial when using hallucinogens. And no drug men-



Rare photo of recreational use of a hallucinogenic mushroom by a fox.

tioned in this book even comes close to the importance of set and setting as psychedelics do.

They all have similar effect on the body and the main difference between them is the length of the trip and how intense it is. Those chemicals are extremely stimulating, but only on the brain. They increase brain function, alertness, and the production of a few hormones. They stimulate the central nervous system that typically results in widening of the pupils in the eye, a tingling feeling in the belly, and the feeling of being cold in the limbs, particularly in the toes and in the fingers.



Two pictures from Imperial Collage London. They show activity in the brain. On the left is a sober individual, on the right, on magic mushrooms.

Psychedelics are usually put into two groups. On the one hand, those chemicals that are of the indole ring and have a certain molecular structure and, on the other, are hallucinogens categorized in the same group as amphetamine and adrenaline. Let's start with the indole psychedelics.

## LSD

As said before, Albert Hofmann discovered LSD in 1938. The year before the Second World War.

Hofman had, in his second LSD trip, discovered knowledge that had been known among

'primitive' people for thousands of years. But there was a big difference. Indigenous people use tree bark, plants, mushrooms, and cacti. Natural drugs, as it were. LSD is 2,000 to 3,000 times the strength of the strongest of anything from nature. What this meant was that in one gram there were 10,000 doses. I'm well prepared to believe that a dollar sign was quite visible in the eye of the board of directors of Sandoz.

The drug was studied in the beginning as the belief was that it could be useful in the treatment of the mentally ill. But, of course,

it leaked how powerful this stuff was and how exciting, as the volunteers in the test told their friends how awesome the drug was. So, they begged the researchers for a sample for their friends to try. And it is indeed a very stingy person who is unwilling to part with a few molecules. In spite of the long time, eight to twelve hours, the trip takes, the use increased.

In the sixties the only LSD on the market was made by Sandoz. At the beginning of the seventies, illegally made LSD made its appearance on the black market and was very varied in quality. According to studies it is still not very good even if better equipment for production has inched the quality a bit upwards. Nevertheless, you don't really know what you are buying, when and if you buy on the street.

It may be because of the purity of LSD that the trips in the early days were rather pleasurable for most users. People talked about conversing with God, endless love

towards all living beings, and better understanding of themselves. People saw vivid colours, described the breathing of plants, saw energy fields around things, and saw intricate patterns in the surface of ordinary things. Stories like that were instrumental in generating curiosity about this new drug, primarily among young people searching for the meaning of life, and eager to try. And thus the use increased.

But not everyone enjoyed LSD. Some people had severe anxiety and panic attacks and under the influence behaved illogically and irresponsibly. Because of those fears about losing the mind those attacks led to permanent psychological troubles. Even if these cases were few and far between them, the media jumped on them and maintained the story that this new drug was a new menace that turned youngsters into psychopaths.

A bad trip is more likely if the drug is used in surroundings

and with people not qualified for cooperation. Particularly, with the first experience with the drug. But anyway, in about 1970 those bad trips were becoming rare, not because of less use, but because users learned how to do the drug. Smaller doses and the trips took place among friends and family in a relaxing environment. And with people who knew what to expect and how to react. Users had **learned** how to **use LSD responsibly**.

As stated earlier, LSD is made from a fungus that grows on various grains. This fungus produces a chemical called ergotamine ( $C_{33}H_{35}N_5O_5$ ).

In the old days farming and storage was a far cry from what it is today, a lot more primitive, and sometimes the season of harvest was damp and wet and the spores of the fungi sprouted and thus infected the whole lot of ergotamine. When the farmers then ate the bread or the porridge from the infested grain, the consequences could be devastat-

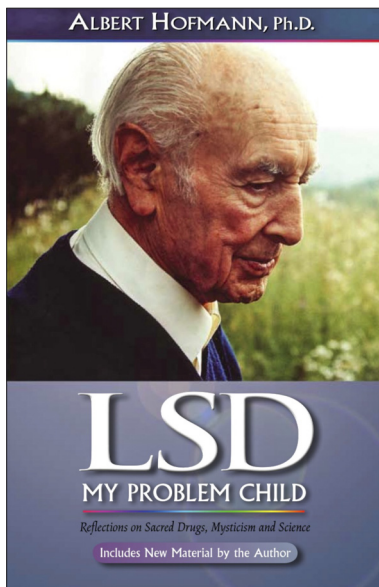


Albert Hofmann discovered LSD.

ing. People freaked out and that was called St Vitus's Dance. Maybe it was because the women handled the grain, baking, and cooking that more cases of women becoming infected of St Vitus's Dance are recorded. It is very understandable that the ill-informed and uneducated common man frowned, not least the authorities, both secular and ecclesiastical. The incidents of St Vitus's Dance were more common in Europe than in America but over there the reaction was singularly typically American. With

extra emphasis on quick fix, violence, and disrespectful attitude towards women. The peak of the battle against St Vitus's Dance was in Salem in New England just after 1660. History books call it The Salem witch trials and it's informative, horrible, and fascinating reading. Why don't you Google how many women were burned at the stake for witchcraft when all the symptoms described are accurate descriptions of ergotamine poisoning from polluted grain. It is interesting to note that according to records, the autumn and winter of 1692 and 1693 were particularly wet and damp in Massachusetts.

But there are a lot more chemicals in nature that work like ergotamine and LSD. **The Hawaiian baby wood rose** (*Argyrea nervosa*), the **San Pedro cacti** (*Echinopsis pachanoi*), and the Peyote plant, a succulent (*Lophophora williamsii*), are loaded with mescaline or a close relative. Even a species of a frog in the USA is loaded with Mescaline.



One of Albert Hofmann's books that he wrote in retirement about LSD.

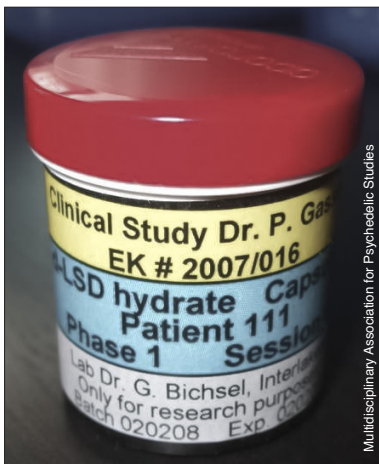
There is a certain aspect to psychedelics that is very interesting. That is that tolerance builds up quicker than the devil on a good day. That means if the user wants to take another trip just after the first one, he would need at least a double dose for the same effect. After heavy use for maybe four to five days, with ever increasing dosage, the chemicals stop working. To be



Blotter acid. The paper is swallowed.

able to get an identical trip, a week must pass between them. These drugs have a built-in safety valve. That means in the case of mushrooms, that you can eat them until your belly is full.

A curious thing about psychedelic mushrooms is that they seem to follow humans and they are generally stronger in the city than in the wild. They are often found on traffic islands and near car parks where they can grow. They are, however, not as safe as those found in the wild. That is because mushrooms are quite diligent in absorbing stuff from their surroundings and there is a lot of lead pollution coming from the exhaust pipes of cars where they grow close to traffic.



Multidisciplinary Association for Psychedelic Studies

From the early days of studies.

You could get it wholesale.

Then there is the *Ipomoea* family and *Ipomoea tricolor* is the one probably best known but its seeds contain **LSA** (*d*-lysergic acid amide). There was a mix up of some kind as Albert Hofman, the discoverer of LSD, mistook *I. tricolor* as *I. violacea*. The seeds are very hard and the LSA content is so low that one would have to grind them and eat a lot. They seem to be slightly poisonous and it's quite common that ingesting them causes nausea and vomiting and other un-



*Claviceps purpurea* grows on grain and is fairly common. To the right, the fruiting body of the mushroom wherein ergotamine is produced.

desirable side effects. Because of that their popularity is very low and they are not used unless nothing else is available.

### Psilocybin

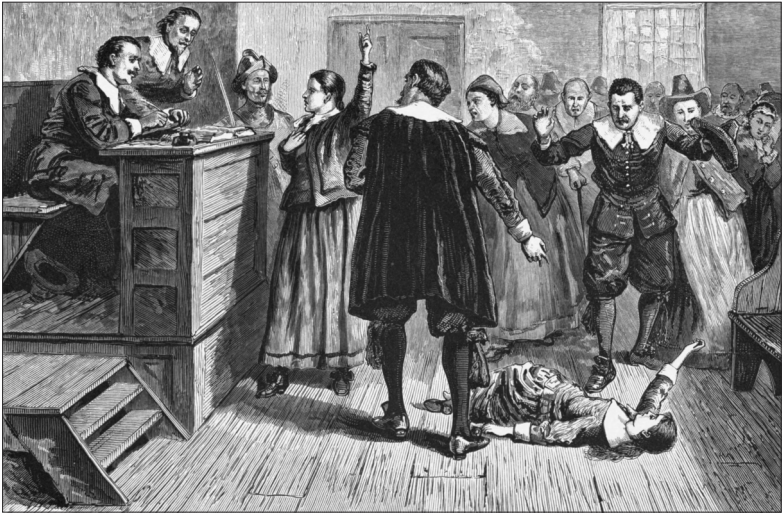
Artefacts from excavations indicate that these mushrooms have been in use by humans for thousands of years and have had a prominent role in religious ceremonies. Not only in Central and South America but also in the Middle East and the Far East.

Up until quite recently they were only used recreationally in the West but that is about to change, and I think the change will be quite rapid. Research by the scientific community has discovered how beneficial they are

for patients with various ailments. Mostly mental issues and fear of death.

It was the married couple *Robert Gordon* and *Valentina Wasson* who spread the knowledge about those little mushrooms in the West. That they did in an article in *Life* magazine in 1957.

The mushrooms work similar to LSD, but the trips are somewhat shorter, lasting only four to six hours. For a time, pharmaceutical companies in Switzerland manufactured pure psilocybin that researchers could obtain, but of course some of it ended up on the street. Production is beginning to increase after years of almost no production at all. However, producing them is fairly expensive.



Trial during the The Salem witch trials in Massachusetts 1693. A young woman is on trial fighting for her life because of ignorance.

But the mushroom, which is a fundamental organism on Earth, doesn't mind and keeps on growing and there is nothing the authorities can do about it. On top of that many species are easily homegrown and information and spore prints or grow-kits are available online.

Whether you are using homegrown or wild mushrooms, you should proceed with caution and don't use something if you are not 100 per cent certain

what it is. That being said, keep in mind that a lot of misinformation about mushrooms has been spread on the unsuspecting public over the years. Even the fly agaric (*Amanita muscaria*) doesn't seem to be quite as dangerous and deadly as claimed and ample cases are to be found on YouTube about people using it, albeit with certain precaution. Besides the fly agaric is very pretty in Christmas decorations.





Forest &amp; Kim Sfair

Hawaiian baby woodrose top.

San Pedro cacti below.



Magic mushrooms are probably the least dangerous psychedelic and least damaging of all drugs, physically and mentally. Of course, you could end up in a bad trip but the risk of one is negligible. And the afterglow can be spectacular.



*Ipomoea tricolor*, Heavenly Blue.

## Ibogaine

Ibogaine ( $C_{20}H_{26}N_2O$ ) is one of a few that comes from Africa and Ibogaine is perfectly legal in many countries, like, for example, Canada and Mexico. Now here is a powerful hallucinogen and its effects last even longer than the effects from LSD. It is also more stimulating than LSD. Where it comes from, it is used in dancing ceremonies where the members



Photo by Pretty Druggings on Unsplash

Liberty Cap, *Psilocybe semilanceata*, one of several Psilocybin mushroom.

of the tribe dance and chant all through the night and continue well into the day after until the effects wear off. Then a deep sleep commences.

The chemical has been tried in the West to cure addiction, but the results are debatable. When one reads about this particular drug one quickly forms the opinion that it is less than ideal for fun. So, if you'll ever want to try

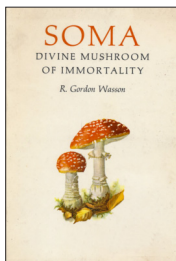
Ibogaine you should reserve at least **twenty-four hours** for your trip.

### DMT/Dimethyltryptamine

This is an odd one as it is very close in structure to one of the hormones produced by the brain. It has been speculated that we produce it ourselves in minute quantities. DMT ( $C_{12}H_{16}N_2$ ) is quite common and is found both



Robert Gordon Wasson.



Wasson's book SOMA and the magazine cover of Life from may 1957.

in plants and animals and, supposedly, it's easy and cheap to produce it. Another thing that differs is that it doesn't work if taken by mouth. The digestive system metabolites it quickly making it inert before it has a chance of entering the bloodstream. Indigenous people make it into powders that are then snorted or blown into the nose. It can also be smoked, and there have been instances of some unscrupulous people mixing it with parsley and selling it as cannabis.

It is most often brown and smells a bit like moth balls. Users put a minute amount on the business end of a cigarette and light up. Sometimes one drag is enough to get a user on a five to ten minute trip. The effects set in extremely fast and it's not uncommon for the user to still have the cigarette in his mouth. The fans of DMT claim that it is the only true hallucinogen. It goes without saying that such a fast-acting drug can make the experience somewhat scary for those unprepared. DMT has also been termed the **God molecule**.

The effects are short lived and, after about fifteen minutes, the user is their old familiar self. Because of the short-acting proper-



Quite photogenic, the small devils, *Psilocybe semilanceata* or Liberty cap.

One of the strongest of the genus.

ties the drug is sometimes referred to as the the businessman's trip. That is supposedly because the stockbrokers of Wall Street are known to take a trip during their lunch break. DMT is closely related to serotonin and melatonin in the brain.

The main danger of using is to crave the feeling that comes when the effects set in. Supposedly it is of such grandeur. On the other hand, the body quickly develops a high tolerance and then it stops **working**. And this feature of the

psychedelics is common to them all. That is the reason that users who like them use them sparingly and only on special occasions, most of them. If you try DMT, take care not to take a bigger dose than about 50 mg. Even if it's not really dangerous, bigger doses can cause unpleasant surprises and unpleasant effects. The drawback is that you will not know about all this unpleasantness until after the trip. So stick to **50 mg**. That is considered a safe dose for most people.



Ibogaine, *Tabernanthe iboga*.

### Yagé/Ayahuasca

Yagé is a somewhat strange brew made in South America. Among ingredients is a plant by the name of *Banisteriopsis caapi*, which is a climbing vine. It contains the chemicals *harmaline* ( $C_{13}H_{14}N_2O$ ) and *harmine* ( $C_{13}H_{12}N_2O$ ). This brew has gained popularity in recent years under the name **ayahuasca** and this increased popularity has resulted in several **retreats** being established in South and Central America to worship this plant.



Natives in Brazil smoke a hallucinogen.

Often a leaf from another genus of plants is added to the drink. This second plant is of the genus *Psychotria* and often contains DMT. Research demonstrated that *harmaline* turns off the catalyst that metabolizes the DMT in the digestive system. It seems there is some vomiting and diarrhoea during use. Some prominent figures in the scientific community, like *Dr Gabor Maté*, have devoted time to studying ayahuasca.

### Mescaline and Peyote

The **peyote** cactus (*Lophophora williamsii*) contains a few alkaloids and the strongest one is **mescaline** ( $C_{11}H_{17}NO_3$ ).

Since the natural habitat of the



DMT crystals in a jar where they are being produced.



*Banisteriopsis caapi* in a botanical garden.

cacti is in Mexico and South USA, its use was restricted to indigenous people of those areas and archeologists suggest that its use spans thousands of years.

When the Spanish conquistadors came to Mexico they were quick in observing the use and even quicker to eradicate it with all available methods, some extremely brutal. The Spaniard regarded the use diabolical. But the use spread further north among the American Indians, all the way to Canada. Among those people the cactus is never used recreationally

but strictly for healing and in religious ceremonies. Peyote is fundamental in the doctrine of *The Native American Church*, which is the religion of the indigenous people of North America.

When the psychedelic revolution started the government did their utmost to eradicate it and the peyote cacti fell into the group the authorities wanted to ban. Stories were circulated that users went crazy and it is striking that those stories have all been used before, against LSD, cannabis, heroin, cocaine, and

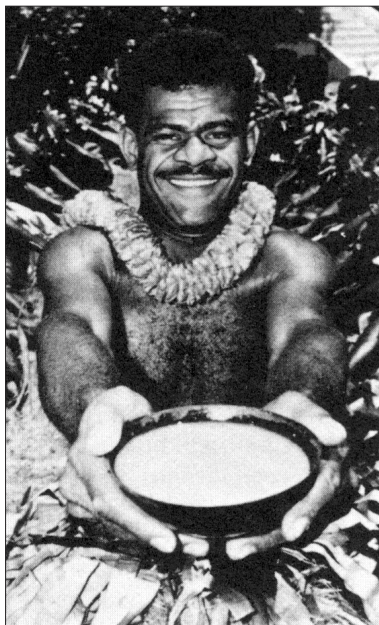
PCP. When investigated, it was discovered that in almost all cases the stories were false.

Peyote is bitter tasting and causes nausea, which rather quickly is forgotten as the effects set in. The usual dose is six to twelve 'buttons' of cacti, depending on size, and the trip can last for up to twelve hours. Synthetic mescaline is gentler on the digestive system and there is less nausea and vomiting. As it is currently more expensive to produce mescaline than LSD, it has been revealed that the mescaline on the street is in most cases some white powder mixed with something cheaper, like LSD.

### STP and MDA

Fortunately, these drugs are more or less off the market, but STP, which is the drug with the long name – *2,5-Dimethoxy-4-methylamphetamine* ( $C_{12}H_{19}NO_2$ ) – is a synthetic drug and closely resembles mescaline in its chemical structure.

The trips last for twelve hours



Indigenous man of a South Sea Island offers a bowl of milky white kava.

and soon after STP hit the market, stories started circulating about it as a 'bad trip substance' so pretty soon it lost its appeal. The thought today is that those bad trips were caused by overdoses as in some instances the drug confiscated was twenty times stronger than the normal or ideal dose.

**MDA**, *3,4-methylenedioxyamphetamine*, which is a chemical



Peyote in the wild. A red fruit with seeds is visible on the lower one.



The flowers of the Peyote are very beautiful.

derivative of the amphetamine molecule has the chemical formula ( $C_{10}H_{13}NO_2$ ) and was made in Germany in 1910. In rather small doses, 100–150 mg, it produces euphoria. It has been termed ‘the love drug’ since it generates loving feelings to everybody and everything. Unlike mescaline it rarely causes hallucinations. Its effects last for ten to twelve hours.

Another derivative, very similar is MDMA and it was discussed before.

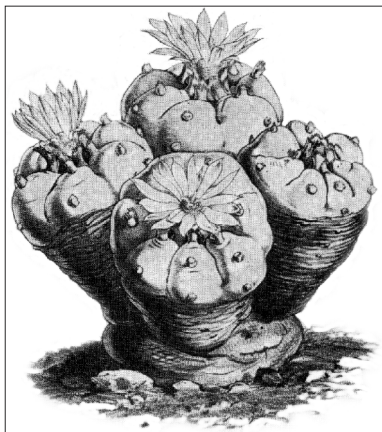
### **Risks and Benefits of Psychedelics**

About the only risk of hallucino-

gens or psychedelics is the risk of a bad trip. Bad trips are primarily caused by too big a dose or bad set and setting. Or both.

What users need to keep in mind at all times regarding psychedelics when buying, is that as there is no legal production of these drugs; the buyer can’t be sure what they are buying in most cases. Powder, capsules, and pills fall into this category. Only when a user buys weed, ‘shrooms, or cacti the chances are that they are getting the real thing. As too high a dose is the greatest risk of a bad experience, the user is hard put to decide what to buy when dealing with a street vendor.





Old drawing of a Peyote. The seeds are rather heavy so they don't really disperse, therefore the succulent grows in clusters.



Peyote ceremony of the Native American Church. Members of the church are the only legal users of Peyote in the USA.

Psychedelics don't always produce visions or altered state of consciousness. As stated before, set and setting is never more important than as when using psychedelics. A good set and setting can make the crucial difference between a good or bad experience. So, if you want to use a psychedelic, take extra care with whom you do it and when and where you take the drug. And never do it alone until you are a veteran with a vast experience of psychedelics.

As psychedelics are strong and powerful stuff with profound effects on one's senses, they don't go all that well with the daily routine. The effects last for some time so you'll need to take that into account. That may be one of the reasons their abuse is extremely rare. It doesn't alter the fact that psychedelics make the user feel far from what is normal or everyday life.

Some who have used psychedelics fear the so called **flashbacks**. Science tells us that this fear is a bigger problem than the



STP crystals.



MDA confiscated by the Queensland police.

actual flashbacks. It has emerged that such flashbacks are just as common among people who have never used a psychedelic in their life. Some users claim that they keep on working subliminally for months. Which seem to be confirmed by the seeming effects of micro dosing psychedelics.

There is considerable writing available on psychedelics. Both from the scientific community and amateurs about the pros and cons of them. Sure, there are a lot of arguments, which is no wonder as in many countries they are so legally restricted that a complete ban on studying them is enforced. However, those restrictions are gradually being lifted and scientists are now studying if they

could be useful for treatment of patients. Especially in the field of psychology and psychiatry. *Imperial Collage* in the UK and *Stanford* in the US are at the forefront of those studies. So far those studies are very, very promising.

### A Few Words of Warning

11. Try to find out where the drug comes from. Then you can better determine if it's fake or not.
2. Don't try to pick psilocybin mushrooms unless absolutely sure you can identify them.
3. Homegrown mushrooms can vary greatly in strength.
4. Don't trip unless you are in a good shape physically and mentally.
5. If trying for the first time, don't



MDMA Crystals.

- do it alone. Do it with someone you know and trust and has some experience of psychedelics.
6. Don't mix psychedelics with other drugs except maybe coffee and weed. But be aware that doing weed in combination with mushrooms will intensify the effect of both.
7. Use psychedelics sparingly. Put them in the same category as Christmas. Seldom.
8. Don't do psychedelics with a full stomach. Less risk of nausea.
9. Remember that psychedelics change the way you perceive things and how you think and how you see things. So, don't drive, fly, or sail.
10. Take psychedelics through the mouth. Less risk of adverse effects.
11. The best experience of psychedelics is the one reserved just for the occasion under the right circumstances. To use them just because they are available does not apply.
12. Use psychedelics with respect and reverence. They are a lot

older than you and have been on Earth for at least 1,700 million years. So, do them with a certain degree of humility and dignity.

### Solvents, Deliriants and Then Some

The following drugs are a strange assortment of chemicals that can be used to get high and can't really be categorized with other mediums used for that purpose. What they have in common is that they are carbon-based chemically. Quite a few of them are much more poisonous than many of the drugs mentioned before. Some of them are extremely dangerous, particularly the first group.

#### Organic Solvents

Once in a while we see stories in the media about the great dangers of solvents and, for a change, the stories may be true. This group is very varied in how they are used. Mostly they are used for cleaning and sterilization and

as additives to cleaning mediums. More often than not they are very volatile, which means they evaporate quickly into the atmosphere, even at low temperatures. The best known and most used are *benzene*, *diethyl ether*, *chloroform*, *ethyl acetate*, *acetone*, and *isopropanol*. Also *propanol*, *ethanol*, *methanol*, and *acetic acid*. They all have in common that their chemical formula is long and complex. They are also, most of them, surplus from the production of other materials like fossil fuel, for example.

But how dangerous are they really?

Well, most of them are extremely **flammable** and **explosive**. Some can cause self-ignition of fire – for example, if a rag soaked in the chemical is left somewhere without good ventilation. They can be very hazardous to one's health and can cause cancer; damage the nervous system, reproductive organs, the liver, the kidneys, and the lungs; and are inflammatory to the skin.

Some of them are stored under pressure so be extra careful. They can be released into rubber or silicon balloons for use, but they are best left entirely alone and only used for what they are intended. They **can** cause unconsciousness and **fry your brain**. And that is **no joke**.

It should be pointed out to parents that solvents are sometimes the first experience of chemicals that their kids have. In accordance to what one reads about those chemicals it's a wonder how rare accidents are. Most kids who experiment sniffing glue or polish stop it as soon as they discover some other drugs to get high, mostly alcohol and cannabis that seems easy for kids to obtain. Tolerance builds rapidly.

It is maintained that solvents destroy the brain, the heart, the liver, and the bone marrow, and can cause blindness and death.

Cases like that are for sure documented but those cases usually are of people who have worked a large part of their life in



Example of a solvent that youngsters can and have used to alter consciousness.

factories where either the stuff is made or used heavily and have inhaled them in large quantities for a long time.

However, there are also cases of minors sniffing from plastic bags, losing consciousness, and having damage to the brain because of lack of oxygen

According to studies, most users are ten to seventeen years of age.

### **Amyl nitrite**

**Amyl nitrite** ( $C_5H_{11}NO_2$ ) should not be mistaken for *Amyl nitrate*, which is mainly used to enhance the burning and ignition of die-

sel fuel. Amyl nitrite, on the other hand, is used as an antidote to cyanide poisoning and in solvents for cleaning. It is used in nail polish remover and in ventilation systems. It has been used for more than a century for pain in the heart as it reduces the pain, expands the arteries, and lowers blood pressure.

But that is not the only use. Amyl nitrite is also used as a 'popper' when the chemical is sniffed for its mind-affecting effects. Back in the days when the acquired immune deficiency syndrome (AIDS) epidemic was beginning, it was maintained that Amyl nitrite was the cause of the epidemic since the stuff was popular among the infected homosexuals in Baltimore and the Washington area who used it. It has been shown to benefit those with the heart disease angina pectoris. Please note that used in other way than inhalant it can be fatal. It also damages the cornea of the eye if it finds its way into the eye for some reason.

It supposedly enhances the pleasure of sex and that's why its use spread. It is legal in places and sold in small glass ampules and the name on the street comes from the sound when the glass is broken. It can be ordered online and in some countries one can buy it in sex shops.

Amyl nitrite is not more harmful than some other drugs that are completely legal and probably not as harmful as many others. There are, however, confirmed cases that the chemical can be **detrimental to eyesight** if use is heavy.

### **Few Words of Warning about Solvents**

1. Solvents are **extremely** flammable. Never use them near open fire or anything that can ignite them.
2. There have been fatal accidents where someone has put their head inside a plastic bag for sniffing even a small dose of solvents.
3. Never use them while driving or operating machines.

4. If sniffing, go outside when you come down to cleanse the system with clean air.
5. Don't sniff in combination with alcohol or other drugs.
6. If there is a story of problems of the liver in the family, don't sniff solvents. Any solvent.
7. Regular sniffing is a quick forming habit. If you find yourself in those shoes, seek professional help.
8. Keep in mind that people experienced with hallucinogens consider solvents second class.
9. **Amyl, butyl, and isobutyl nitrite** are not as poisonous as organic solvents and not nearly as flammable. Sniff in well-ventilated surroundings and take breaks.
10. Only sniff while sitting or lying down in a comfortable position.
11. Take extreme care **not to get liquid nitrite in the eyes.**

### Deliriants

Deliriants are a group of drugs that really make you insane for a



Amyl nitrite in consumer packaging.

while. Deliriants are hallucinogenic and their popularity is rapidly dwindling as the effects are unpleasant, furious, and violent. The majority of those who try them have one thing in common: they never do it again. There are very few people who actually use them and those who do might possibly be insane anyway. Deliriants have chemicals like *atropine*, *scopolamine*, and *hyoscyamine*. These chemicals are mainly found in plants that are grown in some gardens or as

houseplants, and are what gives the effects. Some of them have, or had, medical use. One of those plants is *Jimson weed*.

### **Jimson Weed** (*Datura stramonium*)

I bought Jimson weed more than forty years ago in a nursery as I found the plant pretty – the leaves, stature, and not least because of those white, large hanging flowers. It was a very self-sufficient plant and the requirements regarding soil and water were slight. After flowering it formed spiked seedpods that were pretty as well and thus lived on as the seed were numerous. When I moved to a house with a small greenhouse I put it there and it did extremely well for two years and was growing into the shrub that it is in nature but then a degree or two of frost one night in the greenhouse killed it. I still miss my *Datura*.

Even though I came across its name once in a while I never dreamt of trying it. Same as I wouldn't use the other plants of

the ilk used in magic in the dark Middle Ages. The *Datura* is a close relative of some crops like potatoes, sweet pepper, the eggplant, and the tomato plant. I read about an experiment once where a tomato plant was grafted onto a root of a *Datura*. It is probably the only case ever of hallucinogenic tomatoes if true. The leaves of the *Datura* was used in medicine at the beginning of the twentieth century for asthma patients.

Now, consider this: asthma patients were told by doctors to smoke the leaves. I kid you not. **Asthma patients were told to smoke!**

Anyway, the plant contains the chemical **scopolamine** ( $C_{17}H_{21}NO_4$ ) that makes the user delirious and frenzy. The highest concentration of the chemical is in the seeds, lowest in the roots. The plant can be smoked, made into tea, eaten as is, or mixed with fat and spread on the skin for absorption. It will all work.

The physical effects are im-



pressive and frequently very unpleasant. Bone **dry mouth** and **thirst** like one has seldom known. The skin feels as if burning and there is a feeling of fever. Extremely **open pupils**, making it downright hurtful to be about in the daylight. **Impossible to focus** on nearby objects, heavy heart-beat, constipation, trouble peeing, and interruption of orgasm by males. These effects have been known to last up to forty hours, although twelve is the norm.

The effects on the mind are just as grand: **agitation, deprivation of senses**, and other symptoms of frenzy. Then there are the visions or hallucinations that feel so real that the user is completely without touch with reality. Also, scopolamine usually impairs the memory to some degree. The experience is mostly inaccessible to the user when the effects have worn off.

It's entirely possible that it's exciting to get acquainted with 'other worlds' but the world that the Datura offers is in the majority



Jimson weed, *Datura stramonium*.

of cases **frightening**, full of **monsters** and **demons**, and full to the brim of **violent energy** that often leads to violence. No wonder the plant was used in sorcery in the old days. So if I were you, I'd leave the Datura alone, even though Scopolamine is still used in seasickness Band-Aids.

### The Fly Agaric

The fly agaric, *Amanita muscaria*, is quite common and grows in many countries. It is a cohabitant of a few species of trees and is found on the roots of every birch



Jimson weed is quite pretty and in the wild the plant grows into a small bush.

tree there is. In the fly agaric one finds *muscarine* ( $C_9H_{20}NO_2+$ ), *muscimole* ( $C_4H_6N_2O_2$ ), and *ibotenic acid* ( $C_5H_6N_2O_4$ ) as well as a few other chemicals but the three mentioned are what generates the effect of the mushroom.

The fly agaric has a long history of use. It was used in religious ceremonies in Siberia in ancient times and there are reports of similar use in Bulgaria and Romania. Oldest written references in the West are in *De vegetabilibus* (Treatise on Plants) by *Albertus Magnus* in about 1256. *R. Gordon Wasson* speculated that the fly agaric could be the same as **soma** in the *Rig Veda* writings of India.

This speculation has gained more following since it was published in *Wasson's* book, *Soma: Divine mushroom of immortality*, in 1968.

In eastern Siberia, the Shaman ate the mushroom and other participants in the ceremony then drank his urine. The urine could have been somewhat stronger than the mushroom as the body changes the effective ingredients and the user thereby would be rid of the poisonous effects such as sweating and twitching. This suggests that the human body acts as a filter when ingested. There are also sources that when the mushroom was not in season, it was so expen-

sive that the price of a camel was paid for it.

What is risky regarding the fly agaric is the question of dose. Research has demonstrated that the difference in strength is enormous. Where it grows and the time of year it grows makes a huge difference, it seems.

**Fatal dose** has been estimated at fifteen mushrooms, and there are confirmed cases of death from ingestion. However, those cases are of children, and it has been *speculated* that it's equally possible they are because of wrong treatment since the medical profession does not have extensive knowledge about amanita poisoning. In modern times this would indeed be a freakish accident, as knowledge about the fly agaric and its effects is readily available. One only has to ask Google or go to YouTube to learn a lot about the fly agaric. I personally would recommend the talks by *Paul Stamets* who probably knows more about psychedelic mushrooms than anybody at this time. There

are also some very colourful talks on YouTube where people describe their use of *Amanita muscaria*.

### Few Words of Warning

1. Deliriant unplug rational thinking. A mad person who does anything else but lie still in a safe environment is a recipe for disaster.
2. Never, ever use deliriant when alone. Make sure you have someone **stone cold sober** to look after you.
3. Do not experiment with the fly agaric unless you make sure to get good advice before you start – someone with a knowledge of the particular mushroom you are about to use.
4. If you want to experiment with *Datura* **use the root**. Not the leaves or the seeds. And as with other chemicals, use small doses.

### PCP and Ketamine

There are two other drugs I feel I should mention as they are sometimes used recreationally.



One can only speculate why the Fly agaric, *Amanita muscaria*, is used in Christmas decorations, pretty though it is.

Those drugs are synthetic, and they are very different from all other drugs. So different that one is hard put to categorize them. Somehow they don't belong anywhere.

## PCP

**Phencyclidine, PCP** ( $C_{17}H_{25}N$ ) was invented in 1926 and is often referred to as '*Angel dust*'. It was marketed in 1963 as an analgesic in surgery. Its reputation diminished when reports began to emerge about very unpleasant side effects. Two years later it was no longer used for humans but two years later, it was marketed again, but this time around for animals. The animals are

unable to complain about terrible side effects.

At this time, it began to appear on the black market in the USA. It was both easy and cheap to produce and the dealers got away with selling it as some other more popular and expensive drug. It was powerful and the high for the user was substantial. It can be smoked or sniffed and it is water soluble and can be injected.

Regardless of how it is administered, the effects are **severe**. PCP causes **anesthesia** for pain perception in the brain and a kind of rubbery feeling in the legs along with incoordination of movements. It may also cause

dizziness, nausea, profound sweating, and very strange movements of the eyes.

The mental effects are similarly varied and frequently there is a feeling of being out of sync with the body, confusion and illogicality, and the sense of time is distorted. Aphasia is known to happen, vacant staring eyes and somewhat mechanical movements. Rigid muscles, panic, agitation and paranoia. Too high a dose can cause **seizures** and **coma**. If smoked, the effects last for four to six hours. If used orally, the effects are milder but last longer.

It has been maintained that PCP causes crimes, but it is more likely that social conditions are cruel and violent where it is most in use.

Whatever the case, the media jumped on PCP and started the old song about a new drug menace. As of yet, no direct evidence is that PCP makes people more violent than alcohol. But, of course, there are cases where violence and even murder has been committed while on PCP, but it

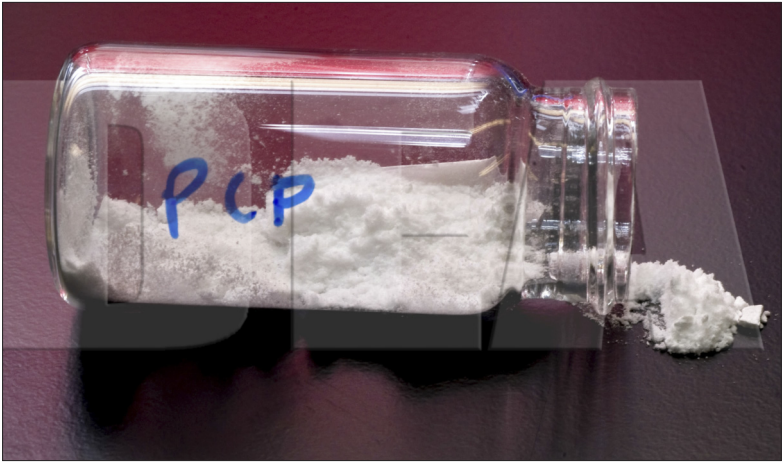
has been pointed out that murder and mayhem is a part of life where most of the users live. It is also true that very large doses of the drug make the user agitated and unpredictable but criminal tendencies are most likely individualistic, not the effect of a drug.

The main argument against using PCP is that this is not a fun or exciting drug. The effects are not exciting or interesting and are, in fact, undesirable.

### **Ketamine**

**Ketamine** ( $C_{13}H_{16}C_1NO$ ) is a curious one. It is only included as it is very descriptive in terms of how it is covered in the media and by whom it is used.

It works not unlike PCP and the effects are similar. But what differs is which group of users use the drug. There is another curious difference. If about one-tenth of a recommended dose, 10 mg instead of 100 mg, is taken, it works radically different. In such small doses it works similar to mescaline or LSD for forty-



Phencyclidine PCP, as powder and pills. The pictures are from the DEA, Drug Enforcement Administration.

five minutes to an hour. The users have to lie still, and the experience is supposedly very spiritual, peaceful, and beautiful. It is still in use today in medicine, mostly for anesthesia for children. It is completely safe, works quickly in the correct doses for a short time, and the repercussions are none.

But who uses ketamine? Except Alfred Hitchcock in the film *Family Plot*. And why is it hardly ever mentioned in the media?



Now, this is a question well worth asking. The reason is because the users mostly come from the upper echelon of society. Usually they are highly educated and well off financially, from the medical sector, and they, and their friends, have the knowledge to use it safely and

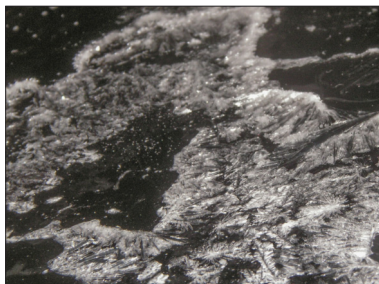
responsibly as the drug is easily obtained as it is completely legal. So those users can get a legally produced, medically pure drug and have the knowledge for responsible usage. Not least how big a dosage, since too large a dose can make unpleasant trips.

This is what I mean about the difference in coverage in the media. If one compares the coverage about PCP and ketamine, one inevitably concludes that what the media says about drugs is, more often than not, a lot of bull. The media painted a very bleak picture of PCP and termed it as a diabolical drug and blamed almost everything they could find wrong in the world on it for no other reason but who the users were. Angry and desperate teenagers in the slums with poverty ahead.

Ketamine, on the other hand, is used by well-off, mature, professionals in good social standing.

### General facts

- Remember you can use ketamine orally. It is not necessary to



Ketamine crystals and liquid for injection. It has a bad reputation as a drug used by sexual predators.



inject it. As with most drugs, orally is safer.

- Don't mix PCP with other drugs. That means any drug or chemical.
- If using PCP, avoid large doses.
- If, in the unlikely event, someone offers ketamine to you, keep in mind that it works very similarly to PCP.

## Cons

- Try to avoid taking PCP accidentally. Joints that taste funny and strange and effects that you don't recognize as normal may indicate PCP on parsley.
- PCP distorts perception, so don't drive or operate machinery.
- As PCP can cause anxiety and agitation and make expression more difficult, it's idiotic to use it in circumstances and/or with someone that could add to potential problems of use.
- If you use fairly regularly and notice loss of memory and difficulties remembering, reduce use or stop completely.

## Rohypnol

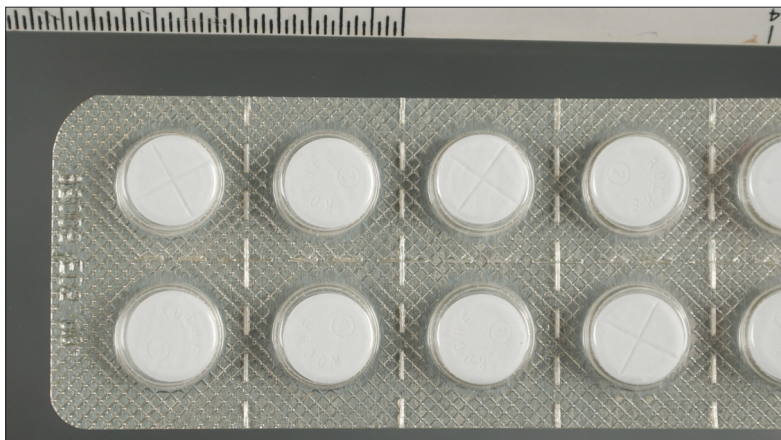
**Flunitrazepam** ( $C_{16}H_{12}FN_3O_3$ ) as is the given name for this drug, was invented in 1972, so it's relatively new on the market. It was marketed as a sleeping medication for extreme cases of insomnia. Sort of like a last resort when everything else had failed. This category of drugs, *benzodia-*

*zepine*, includes many famous and powerful drugs and the most famous, besides *Rohypnol*<sup>®</sup>, are probably *diazepam* or *Valium*<sup>®</sup>.

I can't imagine that anyone would use Rohypnol recreationally as its effects are primarily **amnesia** and **drowsiness**, even **sleep**. It's idiotic to imagine taking it for fun and not remember any of it when the effects wear off. The only time I, personally, have tried Rohypnol was just before a major surgery at the hospital. I was given a pill about an hour before the surgery. In short, I don't remember shit until I woke up in the intensive care unit (ICU) after being cut nearly in two parts and stapled back together. I'm not even sure I want to. So obviously it worked like promised.

But that is precisely why it is used. This feature of it causing amnesia. That is why it is used as a **rape drug** after spiking someone's drink. Just recently science has found a method of finding Rohypnol in the body later than was possible before. It





The infamous drug Rohypnol®. Steps have been taken by its producers to curb adverse use by making the pills very hard and by putting some colouring into them so if put in a drink it will change its colour.

used to be that Rohypnol was not to be found in the body, and even hair, later than seventy-two hours after administration and even those results were unreliable and expensive as the drug metabolizes quickly from the body. That is why it's very important for individuals that have the **slightest suspicion** of being **abused sexually** to go to a facility and have a urine sample taken.

It has been tried to put colouring in the drug so if put into a drink, it turns green. The har-

ness of the pills have also been increased so they don't dissolve unless heated.

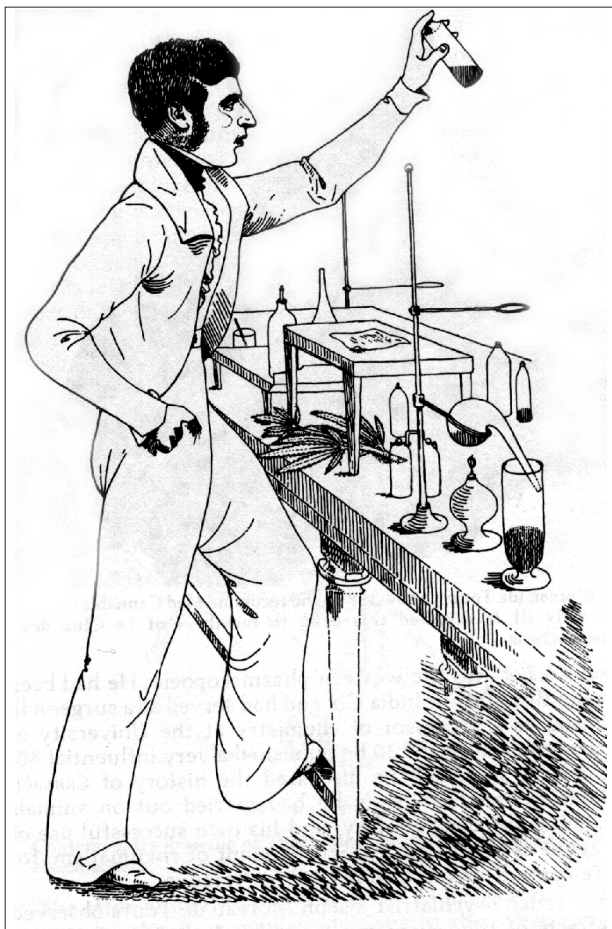
Rohypnol, in my opinion, is a messy medicine unless used for what it was intended and when administered in medical establishments under the supervision of a doctor. It is strong and there is only 1 mg per pill. It's easy to take a fatal dose, and it is used for suicide as a study from Sweden confirmed where it said that in the year 2000, it was used in about 16 per cent of suicides.



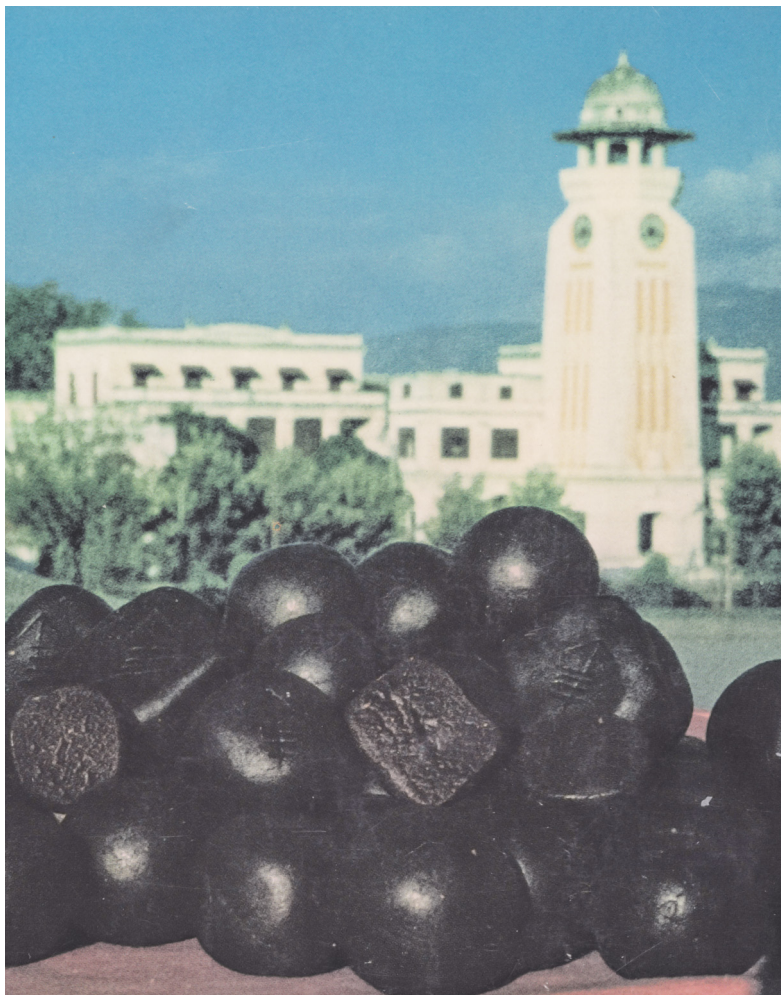
Factory made Gamma-Hydroxybutyric acid.

**gamma-Hydroxybutyric Acid** gamma-Hydroxybutyric acid ( $C_4H_8O_3$ ) is found in the body in the central nervous system in very minute doses in nearly all mammals and is marketed as anesthetic. If used in combination with alcohol it can be very hazardous. It's usually produced as powder, and it is very cheap and easy to produce. That's why, in most cases, it's produced in someone's kitchen and not in illegal factories. It metabolizes very quickly and is difficult to

find in the body eight to twelve hours after use, except in hair. It has a long history of use as a rape drug, and it's possibly the most used of the rape drugs. The only reason those drugs are mentioned here is to warn people as, according to the media, they are being used for this despicable purpose of rape, by losers who nobody would look at twice. So, I repeat, **have a urine sample or sample of hair taken at the slightest suspicion of sexual abuse.**



William B. O'Shaugnessy at the Medical University of Calcutta was the first of Western scientists to study cannabis and its effects on humans. His findings were used in the report of The Indian Hemp Commission in 1894. The report is so thorough that since its publication, studies have done little more than to verify the findings of the commission. Yet, more than a century has passed and equipment and research methods are a lot more accurate and sophisticated.



The cover of *The Great Books of Hashish Vol. I Book I* by Laurence Cherniak shows Royal Nepalese Temple balls which is the most famous hashish in the world. Legend has it that the users never come down again and are permanently changed after use.

My experience is that this is a myth. It will get users royally stoned though.

## Chapter 5

### Mild Intoxicant

The reason that cannabis has a special chapter is that the drug is special among psychoactive drugs and is, well ... unique. On top of that the attitudes and opinions of it are changing, and it's legal status is changing. One is justified in wondering how fast this development will be.

The chemicals in cannabis are not water soluble like most of the drugs already mentioned. They are, however, soluble in fat, oils, and alcohol. This feature leads to thawt their uptake in the digestive tracts can vary somewhat and they build-up in the fatty tissues of the body. There they can stay for several weeks after use. And they will show up in urine drug tests all those weeks.

Cannabis is a very old medicine and has been used in the Old World since before history began. Archeological evidence from Western China shows it



Hemp, *Cannabis sativa*.

was in use 2,500 years ago and, according to Wikipedia, '[a]n archeological site in the Oki Islands near Japan contained cannabis achenes from about 8000 BC'.

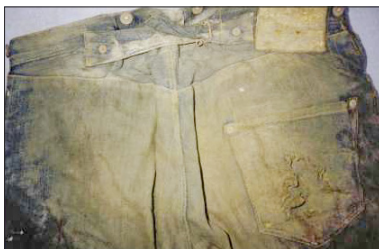
The hemp plant (*Cannabis sativa*) has been in use in many different roles – as a source of fibre, grain, and oils, and as a medicine. Now, this is quite a lot in one plant, but it explains its value as a crop. The fibres of the



Canadian money, printed on hemp paper.

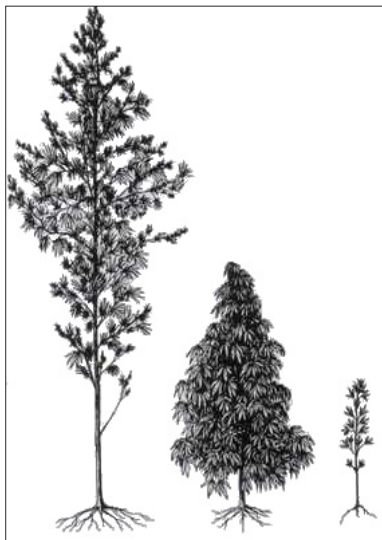
hemp are, for example, one of the longest plant fibres known and very durable. They are also extremely valuable – including in the paper-making industry, and thereby the paper made from hemp. Because of that, it is used in fine bibles and banknotes. Hemp clothing is very durable, and the first Levi's® were made from hemp, not cotton as they are today. In recent years, Levi's® has introduced clothes made from hemp as they have developed a method of making hemp feel like cotton.

The hemp plant is most likely originally from Central Asia but has for such a long time



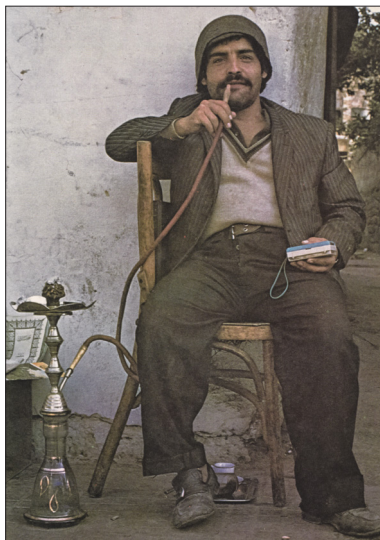
The oldest Levi's known are made from hemp cloth.

been intertwined in the history of man that it's doubtful it can be found as an original in the wild except in some remote valleys of *Nepal* or *Tibet*. It is argued that there are three varieties of hemp in existence, *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis*, and their



Sativa, indica and ruderalis. There is considerable difference in appearance.

appearance is somewhat different. An experiment was made, and this experiment revealed that hemp that grew one way in Italy grew very differently in Canada. When seed taken in Canada were brought back to Italy, the plant returned to its former shape. Instead of debating and arguing, my view is that genome studies would settle the issue of strains once and for all.



A Lebanese farmer relaxing with his hookah or water pipe and his radio.

Whatever the case might be, there are a number of people who regard the hemp as a mild hallucinogen, but its effects are radically different from those drugs that rightly one would call hallucinogenic or psychedelic. Drugs like LSD, mescaline, or magic mushrooms and the effects of the hemp plant do not necessarily have to be remotely mild. On top of that the risk of abuse is a lot greater than abuse of real psyc-



Left, *C. ruderalis* in an Amsterdam garden. Right workers in Africa relaxing.

hedelics. That's because hemp can be used frequently and in excess in daily life. Users are very apt at making it through the day, high, keeping in mind that practice makes perfect.

Smoking hemp was probably brought to the Western Hemisphere with black slaves in Brazil. From there it spread north to Mexico and eventually to the USA where it took off after the First World War – mostly by immigrants and migrant workers from South America, smoking with the coloured cotton fields workers in the South. In the 1970s the hemp became the symbol of those who liked to give 'the system' the finger, especially in the universities. Since then,

hemp use has only increased and spread, and hemp is possibly the most used illegal recreational drug in the world now.

As strange as it is, hemp has been very controversial for more than a century and it's striking that the controversy comes from one religion and one religion only: Christianity. Why is that? Because of who the typical users were? Blacks, immigrants, hippies, and radicals? In spite of scientific research, the powers that be have regarded hemp as an extremely dangerous drug, far more dangerous than alcohol and nicotine and said that its use will inevitably lead to heroin. In this theatre of discussion, emotions and politics rule rather than sci-





The flowering top of a female cannabis plant.

entific evidence. Therefore, finding neutral information about the drug can be a bit difficult. The majority of studies published are sponsored by Big Pharma, the alcohol industry, the tobacco industry, or the plastics industry and have long had the hidden agenda of putting forward information that supports given premises and have been a complete waste of time to read. This is at long last beginning to change.

One is hard put to describe the effects of cannabis. Well, of course we know this, that, and the other, such as a slight increase of heart-beat, dryness of the mouth, and

bloodshot eyes. Cannabis dries mucous membranes, and there is a lot of them in the body – in every internal organ and the insides of the veins and the lungs. All your insides are covered with mucous membranes. Think about the slight feeling of heat in the skin and a deeper understanding of, for example, music, increased taste, and more pleasurable sex. However, the effects are extremely dependent on set and setting as with many psychoactive drugs, while there are also differences by strain and how it is used.

First-time users rarely find any change, even with large doses.



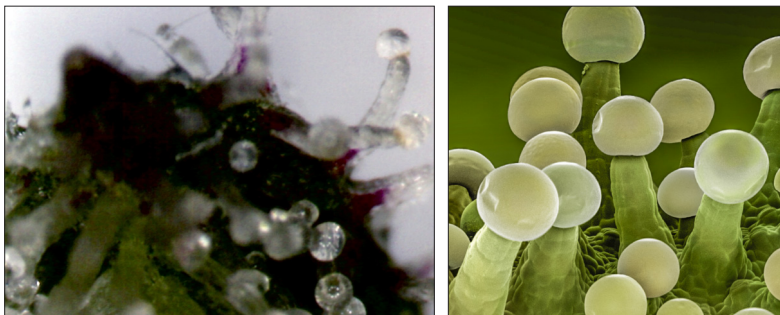
Propaganda against cannabis from last century.

As with some other drugs the user must learn to recognize the effects and some never can, however much they try. When users have passed this period of learning, the first times can be quite pleasant and fun. Hallucinations can occur and time can stretch a bit. But cannabis is fun, according to users, and ordinary things can become hilarious, and perception becomes deeper and more interesting. With further use it becomes less euphoric. Users tend to become more relaxed and social interaction can become easier and more pleasant. Heavy users don't feel all that much change as their toler-

ance is high and they use it mostly out of habit.

Adverse effects are known to include **fear**, which is easily countered by assuring the user that everything is all right and the apprehension will stop as the effects wear off. The effects usually decrease in about an hour and are gone in two to three. Some users have reported that after heavy use, tiredness the day after can occur.

As cannabis is a far cry in strength from other drugs in this book, there is no *direct* danger of using it in combination with other drugs, medically or chemically. One should, however, not



Macro on the left and microscopic image on the right of the THC producing glands.

make a habit of using cannabis in combination with other drugs. As experience of the user is highly individualistic, a novice might be in for a nasty surprise. That does not change the fact that you can't kill yourself with cannabis and moderate use once in a while is probably not more dangerous for the user than drinking coffee. It is far less dangerous than tobacco and alcohol and free of toxicity.

Prolonged use can, however, cause **irritation** in the breathing tract and lead to dry coughs. It seems there is more tar in the smoke of hemp than in tobacco smoke and the smoke can cause respiratory ailments. Beware of

smoke in general – it is full of **carcinogens** – and a better choice is vaping. Dry vaporizers are available on the market, and I would recommend their use. Apart from this, the use of hemp seems to be relatively harmless for the user, physically. That being said, it says nothing of the mind, spirit, or soul.

Studies of nations and areas where the use of cannabis is a cultural norm have not been able to demonstrate anything that can be directly linked to cannabis. Neither physical nor mental. But new studies are being published all the time and many of them are available online. Look them up on *PubMed*.



The hemp plant is quite beautiful and is useful in both medicine and industry.

A study from New Zealand took forty years and the media had a field day. One can find this study on the *Duke University's* website. In this study there is a point of interest about the brain. It is stated that cannabis makes you more stupid. The study claims that if starting use before fifteen years of age, the user would be dumber. Of more than 1,000 participants, thirty-four showed signs of slightly less intelligence forty years later. Alcohol use was not taken into account, and

everybody knows that alcohol destroys brain cells like an invading army. No change of intelligence was noted in other participants. And no change was noted in those who started use after eighteen years of age. The media reported, '*Weed makes you dumb.*' No wonder the spokesman for legalization of cannabis in New Zealand said, '*Please don't stoop so low as to put cannabis on the same level as alcohol.*'

The effects of cannabis on mental health are debated hea-



Government grown Medical Marijuana from the Mississippi nursery. Colourful names.

vily. The adversaries of the drug point to apathy and laziness in heavy users. Furthermore, that the drug disrupts intelligence and mental fitness. There can be no question that with young users who ramble around aimlessly in life with no goals whatsoever, cannabis is the drug of choice. The question of what came first, the drug or the apathy, begs an answer. It is also worth considering whether those individuals would use any other drug if cannabis was not

available. Regarding memory and intelligence, heavy abusers refer to themselves as being a bit 'fuzzy' and the drug may interfere with memory. However, these symptoms seem to disappear if usage is reduced or stopped.

Even if dependence may develop, as users like the usage and sometimes several times a day, it differs from other drugs. Except coffee and cigarettes. At its worst, users may start the day with cannabis to be able to get up and end



Hemp field in the Beka valley in Lebanon.

the day with a dose to be able to sleep. This pattern is very similar to that of nicotine users. The difference is that the cannabis user can easily stop and the majority without any withdrawal symptoms. And you may also compare this to alcohol.

Tolerance is common. Even the strongest weed stops working as well after heavy use for some time. Then the user has to use more for the same effect. It is infinitely better to just stop for a few days because that is all it takes.

If dependence is not as adverse for the user as with other drugs, stopping can be a bit difficult for the user after a long period of heavy use. The dependence on cannabis can be very sneaky; it sort of creeps up on the user. It doesn't develop all of a sudden like tobacco or after weeks in the case of heroin, but tolerance builds gradually and very slowly without the user being aware of it. The craving and the habituation start as the user starts to build tolerance, and stopping can then be a bit hard.



Lenny Montana

The flowering top of a female plant.

Heavy use does not lead to other drugs; *the stepping-stone theory* for cannabis was proven wrong years ago. It's dead and buried. However, the stepping-stone theory is amazingly apt when applied to alcohol, which is no wonder really as alcohol anesthetizes the brain centre that deals with reason, first of all. Of course, there are a lot of users of other drugs that have used cannabis at one point or another in their life, but most of them have also used alcohol and tobacco. So that would indicate that the

stepping-stone theory is more a question of personality and social make up, not the drugs as such.

The majority of tests demonstrate that cannabis reduces the ability to perform complex actions such as driving a car. Even if some maintain they can drive while using, one would prefer not to be a passenger in a car, boat, or aeroplane if the driver was zonked out of their skull.

But what about the fans of the drug? What do they say? Is there something positive about cannabis? Well, it has been proven



Light brown hashish from Morocco.



Hashish from Lebanon's Beka valley.

to be good medicine for various diseases and ailments. It has after all been used as medicine for ages and more and more proof is coming for beneficial use time and time again. *Medical marijuana* is going mainstream for various things: *glaucoma, nausea in chemotherapy, Parkinson's disease, epilepsy, multiple sclerosis (MS), and cancer. Cannabidiol (CBD) oil* is now considered an effective painkiller.

As this has developed, Big Pharma started to make cannabis as medicine, and the *Israelis* have been at the forefront of such research. Those synthetic cannabis drugs are, however, much more poisonous than the natural stuff, and the only fatality cases by cannabis that have been recorded is

by these drugs. But we are not concerned with MM (Medical Marijuana) on these pages.

If you plan to use cannabis medically, do some research on the Internet and talk to a doctor who knows something about the drug.

If, on the other hand, you plan to use cannabis purely for recreation, keep in mind that the more seldom you use, the more rewarding and pleasurable the experience will be. That applies to all recreational drug use. You should also bear in mind that since cannabis is a particularly sneaky drug, as it is so mild and gentle, you could be abusing before you know or realize. The most serious drawback with cannabis is that it's too like coffee. It's possible to use while



going about the daily chores of life. And stopping use, fortunately, is completely without any drama or adverse effects. So, make some rules about using and stick to them. If you don't, you might use more than you would really like and probably what's good for you. There is no thing as a free lunch, and nothing happens in a vacuum.

### Brief summary

- Make some rules about use, including when, how, and why. Don't use it just because you have some and others are using.
- If you like it, take some steps to make sure it will continue to be so.
- Restrict use somewhat. Rules are necessary so it will not become a regular habit.
- Remember that operating machinery can be risky, and don't drive a car.
- If the effects diminish, take a break or stop completely. For maximum pleasure of use, less is more.
- If you find the effect dwindling, the worst you can do is increase usage, in strength and/or frequency.
- Seriously consider using cannabis without smoking it.
- Don't mix cannabis with other drugs, least of all hallucinogens; the effects could be unpredictable and highly uncomfortable.
- Choose set and setting carefully, particularly if it's your first time.
- Don't use cannabis during work or school. You wouldn't drink at work or school so



Fake Royal Nepalese Temple Balls RNTB.

The stuff is legendary and is supposedly the best hashish in the world.



The hemp is very easy to grow and was in fact a very popular ornamental plant in gardens until the mid last century.

apply the same rule to cannabis even if it is easier to get away with daily use.

- If you get a sharp, dry cough or if you start getting a common cold of the lungs or other respiratory problems more frequently, the chemical is damaging your lungs. Stop using; start vaping or use orally.
- If you start to get a nagging feeling that maybe you are using too much than you should or too often, seriously consider whether the chemical is controlling you or if you are losing control. Take a good pause and if that is too hard, get professional help.



Photo by Michael Longmire on Unsplash

The hemp is very easy to grow and was in fact a very popular ornamental plant in gardens until the mid last century.

## CHAPTER 6

### Lot to be Concerned About

#### Some Concerns

There is a big difference between drugs bought in a pharmacy and drugs bought on the street. The one you buy in a pharmacy should be pure, and the dosage should be accurate. In rare instances drugs from the shop could be contaminated and can cause trouble. There are examples in Europe of common drugs being taken from the shelves because of this, for example, Valpress, which is used to lower blood pressure.

But this is fortunately not very common, as the legal drugs are in most cases well regulated and quality control is strict.

On the street, it's different. In most cases you have no way of knowing what you are buying. It could be anything as one pill looks like another and the street dealer knows this and also that you might never see him again. So, three scenarios are possible.



This could be anything. Painkiller, vitamin or blood pressure medication.

How could you possibly know?

You might get exactly what you are buying. You could be unlucky and get aspirin instead of an opioid, but it is also possible that what you buy could send you to the emergency room or the morgue.

Even cannabis can be forgery unless you are buying buds. Not to mention magic mushrooms. It is fairly easy to get ripped off when doing business on the street. It is also advisable to have some company when shopping on the street.

So, if you can, grow your own cannabis. Seeds are widely available both online and in shops. It's a bit more complicated to grow magic mushrooms but can be done if hygiene and sterilization is adequate. And growing something can be very rewarding.

### Drug Cocktails

We know the results of mixing sedatives or sleeping pills with alcohol, or mixing opioids with alcohol. But general knowledge about mixing drugs is not all that great. There is a lot of arguing and discussion going on, but obviously mixing drugs can be unpredictable. It seems it primarily depends on the user and set and setting. But we know that mixing drugs can increase the problems of each drug as well as create some new ones. We also know that some users of cannabis sip wine and/or beer and in the case of the 'munchies' that can spell trouble with unpredictable results. Add to that that such habits of mixing drugs can



Draught beer on taps at Silk Tork  
Delirium Café, Brussels.

be very stubborn and hard to break. This is, in part, due to culture, as in our society nothing is said about mixing coffee and tobacco, coffee and Cognac, coffee and confectionery. One could easily imagine a party where people would be using hard liquor mixed into cola or an energy drink, snorting cocaine, smoking weed, and eating chocolate. It's an exaggerated example but it demonstrates the effect of role models we have in our society who think nothing of mixing drugs. Even if the doses are usually small in such examples, the programming in the brain is the same. It's a difference in degree, not in nature.

This can also present a problem in regular medicine as patients can be given a medicine that works against or intensifies a recreational drug the patient is using. That can create a problem as the GP, specialist, or a clinic lacks the knowledge about the drugs the patient has been using. Then the knowledge about the interaction of the drugs is insufficient. Official database of medical records, inclusive of drugs, of each individual would obviously reduce such a risk to almost nothing.

How illegal drugs and medicine interact has not been thoroughly studied and therefore knowledge within the medical community is nothing to write home about. So, if you are doing illegal drugs and are on prescribed medicines, keep in mind that they can work against each other. Or intensify the effect of each or both drugs.

### **Health Problems**

Two problems immediately

come to mind: overdose and allergic reaction. Minor overdose causes nausea and vomiting, which can be highly uncomfortable and a royal pain but maybe not all that dangerous. But real overdose is another matter. It can lead to unconsciousness, coma, and death. If someone loses consciousness because of a drug use where you happen to be, call for emergency help. Never mind the parents or the law. Believe me when I say that you definitely don't want to carry the burden, for the rest of your life, of not helping your mate when you could. And don't administer more drugs like coffee or other drugs, like a stimulant.

Intravenous injection users are at the greatest risk, since very little can be done when the drug is in the bloodstream. Fortunately, we now have NARCAN® (naloxone) in the case of opioid overdose. NARCAN® is available without prescription in some countries, even as a nasal spray.

Keep in mind that overdose is a very swift killer, in minutes, even seconds, so don't hesitate. Get help immediately.

There seems to be no general rule to allergic reaction. It can be itching and swelling, and if the windpipe swells that may cause death from suffocation. Serious allergy shocks are very unpredictable and can stem from fillers as well as from the drug. The problem is that users who have never experienced any trouble previously from the particular drug can suddenly get it as well. So, learn to recognize the telltale sign of allergy: itching in the throat and difficulty breathing. If you see or experience that, go to the emergency room as fast as possible.

But using drugs can have an adverse effect on your health in other ways, long-term effects, as is obvious in the case of tobacco and alcohol. And those who inject are in the most danger. It is well established fact that human immunodeficiency viruses (HIV) and hepatitis C is rampant among this



Dark beer from from Lemke breweries.

group. Infections are carried by the sharing of needles, so don't ever do that. Scabs and abscesses and inflamed veins are quite common among needle users as well as other maladies. Where harm reduction is in practice by supply-

ing clean equipment for use to users, the instances of those are considerably lower.

We know what smoking does – irritate the trachea, throat, and lungs – and has been known to start bronchitis and cancer. So, if you, at any point, want to use nicotine, cannabis, or cocaine, consider other ways than smoking; use orally or by vaping. The nose is used for breathing and smelling so take care not to damage the mucous membranes as that will result in damage to the sense of smell. The sense of smell is vital in life in many ways, including on a subconscious level, and can save your life. Even oral use can cause irritation of the digestive system and inner organs, as alcohol irritates the oesophagus and stomach. And heavy coffee consumption can lead to very persistent indigestion and heartburn.

There are actually more problems that abusers face, which are endemic to that particular group. That is the lifestyle of the group. This group, more often than not,

leads a rather unhealthy life with disrupted sleep, poor nutrition, insufficient hygiene, and lack of exercise. On top of that the drugs often rob them of their appetite and thus deplete their bodies of vitamins as well as disrupt the natural body chemistry. And that can lead to all kinds of trouble, physical and/or mental.

The greatest psychological or mental problem regarding recreational drug use is panic. It can be quite severe but can in most cases be easily dealt with. Shit can happen to even the most veteran of user and they may panic. Usually in unfamiliar surroundings among strangers, that is, bad set and setting. Such panic in one user can spread rapidly to other users. If you witness such behaviour take the individual somewhere quiet and calm them down by reassuring that it's all in their head and will stop as soon as the effect of the drug wears off. The emergency is probably not the best place to be in such a situation as a doctor

might make a bad situation worse by administering more drugs and the environment might feel threatening. Most panic attacks can be dealt with by talking soothingly to the user to calm them down. But like many other things, violent panic attacks can trigger latent psychosis. So, if anyone experiences some psychological disturbance during use that continues when the effect of the drug wears off, they should seek the assistance of professionals.

Depression may set in when heavy use is stopped. If you or anyone you know shows signs of depression, seek professional help so it can be dealt with and doesn't progress into a permanent melancholia or depression. A psychologist would be a good choice. Those problems are most common in alcohol, cocaine, and sedatives users but can also happen to cannabis users. Add to that the fact that if the drug is illegal the paranoia can be intensified.



You are not partying with your baby, now are you? The fetus is extremely vulnerable to drugs. Almost all drugs.

### **Drugs and Pregnancy**

If you are pregnant and use drugs you are partying with your unborn baby. The foetus is extremely vulnerable during term and the placenta is not designed to filter drugs from reaching the foetus. It's the other way around. The foetus would not receive any vitamins or minerals essential to its development if it was otherwise. There are several studies confirming that drinking during the first weeks of pregnancy has grave impact on the foetus, as at this time it is little more than a bunch of cells in the womb and very vulnerable.



There are also studies on the effect smoking has on the unborn baby. The babies of smoking mothers are born weighing less, and they spend their first weeks after birth in withdrawal from nicotine. The same goes for mothers using other drugs such as opioids or other addictive drugs. Natural abortions are also more common in the first days or weeks of term. So recreational drugs during the first weeks of pregnancy should be regarded as just as risky as some medicines. Especially during the first weeks of term. Don't do any drugs unless prescribed by a doctor. Even that can be risky as the case of thalidomide demonstrates. Thalidomide was supposed to be completely safe but turned out to be extremely dangerous for the foetus. Scientists debate why, but the consensus among them now is that the drug prevented perfectly natural abortions in the first few hours or days of pregnancy so terribly deformed babies were born. As if this is not enough it is known that

many drugs can affect the baby through their mother's milk. So, women who are breastfeeding should be careful in their drug use. And no one in their right mind smokes, anything, near or close to babies, as their lungs are very vulnerable to smoke of all kind.

### **Social Problems**

Drug use, in any form or shape, is likely to cause some trouble with someone somewhere at one time or another. The main reason of friction between parents and kids is a suspicion or the certainty that their offspring is using or experimenting with drugs. This problem is so touchy that many parents avoid dealing with it. It may develop to a rift in trust between parents and kids, and it is not uncommon to require professional help from outside of the family. It can lead to the youngster ignoring their parents and hanging out with their friends who are using. It's also quite common for marria-

ges to break apart if one partner is using heavily but the other is not. It's often a ground for divorce.

Abusers more often than not end up with problems on all fronts. Family, friends, and co-workers disappear, and the user ends up alone with their drug. That can lead to loss of a job and thus loss of income. It seems by studies that it's very rare for an abuser not to be ridden with social problems.

If the drugs are illegal the individual is in extra bad shape socially as they can relatively quickly build up a dept. Primarily from their supplier. The dealer is not running a social service, so the user has to make good on what they owe. Dept collectors are then the first step and if that doesn't correct things in the eyes of the dealer, the user may be sent as a courier to smuggle drugs and that may be to a country where the law is many times harsher than in the West. And where the prisons are

such that it is a full-time job just to stay alive. Females are forced into prostitution to make good on their debt. One thing for sure is that the dealer is not giving anything away for free. They are in business to make money.

All kinds of problems can come from socializing with other users and the dealers, too. So be careful.

### **Development and Growth**

Since there are concerns about development and growth by adults regarding drug use of 'minors' it's right to point out that by age twelve to fourteen most youngsters know a lot about drugs and have experimented with recreational drugs. They may have tried solvents, alcohol, tobacco, and more. This looks like bad development, but proof of harm is not readily available. There are a lot of theories floating around but diehard evidence is limited with considerable distance between them. That is why it's essential to talk



Bongs. Paraphernalia is by now a big business.

with young people and educate with fact. Not hearsay, thoughts, and feelings. I asked Professor David Nutt what he thought was the right age to start talking to kids about drugs. 'Around nine, I should think.' After a pause he added that by that age they had seen drugs on the television, in the news and other programmes.

Wise man Professor Nutt.

The reason for concern is that at this time in youngsters' development a lot is happening and the balance of the chemicals in their bodies are all haywire. No one in their right mind would dream of making matters worse. Healing, love, connections, and support are required. Not more complica-

tions, as psychologists and psychiatrists point out. At this time adolescents are busy making connections in their brain, learning skills that they need later in life and in general learning to be an adult with all the bells and whistles that come with that.

There is also the small matter of acquiring a habit of dealing with the crises of life with drugs. Might lead to abuse later in life.

The brain is also not fully matured until about twenty-five years of age and if connections in it are damaged, life can become hard and boring.

### **Legal problems**

Legal problems are best described as a lot of don'ts. Don't be

rude, don't talk or try to talk your way out of trouble, and so on. Getting arrested can ruin your life. At best, it will cost you money, anxiety, and time. Getting busted can also cost you your life, depending on where you are. In some countries the penalties for drugs are much harsher than the penalties for violent crime, rape, and even murder. But the legal framework is as it is and by this the police and the courts work. And you and your fellow citizens pay for it with your taxes. So, if you are using illegal drugs there is a possibility of getting arrested. And there are a lot of things that are more pleasurable than to stand in front of a judge. In any case you will get a notice in your criminal records and that in itself is quite enough. It can severely restrict your employment opportunities. Keep in mind that in the majority of drug cases the suspect provides the proof to the police by not keeping their mouth shut. Whatever you do,

don't talk to the police unless through a lawyer. Be polite, as it may be counted in your favour in court. So, if you get arrested, get a lawyer and stay silent. I have never heard of a policeman doing his or her best to make you look good or help you when you are in court.

### **Addiction and Dependence**

Those two words, 'dependence' and 'addiction', are used in the media in a highly irresponsible way. They mean more or less the same thing but there is a small difference – like two sides of a coin. Dependence is defined as causing physical changes, increase of tolerance, and withdrawal symptoms if use is stopped. Addiction causes slight, if any, physical changes, no build up of tolerance and no withdrawal symptoms. No reference to psychological addiction that scientists thought ideal to add to the equation to confuse the discussion even more with a negative factor.



Photo by Emiliano Bar on Unsplash

This is not a good place to end up in because of drug use.

The problem with the definition of those terms is that they are rather vague. And they leave a thing or two out. Let's consider this for a moment. Is there something wrong in doing as all other animals do, something that gives us pleasure? And do it time and time again? Why should that be? Surely it must depend on what it is that we do that gives us pleasure, does it not? What if it doesn't hurt anyone or doesn't infringe on anyone's rights? Something like sex? Embracing someone? Please one's kids? Listen to music? Exercise?

The first signal that the handling and using of a drug is undesirable or bad is that one can't leave it alone. 'Addiction' is quite common, for example, how we use coffee and tobacco, and it seems to be part of the nature of all higher animals and even insects, too. We're wired in our genes for addiction, just as we seem to be wired to love music and dancing and various other things and activities. Like sweets.

I once knew a mature lady who was addicted to a certain sweet. She did not hesitate to call a taxi if she didn't have some in the house. No matter what time of day or night or what time of the year. She put on a bathrobe over the nightgown and off she went in a taxi to obtain 'the red one', as she put it. People can become dependent on all kinds of things for pleasure and some of those things are much more illogical than drugs. And now some scientists believe that becoming dependent or addicted is a learning process. Often from an early age. The most common dependence is for what gives us the greatest pleasure: food, sex, and drugs. In second place is exercise, which gives a natural high because of increased levels of endorphins in the brain. Even CD discs with classical music as Dr Gabor Maté reveals in his book *In the Realm of Hungry Ghosts: Close encounters with addiction*. Personally, I believe that this theory of learning has very good

grounds. So, when someone says that a given drug is addictive, what one means is that it's easy for us to learn to depend on it for pleasure. What else would explain the reason for addiction to jogging, watching television, shopping, having sex, betting, and so on?

Some say that the main problem with dependence is that it limits one's freedom. It's a given that we all need food, water, and oxygen to live but we also need a lot of other things, like other people to connect to.

Just consider for a moment how the forces of life and nature itself drives evolution. Evolution is driven by reward and punishment. The rewards can be spectacular and the punishment deadly. But when dependence requires a lot of time, and resources, like money and energy, then it becomes a big problem. When dependence takes control of one's life, creates guilt and anxiety, one must seriously consider reaching out for help. If that is the



Addict in Argentina preparing the next fix in his desolate room.

greta-scholderle-moller@unsplash

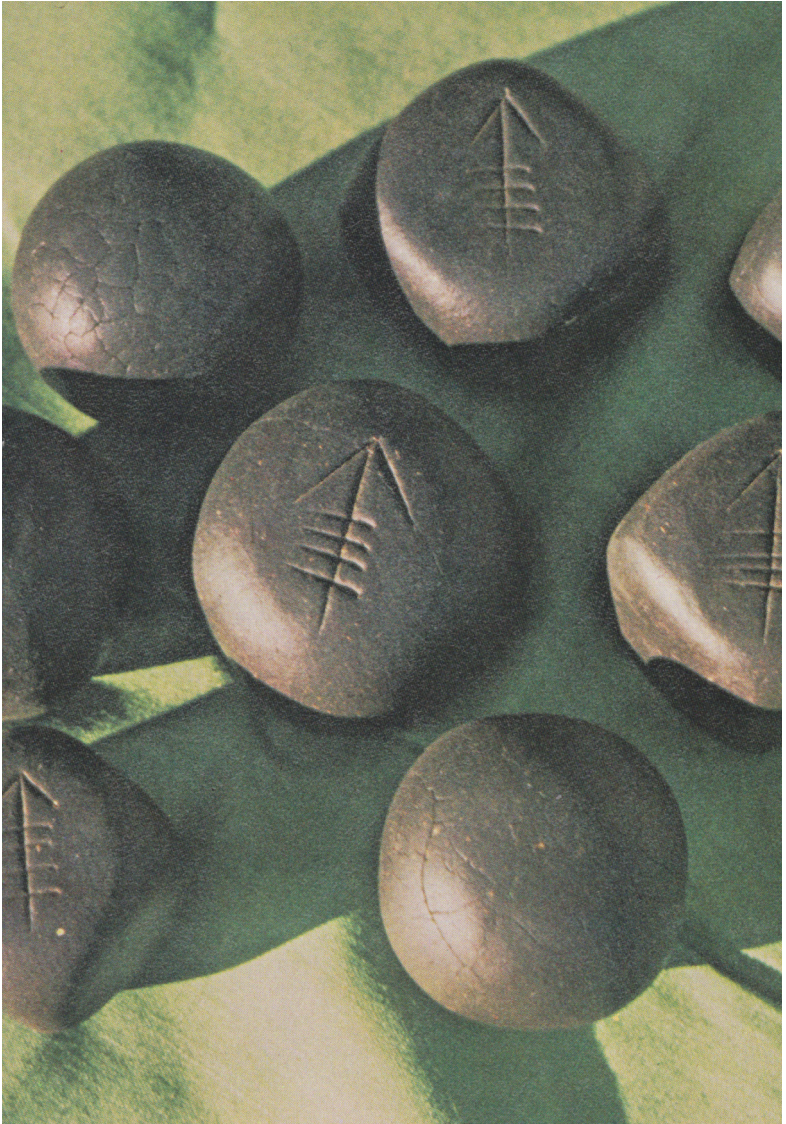
case, it is often easier for outsiders to spot the problem than it is for the user.

Habits can, however, be very difficult to break. People often just switch from one habit to another. I knew a smoker once who wanted to quit. So, he bought nicotine patches and nicotine chewing gum. After about six weeks he took up smoking again, so he had effectively tripled his intake of nicotine.

Dependence on a drug could hypothetically be somewhat bet-

ter than dependence on some activity. It surely would depend on one's view but which is better, parachuting or snorting coke? Masturbation or eating chocolate, fighting or doing weed? The answers are up for grabs and depend on one's values and point of view.

Responsible use is devoid of dependence. When addicted, going back to previous use can be more than somewhat difficult. When addicted to cigarettes, it's nearly impossible to return to social smoking. Forget about



Legend has it that users "never come down" after use of Royal Nepalese Temple Balls.



only smoking unless you are at the pub and drinking. You'll be just as likely to move into the pub in order to smoke. The same goes for alcoholics; they have two choices: keep on drinking or not to drink. That is, if they are alcoholics but not suffering from alcohol use disorder (AUD). The only sure way to not become addicted to a drug is to never use it. So, if you plan on using a recreational drug, learn about the drug, lay down some ground rules, and stick to them. Preferably before you start using or experimenting.

### **Get High without Drugs**

As stated before, the reason for this drive for intoxication may perhaps be a need for a different reality. It seems we are born with it, and we can see it demonstrated by very young kids. They discover some ingenious ways to alter their perception. After all, they have the practice since they were breastfeeding and high on oxytocin and endocannabinoids, which has been

found in breastmilk. But this drive for a different state of reality is found in other animals, too. Birds, cats, moose, monkeys, elephants, and more have all been caught using drugs, not by accident but deliberately, according to Professor Ronald K. Siegel in Los Angeles who spent more than a quarter of a century studying the phenomenon.

It has been suggested that a different sense of reality could be essential for the well-being of humans, and dreams are mentioned in this context. Could this drive for altered reality be part of the explanation why it seems that dreams are so essential? Those who manage to learn to be high without any chemical are usually better adjusted and get more out of life than others who use chemicals. They are healthier physically, more creative, and a better slice of society. They are more comfortable in their skin and more fun to be with.

But being high does not mean to be zonked out of one's skull

on drugs. Obviously, drugs can get the users up but why is it then that as usage increases, people lose this talent? And how do some individuals manage to get high, time and time again, without ever using a drug? The answer has to be that it is not the chemicals that have some built in factor to get the user high. This factor must be inside our own body, in our nervous system and in our brain. The only thing that the drugs do is trigger our own chemicals and make us notice a different reality. To not be able to be high all of the time may be one of the bummers of life, but consider the alternative: what would be pleasurable if the normal state of mind was pure bliss and euphoria? So, it seems that this factor of being high must be earned, or external tools used to experience it.

No drug gives pleasure by itself. The user must learn to recognize the effects that the drug triggers by stimulating the production of the DOSE chemicals

in the brain. If the user can't learn this they will not get high, just heavily medicated, and this is a common problem among heavy abusers. As soon as the novelty starts to diminish, the risk of abuse increases. It seems that a lot of people assume that the pleasure of being high comes in the form of a pill, powder, joint, or a drink. This misunderstanding leads to abuse.

If we decide that being high and being heavily medicated are two different things, it means that we can get high without chemical assistance like advanced yogis. We can learn it, and that should give us something to look forward to. After all, often a kind word, praise, or a good joke can snap us out of melancholy and blues. That is because of chemicals in our own brain.

This begs the question: is it somehow better to get high without drugs? The answer is far from obvious and some would put an equals sign between these two options. The only advantage

in favour of the drugs is that they are powerful and quick acting. The main drawback, however, is that it reinforces the notion that the state the user seeks comes from some outside medium, that is, drugs. And that notion directly increases risk of abuse as well, as it can increase the feeling of inferiority. Even among users, not abusers, a feeling of guilt about use is quite common and it is bad to carry a feeling of guilt.

It's a given that falling in love, time and time again with a new partner can be just as limiting as drug use is in the life of an individual. It suggests some underlying bonding problem. It is also known that exercise freaks who can't make it to the gym show withdrawal symptoms.

So the aim must be to get pleasantly 'high' without drugs and in a way that doesn't interfere with one's life and in such a way that is agreeable to those around one and doesn't cost an arm and a leg or limitless energy.

Meditation and religion can work for some. Nature exploring and being outdoors for others. Yoga, music, and creative work for still others. But reaching euphoria without drugs is of course not as easy as swallowing a pill, snorting powder, or smoking a joint. So many, perhaps most, unfortunately, opt for chemical assistance. That may be because humans are notably lazy and wired in the brain to get something for nothing. The problem with this attitude is that there are no freebies in life and there is no such thing as a free lunch.

Another aspect, not widely known, is that they who manage to generate this feeling of bliss in themselves, by doing yoga or exercise, maintain that the feeling gets bigger and better as time goes by and that is the opposite to what addicts say.

The fact is that if people really want, they can be without drugs, feel amazing, and never miss not smoking, drinking, or shooting up.



Two pictures of a 2500 years old grave in China. On the left is the grave with a curious instrument to be used in the afterlife. On the right is the instrument with remains of cannabis.

### Final Words

I think it's right to point out that in writing this I don't stand on the shoulders of giants. I sit in all humility in the shadow at their feet. Those courageous men and women who have studied and written about drugs through the years have done more to expel the myths and hearsay that have shrouded them for years. I know from personal experience that the stigmatization regarding drugs is total. Even talking about them generates fear and loathing.

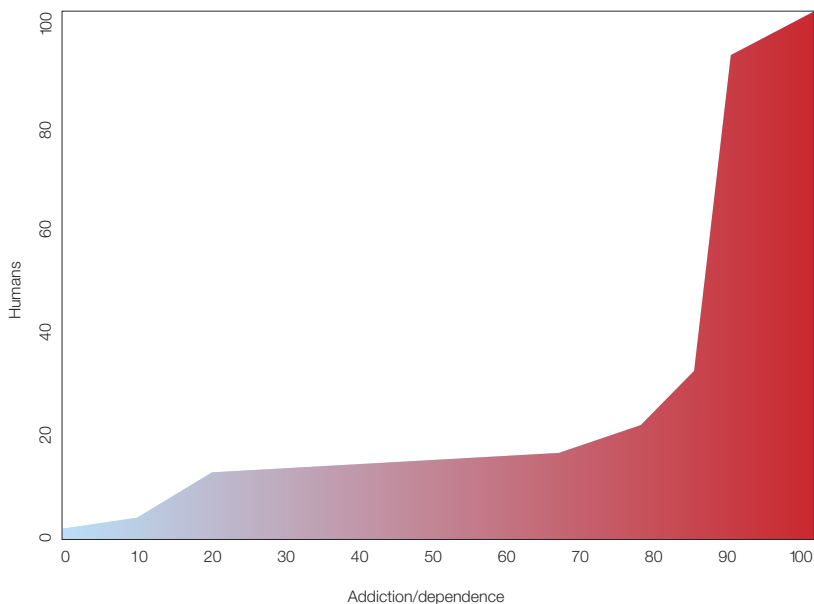
So, keep that in mind. Don't talk about your drug use unless you sit in front of a professional health worker you are asking for help. Your drug use, whether

recreational or otherwise, is no one's business but yours.

If you have a brush in with the law, be polite but say as little as you can reasonably get away with. Don't hand the police the evidence they need to haul you into court in front of a judge.

You will probably realize in reading this, that this book is about harm reduction.

It is an illustrated manual for using drugs as responsibly and cautiously as possible. Without harm to you or others. That said, be careful, look after yourself, and I wish you all the best in your life. Particularly as it seems that most of the life on Earth is coming to an end.



In this graph can be seen how scientists roughly estimate addiction. A figure of 10 per cent is more or less addiction free. A small minority. The next 80 per cent are the average person who can have problems at some point in their life but are generally without them. About 20 per cent of this group has some issues, mostly as addiction to sex, shopping, or food. The last 10 per cent are the problematic users. Until fairly recently this group was considered beyond help. This belief has been proven as myth.

A large study, called the **Adverse Childhood Experience** (ACE) study, indicated that adverse childhood experiences can have tremendous influence later in life, which may result in poor health. Not just addiction but also other health-related issues, such as cancer, mental health issues, and various physical illnesses. First and foremost, the study showed that life is complex and far from black and white and all kinds of trauma in early childhood may result in poorer health at maturity. The study is considered groundbreaking.

It is well worth the time spent reading about the ACE study, and a good place to start is Wikipedia, which has a good review of the study.

## References and links

A lot of material is available on the Internet. Some of it is propaganda and therefore more or less worthless. But some is very informative and enlightening. Wikipedia is a fairly reliable source with abundance of links to other websites. The web of LEAP (*Law Enforcement Against Prohibition*) is another one worth visiting and many others. I have also used Ted Talks, podcasts, magazine articles and other material that I thought relevant.

<http://www.wikipedia.org>

<http://www.leap.cc>

<http://www.norml.org>

<http://www.hightimes.com>

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### Books

Chocolate to Morphine by Dr. Andrew Weil og Winifred Rosen.

The Complete Guide to the Street Drug Game by Scott French.

Dopesick by Beth Macy

Drugs Without the Hot Air by David Nutt

Drugs in Perspective by Martin A. Plant.

Hash by Wensley Clarkson

High Price by Carl Hart

High Times Encyclopedia of Recreational Drugs, various authors

How to Change your Mind by Michael Pollan

Marijuana Reconsidered by Dr. Lester Grinspoon M.D.

Milk of Paradise, A History of Opium by Lucy Inglis

Natural mind by Dr. Andrew Weil.

Plant Intoxicants by Baron Ernst von Bibra

Psychedelics Encyclopedia by Peter Stafford.

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*"To address the harms of drug use is to intersect harm reduction and behavioral health much more than intersecting morality and law enforcement."*

**Art Way jr. Former Director**  
Drug Policy Alliance, Colorado

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This book is about harm reduction regarding recreational use of drugs. It is also a book about the culture of recreational drug use. At present and through the ages. It's a book for parents and guardians to read and explore with young people. From an early age.

Obviously you would not put a gun into the hands of a minor without teaching him first about the dangers of the firearm and about the safety of use. The same goes for other things. In order to respect something one has to have knowledge.

This book tries to forward knowledge and accurate information to minimise the risks of recreational drug use so users of recreational drugs continue to be just that. – **Users. Not abusers.**

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