The Risk of Freedom Briefing

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The Enigma of Addiction

All of the following have been called addictive: opiates such as morphine and heroin; soft drugs such as cannabis and Ecstasy; alcohol, or at least alcoholic drinks; nicotine, or at any rate nicotine when taken in the form of tobacco smoke; gambling; shopping, television; fast food, or possibly the fat and sugar contained in it; exercise, or possibly the endomorphins produced by it; danger, or possibly the 'adrenalin rush' that comes with it.

That selection is representative but by no means exhaustive of an emerging category. Is there a single state called addiction, and a single cause of that state? Is addiction primarily a psychological or a physiological condition? And is addiction necessarily harmful, either to the addict or to those with whom he associates?

'Substance dependence' has been defined as a disorder characterized by criteria that include spending a great deal of time using the substance; using it more often than one intends; thinking about reducing its use or making repeated unsuccessful attempts to reduce its use; giving up important activities in order to use it; and experiencing 'withdrawal symptoms' when the substance is unavailable. Some writers include personality change, while others emphasize the 'high'that addictive substances induce, as a criterion of their addictiveness.

how do you distinguish the pleasure that an activity causes, from the pleasure of relieving your addiction to it?

Those criteria are vague, and there is no *a priori* reason to think that they must occur together. Take 'withdrawal symptoms'. In the case of opiates these have a physiological character — vomiting, diarrhea, trembling, violent headaches — and may actually prove life-threatening: a sign that the opiate has substituted for vital endogenous systems. In the case of nicotine, withdrawal symptoms amount to distractedness, discomfort, and a craving for relief. In the case of activities like gambling, shopping and dangerous sports the withdrawal symptoms have to be described in terms of the thing withdrawn, creating a strong sense of circularity. The withdrawal symptoms of gambling, for example, are a craving to gamble; why is this different from the opera buff's craving for opera, or a mother's craving for her child?

The concept of addiction would be clearer if we could suppose a common psychological or physiological cause. The hypothesis of the 'addictive personality' suggest that this might be so. It seems that those who get addicted to tobacco, for example, are more likely to become alcoholics, and vice versa. But again, such facts add to our understanding of the topic only on the assumption that addiction is a concept with some independent explanatory power. It has long been known that people given to excess in one thing, will tend to excess in others. What is added by the concept of addiction?

The principal dispute here is between psychological and physiological theories. The first emphasize the emotional needs and deprivations which seek solace in drugs or obliterating activities (see Stanton Peele, inside). The second emphasize the effect of drugs and stimulants on the brain and nervous system, on the assumption that the relation of dependency is established at this preconscious and pre-emotional level, through a physiological need. The fact that soft drugs, opiates, alcohol and nicotine all stimulate the 'reward centres' of the Central Nervous System by the release of dopamine is often cited as evidence for this assumption. Research into gambling has shown that prize money activates many of the same 'reward centres' of the brain that are turned on by food and drugs. (*Scientific American*, May 24th 2001.) But then, none of this amounts to very much, when translated back from scientific terminology into the language of common sense. 'Reward centre' simply means the part of the brain that is active when people are enjoying things. No doubt these centres are flooded by dopamine every time you sit down to dinner, or listen to the prelude to *Parsifal*. (But see James Le Fanu, inside.)

More interesting, from the political perspective, is the question whether addiction is bad. Some 'addictions' do no physical harm to the addict or to anybody else — shopping, for instance — and their mental harm may be impossible to calculate. Some 'addictions'do physical harm but mental good — dangerous sports, for example. And some cause real and recognizable mental damage, including changes of personality that are dangerous to others as well as to the self. Alcohol, hard drugs and many so-called soft drugs are, when taken to excess, dangerous in this way, which is why we control them; but so too is gambling, which we don't control. So too is television, which controls us.

Some people argue that the physical cost of addictive habits may be outweighed by the mental benefits: this is often claimed on behalf of both cannabis and tobacco. Against that it has been urged that the mental benefit of tobacco, for example, is merely the temporary relief provided from the craving of which tobacco is the cause: in other words, the mental benefit is an illusion. (See www.rcplondon.ac.uk in websites.) But then, how do you distinguish the pleasure that an activity causes, from the pleasure of relieving your addiction to it? Once again, the argument is going round in circles. In this issue we hope to make the circles a little wider, so as to capture, here and there, a grain of truth.

Our theme

Addiction

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Health Warning: TV damages the brain

TV addiction is for real: so it has been argued by Mihaly Csikszentmihalyi and Robert Kubey in a series of books and articles (see publications). It is not merely that people get 'hooked' on television as they do on gambling, shopping or alcohol. TV abuse has much in common with drug abuse of the most socially pernicious kind. The formal features of television — cuts, edits, zooms, pans, sudden noise, sound bites — activate the orienting response, which causes people involuntarily to turn their attention to the screen. By providing instant orientation, the screen then generates a rush of relief and relaxation. This works on the reward centres in the same way as drugs do. By fixing your eyes on the screen you receive continuous arousal and satisfaction with the bare minimum of mental effort.

The adverse effects of this on attention-span, information appraisal and problem-solving have been well-documented. Evidence is also emerging that children habituated to television are more disposed to violence than those whose intake has been strictly controlled, and that there is a TV-induced personality change not dissimilar to the personality changes associated with hard drugs and alcoholism.

The publication of Csiksentmihalyi and Kubey's results in *Scientific American* for February 2002 produced a flood of endorsement from other observers and researchers. The only good thing about TV, it seems, is that you are not allowed to smoke on it.

Creatures of habit are not addicts

Digby Anderson

My wife and I have been together for 37 years. In all manner of ways I rely on her for practical help and affection. Every evening it's a relief to escape from the tedious realities of life into a friendly home. When I am away from her for more than a few days, I am miserable and even irritable, don't enjoy my food, am, as they say, 'a different person'. None of this deep 'dependence' means that I am 'addicted'to Mrs Anderson.

Those eager to over-use the word addiction and talk of addiction to gambling, sweets, sex and crisps are either silly or simply eager to expand their own anti-addiction industry and incomes. The word they should use is 'like' and in the case of Mrs A and me, 'love'. To be sure, there are those who like gambling and crisps a lot and lose fortunes and get fat. But there are good words to describe the reasons for that too, namely, lack of 'self-control'. These words are disliked by the anti-addiction industry because they place the blame for the ensuing poverty or obesity on those who will not control themselves. The addictionists want to make these people victims of uncontrollable impulses inflicted on them by someone else: either the casino owners and crisp manufactures or society at large, anyone big enough to make it logical to demand that enormous 'resources' be allocated to themselves, the anti-addiction industry, to put matters right.

Among the words in the old and much saner vocabulary of 'like' and 'love' and 'self-control' is 'habit'. The addictionists don't much care for 'habit'but they are prepared to tolerate it on one condition, that habits are always taken to be bad. Thus it is acceptable for an 'addict' to say, 'I have a really serious habit'. Since habits are defined as bad, they have to be got rid of either by attacking those who supply the products to which someone is habituated or by endless therapy talk in which habits give way to reason and an enlightened understanding of the self. This is all rot. As anyone of any sense knows, there are good habits as well as bad habits and the way to get rid of bad habits, or, better still, never to get them in the first place, is to have good habits. The sensible society brings up its children to be aware that there are things which are simply not done.

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Rationalists talk as if the moral life were a perpetual series of temptations and difficult decisions. Not at all. The morally educated person doesn't notice most of these temptations. He

Working towards a definition: Ian Hindmarch

Standard definitions of addiction are confused and unhelpful, argues Professor Ian Hindmarch, summarizing his own and others' research in the field of psychopharmacology. The crucial criterion, he suggests, is not psy - chological reward or habitual use, but the extent to which a psychoactive substance impedes mental functions and damages the responses involved in living a normal life. His results are summarized in the table given opposite. Below we quote notes taken from the 5th and 6th Milford Symposia, the full proceedings of which were published in 'Psycopharmacology: Clinical and Experimental' vol 11, s1, 1996 and vol 12, s2, 1997 respectively.

"Psychoactivity, psychological reward and habitual use are three criteria traditionally used to classify a substance as addictive.

At first sight these three criteria might seem a plausible way to define and delineate addictive substances. However, the deduction used in reaching this conclusion is false. The logical invalidity comes from the fact that while psychoactivitiy, psychological reward and habitual use may be necessary criteria for classifying a drug as addictive, they are not sufficient criteria. As a consequence, most models of addiction now specify a range of secondary criteria to adequately define addiction, and recognise it as one of the most complex behavioural activities indulged by certain groups of people."

Rank order of the effects of various psychoactive substances:

I. Information processing (CFFT) Cohen's 'd'

nicotine ≈ 2mg gum	+0.59
caffeine 400mg	+0.13
placebo	—
alcohol 0.5g/kg body weight	-0.37
morphine 20mg	-1.27
benzodiazepine	-1.31
antidepressant (TCA)	-2.19

II. Psychomotor Speed (CRT)

nicotine ≈ 2mg gum	+0.16
caffeine 400mg	+0.01
placebo	—
morphine20mg	-0.86
alcohol 0.5g/kg body weight	-1.56
antidepressant (TCA)	-2.30
benzodiazepine anxiolytic	-2.44

III. Memory (STM)

nicotine ≈ 2mg gum	+0.16
caffeine 400mg	+0.16
placebo	—
antidepressant (TCA)	-0.66
benzodiazepine anxiolytic	-1.26
alcohol 0.5g/kg body weight	-2.24
benzodiazepine hypnotic	-6.15

All the above results are statistically different from placebo at a $p<0.05$ or better. Substances with the +ve scrores show a relative improvement with respect to placebo; those with a -ve score a relative impairment. The side of 'd'gives an indication of the 'strength of the effect'.

Professor Ian Hindmarch is Head of the HPRU Medical Research Centre

Smoking, harm and addiction

In the case of alcohol, heroin, cocaine, and cannabis, it seems that the substances that cause the addiction also cause the damage. In the case of tobacco, however, the harm and the addiction diverge. Doctors happily prescribe nicotine patches as a cure for tobacco-addiction, since other items in tobacco smoke — including the simple fact of its being smoke — cause the damage. Current responses to the health problems caused by tobacco centre on nicotine replacement therapy — weaning people off the habit of smoking, by weaning them off nicotine. But since nicotine causes the pleasure, and smoke causes the harm, why not keep the nicotine and get rid of the smoke? Thus arises the idea — and now the reality — of the smokeless cigarette.

Not surprisingly the tobacco companies like this idea. But the health police are against it. The Royal College of Physicians' Tobacco Advisory Council has told doctors to treat nicotine addiction as a disease, even though you can habitually have recourse to nicotine, and suffer no adverse physical or mental effects. (See www.rcplondon.ac.uk in websites section.) Why do they say this? You will search their publication in vain for an answer: but you will come across some wonderfully circular definitions.

The pharmaceutical companies have been pressing the case for nicotine replacement therapies, and more recently for the drug bupropion, which acts directly on the chemical messengers in the brain that are marshalled by nicotine. This makes sense, if you are in the business of making money by promoting drugs.

But a better solution, from the Royal College's point of view, might be vaccination. It seems that rats have been successfully vaccinated against nicotine — which is to say, that they have been rendered at least partly immune to its pleasurable effects, and therefore deprived of the motive to get hooked on it. (See Pentel and Malin, publications column.) This is surely the best way forward: to vaccinate us against all conceivable pleasures at birth, and so guarantee a long, sad, empty life for everyone.

The view from General Practice

James Le Fanu

Addiction is a complex subject that needs to be made simple. The burgeoning disciplines of the neurosciences have pinned down the nebulous concept of addiction to a few key biological processes. It will come as a surprise to many that the diverse forms of addiction seem to operate through a common neurological pathway. Whether it be nicotine, opiates, alcohol, gambling or whatever, they all stimulate the release of the neurochemical transmitter dopamine, in the 'pleasure' centre of the brain known as the *nucleus accum - bens*. Now, there is a lot more to pleasure than pleasant feelings – rather, it is integral to our survival, providing the motivation to eat, drink, sleep and indeed to propagate our species. The immediate incentive to satisfy all these physical needs starts with a craving which, if resisted or prevented, induces a growing anxiety or preoccupation. But the consequences of satisfying the craving are pleasurable and rewarding: the tension evaporates and the physical desire is eliminated for as long as it takes for the cycle to restart.

This pattern of behaviour, it will be immediately apparent, could as well apply to the alcoholic seeking a drink or to the heroin addict seeking a fix as to eating or drinking. But this is no mere analogy. Rather, the power of addictive substances lies in their ability to hijack the potent drives of these fundamental pleasure pathways of the *nucleus accumbens* to the exclusion of everything else.

This does not, of course, explain why one person should become an addict and another not, for which there are any number of possibilities. The impetus may be social such as the pressure of one's peer group; or it might be some psychological deficit. But the precipitating factor on the road to addiction is much less important again than its biologically determined perpetuation through the phenomenon of tolerance. The pathways of the *nucleus accumbens* adapt to the repetitive activation of its dopamine receptors by requiring escalating amounts of whatever pleasure-seeking stimulus is involved.

There are, of course, numerous qualifications that should be made to this simplified account. But its great merit is that it focuses our attention on a fundamental truth that would otherwise be obscured. Addiction is best perceived as a chronic brain condition, no different in kind from other medical disorders like asthma or diabetes. This medical model has been around for some time, most famously in the treatment programme as endorsed by Alcoholics Anonymous, and indeed it has been much resisted by those who would favour a more psychological or behavioural approach. The difference now, however, is that we are no longer just dealing with a 'model', since neuroscience has provided the hard evidence by which the whole spectrum of addiction can be integrated into a single unifying theory.

And similarly when it comes to devising methods of combating addiction it seems only sensible to apply the same pharmacologically based principle of therapeutics grounded in the biological sciences that underpin the great achievements of post-war medicine in the treatment of other chronic illnesses. There is the initial option of switching to a less harmful substitute such as methadone or nicotine patches.

When the time comes to break the habit, withdrawal symptoms may ensue. Some (e.g. restlessness) will be merely the effect of depriving the *nucleus accumbens* of its habitual stimulation, and can be overcome by studied self-control. In the case of opiates, withdrawal symptoms (vomiting, nausea, trembling etc) indicate a more serious level of physiological dependence, and will require alleviation by drugs such as naloxone or anaesthetics. Despite the many distinctions, the basis for a pharmacological approach to addiction has now been established.

James Le Fanu is a GP who writes a column on medicine for *The Daily Telegraph*

Stanton Peele's approach:

Stanton Peele is a long-standing opponent of the National Institute on Drug Abuse's physiological approach to addiction. NIDA's position can be summarised by its director Alan Leshner who has stated that 'NIDA's quarter century of research has produced a basic unequivocal message —drug addiction is a treatable brain disease'. Peele disagrees: Drug addiction should be seen for what it is: a form of excess, induced by the need to compensate for emotional, personal and occupational dysfunctionalities. The addictive personality has been 'trained into incompetence', but finds a kind of vocation in his craving, which offers an organizing principle to a life that had previously lacked one.

For full details see www.peele.net

Risk or Freedom?

The Legalization of Cannabis

Susan Greenfield

Although drinking in excess can lead to terrible consequences, there are at least guidelines for the amount of alcohol that constitutes a 'safe' intake. Such a calculation is possible, because we know that alcohol is eliminated relatively quickly from the body. With cannabis it is a very different story. The drug will accumulate in your body for days, if not weeks: so as you role your next spliff, you will never know exactly how much is already working away inside you at any one time. I challenge any advocate of cannabis to come clean, and state exactly what a 'safe' dose would be. . .

Another notion is that cannabis is less harmful than cigarettes. I'm not sure how this idea has come about: it is certainly not the result of any scientific papers. Instead, we know that cannabis smoke contains the same constituents as that of tobacco: however, it is now thought that 3-4 cannabis cigarettes a day are equivalent to 20 or more tobacco cigarettes, regarding damage to the lining of the bronchus, whilst the concentration of carcinogens in cannabis smoke is actually higher than in cigarettes. . .

More wishful thinking is that because cannabis doesn't actually kill you, it is OK to send out less negative legal signals — even though the Home Secretary himself admits that the drug is dangerous. Leaving aside the issue that cannabis could indeed be lethal — in that the impaired driving it can trigger could well kill — there is more to life than death. After all, it is widely accepted that there is a link between cannabis and schizophrenia: as many as 50% of young people attending psychiatric clinics may be regular or occasional cannabis users, whilst the drug can precipitate a psychotic attack, even in those with no previous psychiatric history. Moreover, there appears to be a severe impairment in attention span and cognitive performance in regular cannabis users, even after the habit has been relinquished. Surely, all these observations testify to a very strong, and long-lasting, action on the brain. . .

Baroness Susan Greenfield CBE is a neuroscientist at Oxford University and Director of the Royal Institution. A full version of this article was first published in *The Observer* (16/8/02)

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does not 'bravely' resist them: he is blind to them. As he passes the off-licence, the betting shop, the tobacconist and the snack shop on his way to work, no demon force leaps out to drag him into them: he does not see them. Why? Because they were there yesterday and for the last five years. He did not go into them then and he doesn't today.

If good habits are the answer to bad habits, what policies might reflect this? Well, obviously the maintenance of good habits is undermined by constantly discussing things and trying to understand them. Health education in schools or the media, counselling and public debate, even worse, 'informed public debate with full information about the facts' are the enemies of good habits. Second, good habits are not learned from governments but from traditional social institutions such as the family, the school, the circle of respectable friends, the restaurant. There, new members of society see older ones displaying good habits and learn by emulation and discipline. The sensible policy will nurture these cradles of good habits. Third, if tradition and habit are the solution, it follows that new temptations are much more dangerous than old ones. Society has already tamed and organized the old ones, incorporating, for instance, eating and drinking into social occasions ordered by good taste.

Ecstasy and marijuana may be no worse than some legal substances in chemical terms. But they are very different to them in social terms. Only the narrow-minded addictionists talk about wine, say, as if it were just ethyl alcohol. That is not how most people see it, or, more important, how they 'use' it. Currently illegal drugs should only be legalized if we think they can be tamed by social rituals and habits.

Digby Anderson is
Director of The Social Affairs Unit

Is there an addictive personality?

Mick Hume

Of all the revelations in the official report into Dr Harold Shipman, none was more shocking than the conclusion drawn by the judge. 'I think it likely that whatever caused Shipman to become addicted to pethedine also led to other forms of addictive behaviour,' said Dame Janet Smith: 'It is possible that he was addicted to killing.'

So the addiction model of human behaviour, already applied to everything from drink and drugs to smoking, sex and shopping, can now seriously be proposed as an explanation for murder. Perhaps we shall soon see recovering serial killers attending self-help meetings of Homicidal Maniacs Anonymous. It was not until recent decades, after more than a century of argument, that alcoholism was widely accepted as a medical rather than a moral problem. Since then, however, the disease model of addiction has rapidly been extended over wider and wider areas of human behaviour. This has less to do with advances in medical science than with the retreat of the human subject.

In contemporary society, a loss of faith in our ability to act as responsible, morally autonomous individuals has led many to seek external explanations for human problems and behaviour. It is now common for example for adults to blame some childhood trauma for their emotional difficulties. The concept of addiction — something that can produce a compulsion beyond the individual's self-control — has bloomed in this climate. It is not difficult to understand how attractive it might be to ascribe one's difficulties to the mysterious power of some toxic substance or habit. As the ex-footballer George Best said after his recent liver transplant, 'As for calling this self-inflicted, I didn't decide one day that I would drink myself to death. It is a result of alcoholism.'Which sounds like a 21st-century equivalent of saying it's God's will.

The wider implication of these arguments is always to curtail the scope for individual autonomy, self-control and choice, and to encourage people to see themselves as passive victims — of external substances, other people, or even their own genes. In this sense, as Dr Michael Fitzpatrick has it, 'the inflation of addiction is a morbid social symptom'.

The acceptance of the addiction model flies in the face of experience. After all, people do manage to give up destructive habits all the time. We may not have absolute freedom of will, but we retain the ability to act as autonomous agents. As that champion of the human subject Karl Marx might say in response to today's addiction addicts: man makes his own history, if not in circumstances of his own choosing.

Mick Hume writes for the *Times* and is the editor of www.*spiked-online.com*

Body & Soul: The Real Distinction

Roger Scruton

'When our presumed betters mock us as addicts,' writes Lord Harris, in his notorious defence of smoking, 'I would enquire when they last heard of a smoker mugging an old lady to get money for the next packet of cigarettes? If they persist, I would in the same spirit make a clean breast of it, plead guilty and ask for several other charges to be taken into account, including a life-long addiction to tea and coffee (each at least three times a day) porridge, bananas, lamb cutlets, and more recently to crunchy French bread, cheese, red wine and whisky...'. [Ralph Harris and Judith Hatton, *Murder a Cigarette*, Duckworth, London 1998]

Lord Harris here hints at a distinction between habits that threaten the body, and habits that threaten the soul. Alcohol, gambling and opiates, when taken to excess, produce behaviour that ignores or defies the moral sense. The addict then becomes dangerous to others, whom he exploits through insidious subterfuge and emotional pretence. The worlds of the alcoholic, the heroin addict and the compulsive gambler are bleak, loveless and demonic. If you doubt this, then study the classics:

Thomas de Quincy, *Confessions of an English Opium Eater*; Dostoevsky, *The Gambler*, and Leonid Tsypkin's *A Summer in Baden Baden*, which explores the disintegration of Dostoevsky himself as a result of his vice; *The Queen of Spades*, in both Pushkin's and Tchaikovsky's versions; Eugene O'Neill, *A Long Day's Journey into Night* and Tennessee Williams, *A Street Car Named Desire*. Such works alert us to what is missing from current debates about 'addiction' — namely, a sense that some habits threaten the quality of life, and not just the quantity. Although Bach wrote a cantata against coffee, there is no great art that persuades us that caffeine, nicotine or sugar are threats to the soul to be compared with opiates and gambling.

The societies that originally discovered a habit are often immune to its worst effects. Thus the native Americans, who discovered tobacco, seem to be largely immune to lung cancer, while people from the Northern Mediterranean can drink large quantities of wine without getting drunk. But immunity too has its spiritual side. Shakespeare showed great insight when he depicted Caliban as lacking all immunity to alcohol, so making him the instant slave of the one who provides it. Immunity is an unsurprising result of genetic selection; and genetic variations around the globe are one reason for caution, when it is proposed to make freely available in one place, an intoxicant that has proved harmless in another.

More important, however, is the distinction implied by Lord Harris. The advocates of 'recreational drugs' like cannabis represent them as being no threat to the soul in the societies where their use is habitual. But immunities acquired in one place cannot be assumed in another. See Julian Madigan, *The Agony of Ecstasy*, Poolbeg 1996: an Irish father's moving account of his son's moral decline and eventual salvation.

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www.sirc.org'publik/food_junkies.shtml for a critical review of BBC2 TV series *Food Junkies* based on Eric Schlosser's more substantial thesis published in his book *Fast Food Nation*, 2002, Harper Collins.

www.peele.net for Stanton Peele's theory and advice on addiction