

The sensation of pleasure was once a hard won reward. But, as **Gordon Morse** explains, drugs can provide bliss on tap for those escaping pain and dealing with fame.

In pursuit of pleasure

B EING able to reward yourself, to feel good – even to feel euphoric – is absolutely essential to all sentient beings. We are all born with our essential software called instinct, which programmes us to do evolutionarily useful things. Eating, seeking safety and comfort, winning and many other behaviours are necessary for us to succeed as individuals, and through sex, to succeed as a species. And instinct directs us to do these things by equipping us with the ability to feel pleasure when they are achieved – so that we pursue pleasure repeatedly, whilst also avoiding the evolutionarily disadvantageous states of hunger, pain and fear.

NUCLEUS ACCUMBENS

This sensation of feeling good has been the subject of great medical curiosity and research. Much has been learnt from brain scanners that examine function rather than structure, such as PET (Positron Emission Tomography) scanners. These devices reveal intense activity around the nucleus accumbens, a tiny structure in the midbrain, when the subject feels reward.

The expression and feeling of pleasure is highly complex and involves many other neural pathways, but essentially the end result is the sudden release of a neurotransmitter known as dopamine in the nucleus accumbens. This release is but a brief pulse: pleasure is ephemeral and self-regulating – one slice of chocolate cake is pleasurable, ten are revolting. Comfort is only really best appreciated after a period of discomfort. This is a most important characteristic of the pleasure seeking mechanism. It is not the having of comfort, food, safety and so forth which is pleasurable, it is the not having it and then having it that feels good. Whilst being rooted in pain, hunger and fear is obviously very unpleasant, it is just as true that having

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everything you want is not nearly as pleasant as we would like to think it is. It's the constant vacillation between not having and having that gives us pleasure.

If the swing is wider, such as from intense fear to safety, or from intense hunger to feeding, then the pleasure is magnified. And to move from one extreme to the other quickly and frequently is the most pleasurable of all.


CHEATING NATURE

So for 150 million years, this tiny piece of brain has been dictating very nearly everything that we do – we are all wandering about seeking pleasure to a greater or lesser extent. If you study an animal such as, say, a rabbit, you will observe this very clearly. It is constantly eating, constantly vigilant to danger, and pretty nearly constantly procreating. Human beings tend to seek their pleasure in often quite complex and oblique ways, although the pleasure seeking motivation for most of our activities is usually apparent if you stop to analyse what is going on.

But uniquely amongst animals, mankind has discovered that there are ways of achieving the sensation of pleasure without necessarily resorting to some of these time-consuming and (for some people) difficult behaviours. We have discovered an array of chemicals that exert an effect directly on the neural pathways around the nucleus accumbens – we can stuff these chemicals straight into our bodies and feel good whenever we want.

RELEASE AND REWARD

There are many common examples of this. For instance, alcohol has a modest and direct effect on the nucleus accumbens – certainly we all recognise the sensation of mild euphoria that alcohol intoxication elicits. But alcohol offers the



action of almost all illicit 'recreational' drugs – cocaine salts have lost pretty much all of their effect within 30 minutes, and freebase cocaine is all over in less than half the time. From hero to zero in the blink of an eye, and then back again as often as the money supply allows. In short, cocaine is almost exactly what our brains have been looking for since the beginning of animal life.

It is no coincidence that cocaine is the drug of choice for the rich and famous. In a perverse sort of way, they too are less able to experience pleasure than less illustrious mortals because they are saturated with an array of food, sex and comforts. They are disabled from not having and so their state of constant 'having' loses any sense of reward. But cocaine can always press the pleasure button.

Being famous, the object of adulation, is in itself almost drug-like in its artificial euphoria. To hear tens of thousands of fans chanting your name after scoring a goal in the Premiership, or singing your song as you play to a packed house in Wembley Arena, must hit levels of euphoria that few of us can imagine, let alone have ever experienced. But our nucleus accumbens' are never satisfied – one reward always triggers cravings for other rewards – a cigarette after sex, champagne after winning the Grand Prix – and it is unsurprising therefore that the famous seek to match the reward they get from their fame with drug use, and frequently the drug that offers the nearest match is cocaine. And it is frequently cocaine that relives the roar of the crowd when the fame inevitably declines.

CHEMICAL CULTURE


This model is a very simple model that describes one narrow but important part that drugs play in our body's physiology. There is of course far more to drug use, abuse and addiction. Drug use arises from a very complex blend of sociological, psychological and physical factors and in turn impacts on an individuals' social, mental and physical health. To a certain extent it is not just mind-altering drugs that we use and abuse to feel better, but all drugs, indeed all medical interventions. We are unique in the animal kingdom not just in manufacturing drugs to feel pleasure, but through orthodox medicine, to palliate, ameliorate and rescue us from the entire spectrum of pathological and traumatic events that threaten our comfort and our survival. It is curious that we stigmatise the drug addict for simply caricaturing what we are all doing.

Drugs of any sort are devices that mitigate our vulnerability to suffering and dying. Until we can learn the art of dignified suffering, dispel the fear of death through acceptance of its inevitability and acquire the more spiritual concept of happiness rather than pleasure, drugs will always be the expedient of the masses. •

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indirect benefit of easing anxiety, which is primordially the feeling of fear and danger. So for the anxious individual, alcohol offers a double pleasure, which is why of course so many people who drink alcohol excessively suffer from innate anxiety. And with a half-life of a couple of hours or so before anxiety returns, the sense of reward can be magnified frequently each day.

Heroin, like alcohol, is inherently euphoric and



tranquillising but is also of course an extremely powerful pain reliever. Whereas there are a few individuals who develop a taste for opiates through being first exposed to them as medicinal analgesics, the vast majority of heroin users acquired their use illicitly. It is very interesting that so many heroin users have suffered early life trauma in the form of emotional or sexual abuse. The model of Post Traumatic Stress Disorder is that of a burden of pain that does not wane with the passage of time, and early life trauma is a most important cause of PTSD – clearly heroin affords release from emotional pain as well as

physical pain. And again, because the effects of heroin last only a few hours before pain returns, dosing with release and reward can be repeated frequently.

FAME AND COCAINE

Cocaine offers no comfort to the anxious or in pain, indeed it doesn't relieve any negative feelings at all. What cocaine offers is pure, unadulterated pleasure. It works by liberating a large dollop of dopamine directly into the nucleus accumbens. Cocaine has the shortest duration of