Pergamon

S0277-9536(96)00089-5

Soc. Sci. Med. Vol. 43, No. 12, pp. 1829–1838, 1996

0277-9536/96 $15.00 + 0.00

THE SOCIAL CONSTRUCTION OF DRUG DEBATES

DAVID DINGELSTAD, RICHARD GOSDEN, BRIAN MARTIN* and NICKOLAS VAKAS

Department of Science and Technology Studies, University of Wollongong, Wollongong, N.S.W. 2522, Australia

Abstract—Drug debates normally proceed without scrutiny of why the particular issues being debated are considered the crucial issues. One plausible influence on the terms of debates is the interest groups involved. Four drug debates are addressed in this paper: neuroleptics, drugs in sport, analgesics and marijuana. The key interest groups and their likely influence on the terms of debates are examined. The implication of this analysis is that more attention should be directed to the terms of drug debates rather than just arguing within those terms. Copyright © 1996 Elsevier Science Ltd

Key words—neuroleptics, drugs in sport, analgesics, marijuana

INTRODUCTION

Drugs are not only widely used but also widely debated. To pick a few examples, there are fierce arguments about the dangers of AZT, barbiturates and marijuana, disagreements about the benefits of aspirin and oestrogen, and debates about regulations and laws governing tobacco, alcohol and heroin. Looking at the voluminous professional and popular discourse on such topics, it is apparent that almost all the discussion is about the merits of the particular points of views that are assessed or advocated. By contrast, the terms of the debate are seldom analysed themselves. In other words, the usual frameworks for drug discourse are typically taken for granted rather than critically examined.

Why is it, for example, that most of the debate about marijuana is about potential physical and social harm and whether the drug should be illegal, decriminalized or legal? Is it possible to imagine instead that the debate could be over the benefits (pain relief, pleasure, greater insights) and regulation of different varieties? Why is it that most of the debate over drugs in sport concerns hazards and fairness? Is it possible to imagine that the debate instead could be over appropriate regimens to maximize safety in sport? At a meta level, why is it that such questions are so seldomly asked?

Our aim in this paper is to make the point that debates about drugs are socially constructed. The terms of debates are not "natural"; that is, they are not a simple reflection of the properties of the drug itself. Instead, we argue, debates reflect the nature of society, especially the influence of the groups with the greatest power over the perception and deployment of the drug in question. More precisely, debates reflect a complex process of interaction between social power and the properties of drugs.

That drug debates cannot easily be explained by the nature of drugs themselves is apparent from a comparison of the way different drugs are treated. While severe penalties are imposed for the use of some drugs, such as marijuana (at least in some jurisdictions), others of apparently equal or greater danger are widely used and promoted, such as alcohol. Drugs that enhance performance in sports are not permitted according to Olympic regulations, but in practice only some are actually banned: tests are made for amphetamines but not for insulin. These are examples of the apparent arbitrariness of drug policies that has been pointed out by many commentators [1].

An alternative is to explain the terms of drug debates by a social analysis. There are many potential ways to do this, from functionalism to postmodernism. Here we draw on the sociology of knowledge and the role of interests. The project of the classical sociology of knowledge was to explain how the structure and content of knowledge reflects the society in which it is created and sustained [2–4]. The early sociology of knowledge theorists exempted science and mathematics from scrutiny, but this lacuna was made good by what is called the sociology of scientific knowledge, or SSK [5–7]. Analysts using SSK have shown that the choice of research topics, the explanatory models deployed and decisions about what are scientific facts each can be influenced by factors such as social class, gender, prevailing ideologies, and the organization of the scientific community.

For our present purposes it is not necessary to subscribe to this strong version of SSK, since we are not directly concerned with disagreements over knowledge about drugs—though that is a fruitful area for analysis—but with the social construction of debates about drugs. Nevertheless, the relevance of SSK should be obvious. In one important approach to SSK, the prime

*Author for correspondence. E-mail: b.martin@uow.edu.au.

explanatory variable is "interests", namely groups that stand to gain or lose from a particular way of understanding the world, including corporations, governments, professions and, at a more detailed level, particular researchers or advocates [8–10].

As applied to medicine, SSK can be called the sociology of medical knowledge, a field in which there is a growing literature [11–14]. Another but closely related way of approaching the same issues is through the social constructionist approach [15–18]: something becomes a social problem when relevant actors define it to be one. Our topic draws on both these perspectives. By looking at the social construction of the terms of debate, we are looking at a special case of the sociology of knowledge, namely the framework in which an issue is discussed rather than the detailed knowledge claims about the properties or effects of drugs. Most SSK studies focus on processes within the scientific community, whereas our topic involves a range of groups in society, as is normally covered in the social construction of social problems. On the other hand again, we deal not just with social problems but also with "non-debates"—issues that are not seen as problematic—and it is the sociology of scientific knowledge that has more often been used to analyse areas of knowledge that are taken for granted. Thus, both the sociology of scientific knowledge and the social construction of social problems are viable ways to approach our topic, and we draw on insights from each of them.

To make our case, we proceed as follows. We have picked four different drug debates: neuroleptics; drugs in sport; over-the-counter analgesics; and marijuana. In each case we outline the key issues that are debated in the professional and/or popular literature. We then note some of the most important interest groups behind the debate, commenting on their influence over the terms of the debate. Our basic argument is that the terms of the debate are shaped by the power of the most important interest groups. To illustrate this, we propose in each case a counterfactual situation, imagining that a different interest group dominates and suggesting how the terms of each debate might be changed as a result.

Needless to say, by analysing a set of broad-ranging drug debates, it is impossible to go into great detail about any particular one. The corresponding advantage is that we are able to make systematic comparisons between debates, something that is seldomly undertaken. The four debates that we have chosen are designed to cover a range of issues with some overlap and some contrast. Many other drug debates could have been chosen for this purpose. Our aim is not to provide the definitive analysis of any particular debate but to demonstrate a procedure for carrying out analyses. For this purpose, the particular debates chosen are not crucial.

In each case, our analysis is based on a reading of literature in the area and interviews with informed individuals to check our assessments of the central arguments in the debates. Since the terms of debates sometimes vary over time and from country to country, our assessments may not always apply beyond the contemporary situation in English-speaking countries, especially Australia. Again, this specificity does not undermine the general argument but rather is a feature of it: drug debates are not timeless manifestations of the nature of drugs but rather contingent features of social structure and social struggle.

In the next four sections, we deal with the four case studies, in each case outlining the usual terms of the debate, the most influential interest groups and the likely terms of the debate should different groups become dominant. In the final section we compare the case studies and draw conclusions for both the analysis of drug debates and for drug policy.

DRUG DEBATE 1: NEUROLEPTICS

Neuroleptics are a group of drugs that target the dopamine neurotransmitter system of the brain and are used in psychiatric treatment to manage psychosis. They are alternatively known as major tranquillizers or antipsychotics. Prior to their discovery by French researchers in the early 1950s no suitable drugs had been available for the management of psychosis. The advent of neuroleptics is sometimes identified as a turning point in the practice of psychiatry, because it made possible for the first time the treatment and control of mentally ill people outside of an institutional setting. In most developed countries a large fraction of the people suffering, or in remission from, psychosis are now treated in the community. This community-based treatment depends almost entirely on dosing with neuroleptics.

However, neuroleptics are not a miracle cure, and their usage promotes an on-going debate within the mainstream of the psychiatric profession. This discussion arises primarily as a result of the serious nature and unpredictability of side-effects associated with the drugs. This mainstream debate tends to focus on theories about how the side-effects might be minimized. The debate is propelled by the considerable number of variables involved in the prescription of neuroleptics. A match has to be made for a particular patient, through a combination of heuristics and trial-and-error, with a particular type and brand of neuroleptic according to individual tolerance; an appropriate dosage has to be determined for each individual patient—with the right combination of anti-side-effect drugs; and the treatment has to be continued for an indefinite period to suppress psychotic symptoms that tend to fluctuate over time. This balancing act is further complicated by a substantial fraction of patients who do not want to take the drugs and for whom tactics have to be adopted for involuntary dosing.

New research is continually feeding this mainstream debate. Each year the United States National Institute of Mental Health alone funds dozens of research projects on neuroleptics and their related side-effects. The

recently revised version of the American Psychiatric Association's *Diagnostic and Statistical Manual* (DSM-IV) contains an appendix of psychiatric subjects recommended for further study. Prominent amongst them is a detailed survey of a number of "neuroleptic-induced" diseases [19].

Tardive dyskinesia (TD), involving abnormal involuntary movements, is the most worrying of these neuroleptic-induced diseases, partly because the only treatment for this particular side-effect is the withdrawal of neuroleptics, and withdrawal can leave a patient open to psychotic relapse and sometimes, paradoxically, worsening of the TD symptoms, as well. The overall average incidence of TD amongst long-term patients treated with neuroleptics is approximately 24% [20].

There is, however, considerable optimism that the apparently intractable problem of TD might soon be overcome with the introduction of new types of neuroleptics like Clozapine [21]. This optimism is despite the appearance of a number of new side-effects associated with Clozapine. One of these is a condition called agranulocytosis, which has fatal consequences for a small percentage of patients.

Researchers have discovered that psychiatrists are discontented with the existing status of scientific knowledge regarding the correct dosage and duration of antipsychotic maintenance treatment. A survey of Austrian psychiatrists revealed that there is considerable variation in attitudes in regard to the correct use of neuroleptics [22]. Other research is centred on the aetiology of psychosis, particularly schizophrenia, and the question of whether abnormalities in brain architecture detected in some patients by brain imaging have been caused by neuroleptic treatment or are instead evidence of a biological cause for mental illness [23]. The biological aetiology position is supported by other research that indicates that non-schizophrenic siblings of schizophrenic patients share similar patterns of neuropsychological deficit which may indicate genetic vulnerability [24].

Some of the more serious side-effects, normally assumed to be caused by neuroleptics, like dyskinesias, are also under review to determine whether they might also be present in schizophrenic patients who have never been treated with neuroleptics. At least one study has determined that they are and has concluded that spontaneous dyskinesias may actually be a symptom of certain forms of schizophrenia rather than a side-effect of neuroleptics [25]. Other areas of recent research feeding the debate include the development of a rating scale to measure the significance of attitudinal factors affecting the non-compliance of patients who have been prescribed neuroleptic medication [26] as well as a survey of the comparative incidence of self-poisoning by a selection of drugs, which included neuroleptics [27].

A number of interest groups play important roles in shaping this mainstream debate, the principal ones being the state, relatives of mental patients, the psychiatric profession, the pharmaceutical industry and the patients themselves. The state administers mental health laws which typically provide for the voluntary and involuntary care, treatment and control of people who have been identified as mentally ill or mentally disordered. This provision by the state is based on assumptions that such people pose a danger to themselves and others. This assumption identifies the people in direct personal contact with mentally ill people—relatives and friends—as being in the forefront of interested parties.

The next group is the psychiatric profession, which has been charged with the responsibility to provide the care, treatment and control and which has collectively chosen neuroleptic medication as the treatment of first resort for psychosis. Associated with the psychiatric profession, as an industrial support base, is the pharmaceutical industry, which provides a significant variety of neuroleptic types and brands for psychiatrists to choose from. Finally, there are the patients themselves, who can be divided into two groups—those who concede their patient status and take the medication willingly, and those who resist.

In examining the roles of these interest groups in the debate, some points should be noted. The first relates to feelings of empathy and responsibility amongst relatives of mental patients. In so much as neuroleptics have largely replaced earlier, cruder forms of physical treatments like electro-convulsive therapy (ECT), drug therapy presents itself as a comparatively mild and normal form of treatment to impose upon a "sick" family member. Most people, after all, have themselves been required to take some form of medication at some time in their lives.

On top of the empathy aspect is the potential for relatives of mentally ill people to experience feelings of guilt. The use of neuroleptics is part of a major shift in psychiatric thinking away from the talking approach of psychotherapy towards a more complete reliance on physical forms of intervention. The underlying rationale of this shift in treatment requires an attendant shift in assumed aetiology of mental illness from being one of childhood trauma to that of assumed brain malfunction. This benefits relatives because if mental illness can be seen as having a physical cause, like an imbalance in brain chemistry or a genetic defect, then it cannot have been family life that drove the person mad. It is not surprising then that support groups for relatives of mentally ill people often endorse neuroleptic treatment with a certain enthusiasm.

The role of pharmaceutical companies in the debate is significant. They fund research selectively and even advertise neuroleptic brands openly in medical and psychiatric journals. In doing so they often compete for attention with reports on new neuroleptic research. Their role is driven by the normal market concerns for the promotion of product sales as well as the need to provide sufficient information about the risks of their products to minimize legal vulnerability.

The demand for control measures presented by state-sponsored mental health legislation, combining with the demand for care and treatment from the fraction of mentally ill people who concede their illness, together with demands for care, treatment and control from the relatives of most mentally ill people, plus the relative cost of drugs versus talking therapies, all create a situation which drug companies can exploit by promoting the use of their various brands of neuroleptics for consumption by a captive market. The stress of decision-making under these conditions tends to have an impact on the psychiatric profession.

The uncertain and variable conditions that surround the prescription of neuroleptics have caused the psychiatric profession to split into a major and a minor camp. The mainstream debate, as we have discussed, is concerned with matching a patient to the right brand and dosage. The minor stream is characterized most forcefully by Peter Breggin in his recent book, *Toxic Psychiatry*, where he argues that neuroleptics are an inappropriate treatment altogether. Breggin baldly asserts that neuroleptic medication has no effect whatsoever on the course of psychotic thinking patterns and that the drugs are really used simply to make people more docile and easy to control. He says that any apparent change they make to a patient's thought patterns and behaviour is actually as a result of brain damage and that this form of treatment amounts to a chemical lobotomy. He cites the apparent brain damage associated with major side-effects like tardive dyskinesia as evidence ([28], pp. 57–111).

The difference between the major and minor streams of psychiatry on the subject of neuroleptic treatment is characterized, according to Breggin, by the majority of psychiatrists having adopted a biological interpretation of mental illness. This majority is opposed by a residual minority who remain loyal to a belief in talking therapies and experiential causes for mental illness. A second, more extreme level of this minor stream is championed by the perennially articulate voice of Thomas Szasz, who argues that not only is neuroleptic treatment inappropriate but that the whole practice of psychiatry—its nosology, diagnoses and treatments—is all a fraud [29]. This is despite the fact that he is himself a professor of psychiatry.

The group that is least heard, but which all the same probably has the most significant interest in the debate, is that fraction of patients who are dosed with neuroleptics against their will. Most mental health legislation provides for involuntary hospitalization and treatment under certain conditions. The percentage of patients who are treated involuntarily varies from country to country. In the United States this group is about 25% of the total, but in Japan involuntary hospitalization ranges up to 80% ([30], pp. 147–148). In the 1970s these "psychiatric survivors" were more active and vocal than they are now and in the United States at that time they had a fairly strong voice through their own journal, *Madness Network News* [31]. Complaints by involuntary patients can be generally sorted into two main types: complaints made by people who claim they are not mad and do not need any treatment at all; and complaints made by people who acknowledge having unusual and unpleasant mental experiences but who report that the side-effects of neuroleptic medication are much worse. If these patients were the dominant voice in the mainstream debate, the focus would most likely shift to the issue of "informed consent".

DRUG DEBATE 2: DRUGS IN SPORT

Drugs have been used by athletes since the days of the ancient Greeks when mushrooms and other substances were taken to improve performances. Partly as a result of the pharmaceutical industry's discovery and marketing of new drugs, there are now numerous types of drugs that are used in sport: alcohol, amphetamines, analgesics, beta blockers, caffeine, heroin, steroids and tobacco, among others.

In both popular and professional commentary on drugs in sport, the most common stance is to assume that the use of any drug that gives an athlete an unfair advantage is a bad thing [32–35]. Indeed, so pervasive is this assumption that it can be said there is little open debate about whether athletes should be able to take whatever drugs they want. In public discourse the answer is almost always "no". Most of the debate concerns how to stop drug use, for example, by education, improving ethical standards and drug testing. In spite of this overwhelming condemnation of drug use in sport, most informed observers believe that the practice is commonplace. Although drug testing typically finds only 1–2% of tested athletes to have taken a banned drug, insiders estimate actual use to be 10 times higher than this ([36], p. 12). Athletes or coaches can avoid positive tests by a number of means, such as avoiding events where they are likely to be tested, by ending drug use a suitable period before the event (as in the case of steroids), by taking additional substances to mask the presence of a banned drug and by taking drugs for which testing is not yet available.

According to Olympic rules, no drug may be taken that is ergogenic, namely which enhances performance. Nevertheless, this regulation is applied in a most selective fashion. There is no testing for drugs that are used for "legitimate" therapeutic uses, such as antibiotics for infections, although they undoubtedly enhance the performance of certain athletes. There is no testing for drugs that enable an athlete to come up to "normal", such as insulin taken by diabetics, though again such drugs undoubtedly are ergogenic. The main concern is about ergogenic drugs, such as amphetamines and steroids, that take an athlete's performance beyond the "normal" maximum. Again, though, this concern is selective in practice. Olympic rules prohibit any artificial means that enhances performance, including techniques such as carbohydrate loading, blood doping, dehydration and megavitamins ([37], p. 5). Some such

techniques, such as blood doping, are known to be ergogenic but are virtually impossible to test for.

Much of the writing on drugs in sport emphasizes the hazards of drugs, but a closer look reveals contradictory positions. Some sports, such as boxing and rugby, are dangerous even without drugs and, indeed, some drugs can reduce the danger. Furthermore, athletes often put themselves under risk of on-going physical disability, for example, by training or competing while injured, and sometimes this is facilitated by "legitimate" drugs, such as non-steroid painkillers.

The central argument against the use of drugs in sport is that it gives an unfair advantage to some competitors. In a typical statement of this position, Mottram [38] says that the use of performance-enhancing drugs

> is potentially the most serious threat to the credibility of competitive sport and has become the subject of doping control regulations. It concerns the deliberate, illegitimate use of drugs in an attempt to gain an unfair advantage over fellow competitors.

Drugs that bring an athlete up to "normal" are not seen as unfair; those that allow performances that are "supernormal" are condemned.

To understand the crucial role of the notion of fairness in sport, it is helpful to look at the role of sport in society [39]. With the introduction of television, sport has become big business. Nevertheless, sport retains an aura of innocence: it is conceived of as a separate world, outside of sordid day-to-day politics, a world in which rules are well-defined and the best performer wins. Sport is popular partly because it allows participants and spectators to escape into a world where boundaries are clear and nothing matters except performance. In sport, unlike the "real world", merit is supposed to be its own reward. Sport represents a self-contained "moral order" [40], so it is no surprise that top athletes are idolized.

Anything that compromises the image of sport as fair is thus a threat to its credibility. Three commonly cited areas of "deviance" are cheating, gambling and drug use [41]. Drug use by athletes is damaging to the image of sport not only because it is perceived as unfair but because of the stigma of drug use in wider society. In order to maintain its image, sport has to be seen to be cleaner than the rest of society. Drug testing provides a symbolic guarantee of purity.

The major interest groups concerned with drugs in sport are sports administrators (such as the International Olympic Committee), corporations (such as owners of teams, manufacturers of sporting equipment and clothing, and pharmaceutical companies), the mass media, the medical profession, and coaches and athletes. The current definition of the drugs-in-sport issue, namely as an issue to do with fairness and to a lesser extent hazards, serves the interests of those groups needing sport most of all to be seen as a pristine arena of fair competition. This is most important for sports administrators. Corporations have more mixed interests. Collectively they are benefited by the image of sport as fair and they certainly all make statements opposing drugs in sport, but the practice is sometimes different. Owners, for example, have a strong interest in their teams winning, and are likely to turn a blind eye to drug use. Pharmaceutical companies make money from selling drugs—the steroid market in the U.S. alone is worth many millions—and apparently have little to gain by eliminating drugs from sports. The mass media also has mixed interests. Sporting coverage is popular and depends to some extent on the standard image of sport. On the other hand, scandals in sport make good news items; mass media exposés of drug use in sport have been a driving force behind the introduction of drug testing. The medical profession's immediate concern is in preventing and treating sports injuries. Finally, coaches and athletes are driven by contradictory pressures. They are hailed if they win and often reviled if they lose. They are also reviled if they are caught distributing or using drugs.

The current "debate" over drugs in sport reflects the current role of professional sports in society, namely an activity that retains images of its amateur past but is driven by big business and the mass media. Drug use has increased as sport has become dominated by business interests and (in the Olympics) a matter of government prestige. Sports administrators have turned to drug testing as a way to protect the image of sport.

If, for example, the medical profession was the dominant interest in sport, it is likely that some sports would be banned, such as boxing. Some drugs might be opposed, but some that are now banned, such as steroids, might be allowed in a controlled manner. The major concern would be health and safety, not fairness. This would reflect a greater concern for healthy participation and a lesser concern for competition and winning, as still prevails in some amateur sports.

It is worth making one final comparison. Drugs in sport are opposed for giving an unfair advantage, but no such concern is expressed about technological advantages such as specially designed running shoes or bicycles [1]. Some athletes are advantaged by their access to the most advanced equipment and also sophisticated psychological training, and these tend to be the ones in the wealthier countries and sectors of society. Most drugs, by contrast, are relatively cheap and easy to obtain. The special concern about drugs in sport, and the lack of concern about technological advantages, seems to reflect the interests of sporting administrators in the wealthier and more technologically advanced societies. If those lacking a technological edge set the terms of the debate, the issue of drugs might be secondary to technological issues.

DRUG DEBATE 3: ANALGESICS

Analgesics are widely used, legally obtainable drugs that are available either over the counter (OTC) or via prescription from a doctor or designated professional. The primary function of analgesic drugs is pain relief.

While a large range of drugs falls under this definition (including narcotics such as morphine and pethidine), the focus will predominantly be on minor analgesics, which include paracetamol and aspirin. Some analgesics including aspirin can also reduce inflammation and fever symptoms.

The dominant debate concerning the use of analgesics has focussed essentially on the risks and benefits associated with usage. The decision process on OTC status is generally perceived to follow from risk analysis. The emphasis consequently has been on the recipient of the medication. While this has revealed trends of usage and aided in the formulation of strategies to deal with risks/benefits, a more holistic appraisal of the debate requires an examination of wider social, political and economic influences. An investigation of these broader influences requires an analysis of motivational factors driving interest groups including government, health consumers, media, medical profession and pharmaceutical industry.

In the past, certain OTC analgesics, particularly caffeine compound analgesics, were placed into prescription categories due to a long history of research which suggested links to kidney damage. Other analgesics have had their classification changed to improve accessibility in the light of less significant risks. Attempts to reduce poisoning have resulted in reduced numbers of pills per package and the adoption of blister wrap. The medical profession has provided significant empirical research that impacts on strategies adopted whether highlighting the dangers of caffeine compound analgesics or the more contemporary abuses of analgesics containing paracetamol/dextropropoxyhene [42–44]. This later group, while placed on prescription since 1976 in Australia, has remained popular and, according to a recent study, it has been linked to 12.8% of drug related deaths [45]. In Australia, state government health departments have altered the classification and packaging of analgesics through submissions to the Australian Health Ministers Advisory Council.

The media provide an important public platform for health consumers. While views expressed are often polarized with various interest groups vying for ascendancy, the media provide information on issues concerning public health. Nelkin cites a United States National Cancer Institute survey which found that the magazines, newspapers and television provided people, respectively, with 63.6, 60 and 58% of cancer prevention information, while doctors provided 13–15% ([46], p. 77).

The medical profession has increasingly become the definer of "truth" through its control of insider knowledge. A further limitation of public knowledge is achieved through advertising pharmaceuticals if an accompanying understanding of the medication is not forthcoming from other sources. The issue of OTC drugs being advertised directly to the public was raised in the Royal Commission into the Non-Medical Use of Drugs. While OTC pharmaceuticals have limited restrictions on advertising, prescription drugs are not permitted to be advertised to the general public. The tendency to reschedule medications from prescription to OTC and the higher risk of prescription substances suggest that restrictions on advertising are necessary ([43], pp. 275–276). Studies of the economic aspects of legal drugs have concluded that pharmaceutical industry profit is a significant driving force for large-scale production, beyond what are essentially modest demands of the comparatively small numbers of people requiring drugs for designated medical conditions ([47], pp. 219–230).

Increased communication of information from the medical profession to patients has been advocated in order to empower patients with knowledge to make informed choices and consequently reduce medical dominance [48]. The classifying of large numbers of analgesics and other drugs as OTC poses a number of benefits and problems for governments and the medical profession. While the costs could be reduced, information might not reach patients. Although these drugs may be considered low risk given past research and history, special factors may increase risks such as polydrug use, particularly amongst the elderly [49]. Studies of the elderly and women indicate that they are the highest users of OTC and prescription drugs within Australia and overseas ([50], p. 42). Therefore, access to information remains critical and must be provided for patients using OTC medications.

The pharmaceutical industry not only controls the types of drugs manufactured but also has considerable influence on how they are classified. Pharmaceutical companies lobby government and its regulatory bodies to classify a range of drugs as OTC. This serves to increase industry profits, particularly when a drug's patent is running out, allowing competition from generic drugs. Despite lower profit margins for OTC drugs, many companies hope to build post-patent sales strategies such as the British company Boots with ibuprofen. Once a prescription painkiller, ibuprofen was approved for OTC status when its patent expired in 1984. Ibuprofen doubled its sales to $500 million per year in the first five years. Over-the-counter status, it is also argued, will save governments money, particularly those analgesics that subsidize prescription sales and reduce visits to doctors [51, 52].

The profit motive has also seen the replacement of single-drug analgesics like aspirin with the more profitable and highly marketed combination analgesics ([53], p. 124). Studies of the effectiveness of compound analgesics (aspirin, salicylamide, paracetamol and related substances) have revealed that they are no more effective at relieving pain than single-substance analgesics ([43], p. 297).

Some argue that in conjunction with an assessment of risks, consumers will benefit from OTC availability through self-diagnosis, the encouragement of early treatment, and the prevention of further difficulties and costs [52]. However, the continual growth in the size of pharmaceutical companies through alliances and mergers [54] strengthens their economic and political

power in influencing government regulation, the medical industry, the media and consequently the health consumer. Therefore, OTC medications would be increasingly defined by this dominant group's interests of profit and economic viability.

The judgement of the relative risks and benefits of analgesics is strongly influenced by dominant pharmaceutical interests. The corporate and government push for OTC availability of drugs on what appear to be essentially economic grounds still begs the question, what is the basis for legal/medical classification of analgesic drugs? If health consumer groups dominated the analgesic debate, risk assessments would still be required, but access to information and effectiveness would be based more for individual needs rather than the advertising and profit maximization of pharmaceutical companies. For example, the development of combination analgesics would not be assessed in terms of sales but would be judged according to the perceived benefits to consumers. If no discernible social gain was forthcoming and there was no strong profit motive, there would be less incentive to market ineffective medications.

DRUG DEBATE 4: MARIJUANA

Marijuana is a name used to refer to parts of the hemp plant including the flowering tops, stems and leaves of the female plant. They contain a psychoactive substance known as delta-9-tetrahydrocannabinol (THC). Marijuana is widely smoked, eaten or otherwise ingested for "hallucinogenic purposes" or just to "get high". It is this purpose, and the parts of the hemp plant that are involved, that are the focus of most of the attention in the marijuana debate.

The debate is overwhelmingly about marijuana's legality. The argument that marijuana use should remain or become illegal is based largely on hazards, both the physical hazard to the individual user and the social hazard, namely the supposition that marijuana use is linked to use of other, more dangerous drugs such as heroin. The emphasis on hazards is obvious in most popular accounts but is also found in technical studies and surveys [55]. The contrary argument that marijuana use should be decriminalized or legalized is that these alleged hazards are exaggerated or nonexistent and that the illegality of marijuana is a greater social hazard, leading to the criminalization of individual users who have caused no harm to others and to the involvement of organized crime [56–59].

In the marijuana debate, analogies to other drugs are frequently drawn. Opponents of illegality often note that the health hazards of marijuana are no worse than those of tobacco or alcohol and that prohibition of marijuana creates many of the problems associated with failed efforts at prohibition of alcohol, namely crime, corruption and use of adulterated drugs. Proponents of illegality, on the other hand, say that since so many problems already exist with the legal drugs alcohol and tobacco, making more such drugs freely available can only increase usage, addiction and attendant problems [60]. A related debate concerns the appropriate penalty and level of enforcement for use or sale of marijuana [61].

The key groups that support the current illegality of marijuana are law enforcement agencies, politicians, religious groups and abstinence-promoting treatment providers. For the law enforcement system, drug violations provide a major enterprise. Although only a small fraction of the many millions of people who use marijuana are ever arrested or prosecuted, even so there are still plenty of convictions. For example, in the United States perhaps half of all current prisoners were convicted of drug offences or drug-related crimes [57]. Drug laws provide a convenient way to target certain groups: affluent drug users are seldom bothered by police, who concentrate more on poor, unemployed and minority groups. In any case, after decades of stigmatizing and criminalizing of marijuana users, many law enforcement officials have a vested interest in maintaining the illegality of the drug.

Also important is the role of politicians who decline to repeal laws against marijuana, both responding to and reinforcing popular impressions of the dangers of certain drugs. Popular opposition to marijuana comes from a range of groups, including various religious groups, with a common concern about degeneration of social mores. In the 1960s, marijuana, rightly or wrongly, became a potent symbol of disillusionment with traditional values such as hard work, deferred gratification and acceptance of social hierarchies.

Opponents of marijuana's illegality are less easy to categorize, including such people as users, some doctors, some environmentalists and law reformers. As well as arguing that current laws are creating more problems than they solve, many in this group present a strong argument about the benefits of hemp for industrial and medical uses. They argue that hemp's papermaking potential—including greater strength, higher flexibility, ease of growth and rate of growth—far exceeds that of tree wood. Hemp can also be used as a fast-growing source of energy, engine fuel, a very hard-wearing fabric, and a food (hemp seeds can be compared to soybeans), among other uses. Marijuana itself has analgesic and other medicinal properties; some doctors have argued that exemptions from current prohibition be made for medical uses of marijuana.

Quite a number of analysts trace marijuana's present illegality to unscrupulous campaigning by the U.S. Federal Bureau of Narcotics in the 1930s [62]. Those with a more conspiratorial view claim that industrial interests opposed to competition from hemp had a role in this [63]. Whatever one's assessment, this raises the difficult issue of the role of pharmaceutical industry and other industrial interests. Hemp might provide unwelcome competition to a range of industrial interests, from logging companies to cotton manufacturers, but it is also quite possible that existing firms could invest in new hemp enterprises. If marijuana became

legal, it is predictable that tobacco companies would move in on the market. More generally, it should be noted that not all members of any group line up for or against marijuana. For example, there are law enforcement personnel who support decriminalization, and each side has its own fair share of medical experts.

This brings us to an important point. The potential focus of the debate from the perspective of the opposition to marijuana's illegality is vastly different from the current focus. As noted before, those supporting laws against marijuana focus on hazards of marijuana use and attempt to make this the central issue. If the groups opposing laws against marijuana and (more generally) hemp were dominant, then the debate would be quite different. It might focus on issues such as suitable controls over advertising or use by children, quality control, driving under the influence of marijuana, taxation and other issues familiar in debates over legal drugs.

The illegality and stigmatization of marijuana have a further effect: they shape the actual "effects" of the drug on users via the social atmosphere and milieu in which it is used [64]. If marijuana use were "normalized", its social role, image and effects would change, leading inevitably to new areas becoming the focus for debate.

DISCUSSION

The four debates that we have outlined cover a wide range of issues, of which the following are some of the most prominent:

- legality, represented here by marijuana, but also applying to heroin, LSD and many other drugs;
- hazards versus benefits, represented here by neuroleptics and OTC analgesics, but also applying to many other drugs;
- prescription versus OTC, represented here by analgesics, but also applying to many other drugs; and
- fairness, represented here by drugs in sport.

Other drug debates involve yet further issues, including the following:

- acceptability of drug use in public, as in the case of alcohol and tobacco, among others;
- acceptability of drug advertising, as in the case of tobacco and oral contraceptives; and
- civil liberties, as in the case of testing employees for drugs.

The challenge is to make some sense out of these debates, namely to understand why particular debates are carried out in particular terms.

Our brief examination of four drug debates clearly shows the inadequacy of the view that the properties of drugs themselves—namely their physiological effects—are the sole or even primary influence on debates over them. There are far too many contradictory positions within and between debates to be explained by the nature of drugs. For example, it can be argued that the hazards and benefits of OTC analgesics and of marijuana are not dramatically different, yet the debates over the drugs are carried out on completely different terms. In sport, some drugs that enhance performance, such as insulin for diabetics, are considered legitimate, whereas others such as steroids are not. Yet such differences in practice are ignored in the almost universal condemnation of "drugs in sport", which is more like a monologue than a debate. The main discussions about neuroleptics are about selecting compounds and doses, but the critics of neuroleptics believe that the key issue is whether neuroleptics should be used at all.

If this is not convincing enough, further arguments can be brought to bear that drug debates are not reflections of the properties of drugs. One is that drug debates sometimes vary dramatically from place to place and from one period of time to another. For example, the debate over whether certain drugs should be legal is a recent phenomenon. There was little regulation of narcotics prior to the 20th century and governments made large profits trading these substances during this period. Pressure for reform saw a demarcation between illegal and legal drugs in the early 20th century. This new structure saw a reduced government involvement and an escalation in cost of legal drugs and the dominance of criminal syndicates in narcotics. This latter group, however, has often been sanctioned by governments, from the Japanese distribution of heroin during World War II in Manchuria to United States and French secret services involvement in sales ([65], pp. 214–217). Thus, economic gain and political motivation remain crucial in drug availability and the wider social perceptions generated when a drug is designated legal or illegal. Social histories of any of a number of drugs would show a similar variability in the social uses of the drugs and the debates waged over them.

Our argument is that the terms of drug debates can be much better understood through an analysis of the interest groups with the greatest stake and power over the role of the drug. In many cases such an analysis is complex and challenging, and certainly our brief accounts can only hint at the complexity. Given the complex and contradictory features of drug debates, it is not surprising that the social forces shaping these debates are similarly complex. Table 1 gives a list of some of the interest groups most influential in setting the terms of each debate, listed more or less in order of importance.

Our analysis predicts that should different groups come to dominate particular debates, then the key issues will change. This is illustrated in Table 1. For example, if patient groups rather than psychiatrists dominated the debate over antipsychotic drugs, then we would expect informed consent to become the key issue rather than choice of a drug and treatment regime.

Table 1. The key issues, dominant interest groups, and hypothetical dominant interest groups and consequent key issues for four drug debates

	Key issues of main debate	Dominant interest groups	Hypothetical dominant interest group	Key issues in hypothetical alternative debate
Neuroleptics	Side-effects, best dosing formula	Psychiatrists, patients, pharmaceutical industry, relatives	Talking therapists	Harmful treatment, informed consent
Drugs in sport	Fairness, hazards	Sports administrators, corporate sponsors, mass media, sports medicine practitioners, coaches, athletes	Medical profession	Risks vs benefits
Analgesics	Risks vs benefits, prescription vs OTC	Pharmaceutical industry, regulatory authorities, consumers, medical profession	Health consumers	Access to information, effectiveness
Marijuana	Legal status, health risks, social risks	Drug enforcement agencies, politicians, users, lobby groups, medical/social researchers	Commercial growers, hemp industries	Hemp vs alternatives

Several implications can be drawn from this analysis. First, the terms of drug debates deserve much more attention. Most literature and public discussion on drugs focus on the content of debates, such as whether marijuana is a health and social hazard and should remain illegal. More attention should be devoted to explaining why these are the issues debated. This is not so difficult in cases such as marijuana where there are groups trying to change drug policy. It is more challenging where there is no open debate and consensus appears to reign, as in the case of the current lack of debate over the usual social role of caffeine or morphine. Yet these "non-debates" can be explained by reference to dominant interest groups.

Second, a key strategy for challengers to current social roles of drugs is to attempt to change the terms of the debate. These have largely been defined by the dominant groups involved. The framework for debate is crucial since conclusions are to some extent conditioned by the framework itself. The strategy of trying to change the framework of debate is apparent in the campaign by proponents of hemp, who are attempting to change the focus from the health and social hazards of marijuana to the economic and other benefits of hemp. Should the latter ever become the major topic of debate, this will reflect a major shift. Challengers are often acutely aware that the current terms of debate prejudge the conclusion and, hence, that if they simply join in the debate as it exists they stand little chance of success.

Defenders of the current status of any particular drug benefit from the perception that this status reflects the inherent properties of the drug itself, namely that it is natural rather than socially constructed. This in turn helps explain why the social construction of drug debates is not more widely recognized. Challengers sometimes point to the constructed nature of drug debates, but often they too prefer to ground their arguments in science by presenting their own picture of the inherent nature of drugs.

Finally, we believe that there is much to be gained by further comparative studies of drug debates. Most studies keep within a single debate, in order to have a chance of dealing with all the issues. There is a place for a broader picture, using comparisons between debates to highlight differences in issues debated and interest groups involved.

Acknowledgements—We thank all the individuals who answered our queries and Gabriele Bammer for valuable comments on an earlier draft.

REFERENCES

1. Bakalar J. B. and Grinspoon L. *Drug Control in a Free Society*. Cambridge University Press, Cambridge, 1984.
2. Berger P. L. and Luckmann T. *The Social Construction of Reality*. Doubleday, Garden City, NY, 1966.
3. Mannheim K. *Ideology and Utopia: An Introduction to the Sociology of Knowledge*. Routledge and Kegan Paul, London, 1936.
4. Schutz A. *Collected Papers I: The Problem of Social Reality*. Martinus Nijhoff, The Hague, 1962.
5. Barnes B. *Scientific Knowledge and Sociological Theory*. Routledge and Kegan Paul, London, 1974.
6. Bloor D. *Knowledge and Social Imagery*. Routledge and Kegan Paul, London, 1976.
7. Mulkay M. *Science and the Sociology of Knowledge*. Allen and Unwin, London, 1979.
8. Abraham J. Scientific standards and institutional interests: carcinogenic risk assessment of benoxaprofen in the UK and US. *Soc. Stud. Sci.* **23**, 387, 1993.
9. Barnes B. *Interests and the Growth of Knowledge*. Routledge and Kegan Paul, London, 1977.
10. MacKenzie D. *Statistics in Britain, 1865–1930: The Social Construction of Scientific Knowledge*. Edinburgh University Press, Edinburgh, 1981.
11. Figlio K. Chlorosis and chronic disease in 19th-century Britain: the social construction of somatic illness in a capitalist society. *Int. J. Hlth Services* **8**, 589.
12. Gubrium J. F. Structuring and destructuring the course of illness: the Alzheimer's disease experience. *Soc. Hlth Illness* **9**, 1, 1987.
13. Richards E. *Vitamin C and Cancer: Medicine or Politics?* Macmillan, London, 1991.
14. Wright P. and Treacher A. (Eds). *The Problem of Medical Knowledge: Examining the Social Construction of Medicine*. Edinburgh University Press, Edinburgh, 1982.
15. Gusfield J. R. *The Culture of Public Problems: Drinking, Driving and the Symbolic Order*. University of Chicago Press, Chicago, 1981.

16. Hilgartner S. and Bosk C. L. The rise and fall of social problems: a public arenas model. *Am. J. Sociol.* **94**, 53, 1988.
17. Schneider J. W. and Kitsuse J. I. (Eds). *Studies in the Sociology of Social Problems*. Ablex, Norwood, NJ, 1984.
18. Spector M. and Kitsuse J. I. *Constructing Social Problems*. Cummings, Menlo Park, CA, 1977.
19. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition. American Psychiatric Association, Washington, 1994.
20. Jeste D. V. and Caligiuri M. P. Tardive dyskinesia. *Schizophrenia Bull.* **19** (2), 303, 1993.
21. Kane J. M. and Marder S. R. Psychopharmacologic treatment of schizophrenia. *Schizophrenia Bull.* **19** (2), 287, 1993.
22. Meise U., Kurz M. and Fleischhacker W. Antipsychotic maintenance treatment of schizophrenic patients: is there a consensus?. *Schizophrenia Bull.* **20** (1), 215, 1994.
23. Brown P. Understanding the inner voices. *New Scientist* **143**, 26, 9 July 1994.
24. Cannon T. D. *et al.* Neuropsychological functioning in siblings discordant for schizophrenia and healthy volunteers. *Arch. gen. Psychiat.* **51**, 651, 1994.
25. Fenton W. S. *et al.* Risk factors for spontaneous dyskinesia in schizophrenia. *Arch. gen. Psychiat.* **51**, 643, 1994.
26. Weiden P. *et al.* Rating of medication influences (ROMI) scale in schizophrenia. *Schizophrenia Bull.* **20** (2), 297, 1994.
27. Buckley N. *et al.* Correlations between prescriptions and drugs taken in self-poisoning. *Med. J. Australia* **162**, 194, 1995.
28. Breggin P. *Toxic Psychiatry*. Fontana, London, 1993.
29. Szasz T. S. *Schizophrenia: The Sacred Symbol of Psychiatry*. Syracuse University Press, Syracuse, 1988.
30. Pilgrim D. and Rogers A. *A Sociology of Mental Illness*. Open University Press, Buckingham, 1993.
31. Hirsch S. *et al.* (Eds). *Madness Network News Reader*. Glide, San Francisco, 1974.
32. Murray T. H. The ethics of drugs in sport. In *Drugs and Performance in Sports* (Edited by Strauss R. H.), p. 11. Saunders, Philadelphia, 1987.
33. Vernacchia R. A. Ethical issues of drug use in sport. In *Athletes at Risk: Drugs and Sport* (Edited by Tricker R. and Cook D. L.), p. 29. Brown, Dubuque, IA, 1990.
34. Wadler G. I. and Hainline B. *Drugs and the Athlete*. Davis, Philadelphia, 1989.
35. Woodland L. *Dope: The Use of Drugs in Sport*. Reed, Sydney, 1980.
36. McGuire R. Athletes at risk. In *Athletes at Risk: Drugs and Sport* (Edited by Tricker R. and Cook D. L.), p. 1. Brown, Dubuque, IA, 1990.
37. Di Pasquale, M. G. *Drug Use and Detection in Amateur Sports*. M. G. D., Warkworth, Ontario, 1984.
38. Mottram D. R. Introduction—drugs and their use in sport. In *Drugs in Sport* (Edited by Mottram D. R.), p. 17. Spon, London, 1988.
39. Hargreaves J. *Sport, Power and Culture*. Polity, London, 1986.
40. Hoberman J. *The Olympic Crisis: Sport, Politics and the Moral Order*. Caratzas, New Rochelle, NY, 1986.
41. Curry T. J. and Jiobu R. M. *Sports: A Social Perspective*. Prentice-Hall, Englewood Cliffs, NJ, 1984.
42. Australian Health Ministers' Advisory Council. *Standard for the Uniform Scheduling of Drugs and Poisons No. 9*. Australian Government Publishing Service, Canberra, 1994.
43. Royal Commission into the Non-Medical Use of Drugs. *Final Report*. South Australian Government, Adelaide, 1979.
44. Stolley P. D. The risks of phenacetin use. *New Engl. J. Med.* **324** (3), 191, 1991.
45. Buckly N. A., Whyte I. M., Dawson A. H., McManus P. R. and Ferguson N. W. Correlations between prescriptions and drugs taken in self-poisoning: implications for prescribers and drug regulation. *Med. J. Australia* **162**, 194, 1995.
46. Nelkin D. *Selling Science*. Freeman, New York, 1987.
47. Einstein S. *Beyond Drugs*. Pergamon, New York, 1975.
48. Dutton D. B. Medical risks, disclosure, and liability: slouching toward informed consent. *Sci. Technol. Human Values* **12** (3 and 4), 53, 1987.
49. Helme R. D. and Allen F. *Use of Medications in a Community Based Elderly Population*. Council on the Aging (Australia), Melbourne 1992.
50. Makki T. and McAllister I. *Patterns of Drug Use in Australian Society: An Analysis of National Trend Data. 1985–1991*. Australian Government Publishing Service, Canberra, 1993.
51. The drug industry profits over the counter. *The Economist* **325**, 86, 7 November 1992.
52. A prescription for change. *The Economist* **325**, 20, 7 November 1992.
53. Lewis H. W. *Technological Risk*. Norton, New York, 1990.
54. Taking the tablets. *The Economist* **328**, 66, 31 July 1993.
55. Hall W., Solowij N. and Lemon J. *The Health and Psychological Consequences of Cannabis Use*. Australian Government Publishing Service, Canberra, 1994.
56. Brecher E. M. and the editors of *Consumer Reports*. *Licit and Illicit Drugs*. Little, Brown, Boston, 1972.
57. Duke S. B. and Gross A. C. *America's Longest War: Rethinking Our Tragic Crusade against Drugs*. Putnam, New York, 1993.
58. Grinspoon L. *Marijuana Reconsidered*. Harvard University Press, Cambridge, MA, 1971.
59. Solomon D. (Ed.). *The Marijuana Papers*. Panther, London, 1969.
60. Wikler A. The marijuana controversy. In *Marijuana: Effects on Human Behavior* (Edited by Miller L. L.), p. 25. Academic Press, New York, 1974.
61. Kleiman M. A. R. *Marijuana: Costs of Abuse, Costs of Control*. Greenwood, New York, 1989.
62. Himmelstein J. L. *The Strange Career of Marijuana: Politics and Ideology of Drug Control in America*. Greenwood, Westport, CT, 1983.
63. Herer J. *The Emperor Wears No Clothes*. Brisbane HEMP, Brisbane, 1995.
64. Auld J. *Marijuana Use and Social Control*. Academic Press, London, 1981.
65. McKenna T. *Food of the Gods*. Bantam, New York, 1992.