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Reprinted from
ANNALS OF THE NEW YORK ACADEMY OF SCIENCES
Volume 282 Pages 24–32
December 30, 1976 24867
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The prestigious Canadian Commission of Inquiry on the Non-Medical Use of Drugs defined the amotivational syndrome as “a set of symptoms including apathy, ineffectiveness, and non-productiveness, considered to reflect a deficit in general motivation. It has been suggested that such a syndrome may result from the chronic use of certain drugs.” The commission also emphasized the inadequacy of clinical research on cannabis as it relates to amotivation, especially because this research has rarely dealt with questions of predrug personality, cause and effect relationships, and the social and cultural specifics of the subjects. One could go further and claim with justification that these clinical studies seem to be based on an exaggeration of the medical model of inquiry, with the subject conceived of as a closed system despite obvious and important sociocultural parameters that beg for inclusion. The search and cure of cannabis-induced pathology seem to be a primary goal, and a research philosophy is operant, essentially deductive, which makes comparison and cross-cultural examinations an extraordinarily formidable task.

Research that supports the existence of the amotivational syndrome can be divided roughly into three categories: studies that assume that if an individual smokes cannabis, this fact is sufficient indication of some deep underlying psychologic problem regardless of whether cannabis has damaging properties of itself; studies that attempt to show that cannabis has catalytic properties that trigger off psychoses; and studies that claim cannabis use as a direct cause of psychosis. A single-factor determinism pervades all three categories, to which Becker, in commenting on LSD research, provides a valid social scientific riposte:

If the drug does prove to be the cause of a bona fide psychosis, it will be the only case in which anyone can state with authority that they have found the unique cause of any such phenomenon; a similar statement applies to causes of crime and suicide. Whatever the ultimate findings of pharmacologists and others now studying the drug, sociologists are unlikely to accept such an asocial and unicausal explanation of any form of complex social behavior.

Becker could just as easily have been referring to certain categories of cannabis research. In any case, although clinical research on amotivation is open to serious question, it is obvious that one cannot dismiss the stereotypic or perhaps false relationships in the public’s mind that link indolence, passivity,

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and withdrawal directly to cannabis use. A majority of the members of the Canadian commission state:

When they think of the social harm caused by drug use the majority of the people seem to be chiefly concerned with its effect on the leading of reasonably normal and productive lives. They more or less accept the drug use in which people engage in order to help them to function effectively in conventional lines of endeavour. But it is the presumed effect of certain kinds of drug use on the motivation and attitudes required for conventional patterns of living which is the chief concern of the majority of people. They fear that certain kinds of drug use will sap the will and capacity for functioning in a socially acceptable manner. They very much fear the development of a widespread passivity and withdrawal from responsibility for the everyday work required to make the society function effectively. We have to face this attitude squarely. Whatever our personal views may be of the cultural conflict which underlies it, it cannot be brushed aside in a spirit of lofty detachment. It is a very real fear. It is this fear which is reflected in the concern with the “amotivational syndrome.”

The thrust of this paper, consequently, will be an attempt to alleviate unwarranted fears of social collapse by providing examples from a society in which cannabis has been in widespread use among the working class for a long time but where passivity and withdrawal from everyday work does not exist and where the amotivational syndrome does not pertain. In fact, it is a society in which cannabis use is thought by many to have motivational effects: to arouse or initiate socially productive activity, to sustain activity in progress, and to channel activity within a prescribed course.

From June 1970 through February 1972, the Research Institute for the Study of Man, in collaboration with the University of the West Indies, performed a multidisciplinary study of the effects of marijuana, or ganja, on chronic users in Jamaica, a new nation in the Caribbean. Simply put, two distinct but integrated methodologic thrusts were implemented: a social scientific and field-based one, with ethnohistoric, anthropologic, and sociologic components; and a clinical and hospital-based one, with medical, psychiatric, and psychologic components. The social science team was responsible for determining the patterns of ganja use among the Jamaican working classes, selecting the samples of smokers and nonsmokers for clinical study and documenting the behavioral context within which clinical findings could be fully explored. To reach these objectives, seven communities were studied by this team, each for approximately 6 months. One was in the southwestern parish of Westmoreland, one in the central parish of Manchester, another in a working-class neighborhood of Kingston, and four others in the southeastern parishes.

The clinical studies were undertaken by the Faculty of Medicine of the University of the West Indies and by the staff of the University Hospital. Sixty adult working-class males were selected by the social scientists from among hundreds of users and nonusers from four of the seven study communities. Thirty were ganja smokers with 10 or more years of cannabis experience, and 30 were nonsmokers, matched carefully for age, socioeconomic status, and residence. These 60 males were admitted to University Hospital for 6 consecutive days of wide-ranging medical, psychiatric, and psychologic examinations, the results of which form the basic clinical data bank of the project.

The Jamaican study was pathbreaking in cannabis research, in that, for the first time, it combined in-depth social scientific examination of cannabis users
in vivo, that is, in their natural environments, in tandem with systematic clinical studies of individuals drawn from these settings. The general design of the project provided a framework for the interplay of social science and medicine and of concepts and data derived from these two quite different traditions of research. Because a full report on the project has been published, I do not propose to review here the specific or even the central arguments of the report but will deal only with the data generated by the Jamaican study that might shed light on the relationship between cannabis use and motivation or amotivation.

Two types of evidence or data are relevant. The first can be classified as self-reported, or the verbal statements of respondents, with regard to ganja. This category of data falls well within a major anthropologic tradition, which holds “that information about cultural behavior must be gathered as much as possible from the actors’ point of view. That is, the meanings and interpretations that the ‘natives’ give to cultural happenings are of great importance for untangling their patterns of behavior.” Consequently, this type of data for Jamaica, which include life histories, illuminates the folk wisdom concerning ganja through the stated motives, beliefs, attitudes, and thoughts of informants. The second category of evidence on ganja-related behavior is based on observations and measurements by scientists, in this case anthropologists, whose statements can be verified by independent observers utilizing similar operations. This body of data includes comparisons of individual work performance with or without ganja through the analysis of videotapes collected in customary work settings and comparisons of productivity over time of groups of ganja users and nonusers on sugar plantations. Combining and analyzing these two bodies of information allows us to assess the veracity of informants’ statements and to contribute constructively to the debate about the “amotivational syndrome.”

Fundamental to the belief system that shapes and supports the Jamaican ganja complex is the conviction held by the using population that ganja is a beneficial substance. The belief system permits discrimination concerning the diversity of benefits and effects and the various methods of use. For example, nonsmokers usually draw a sharp distinction between the effects of ganja tea drinking and those of smoking ganja. Teas and tonics, according to these individuals, are absorbed into the bloodstream, strengthen the blood, and enable it to ward off disease, whereas smoked ganja goes directly from the lungs to the brain, where it sometimes may have unpredictable consequences. Among users, there exists a range of beliefs related to the potential effect of ganja on most emotional and physical states. Quite importantly, descriptions of these effects by users are often modified by mention of necessary prior conditions. For example, if the user is in a mood for sleep, the smoking of ganja will help produce the desired effect. If he is not, other effects, situationally prescribed, may result.

There is little diversity, however, in beliefs about ganja that relates to work. Almost uniformly, users in the study communities maintain that ganja enhances the ability to perform hard work, and they regularly consumed it with this objective in mind. In this regard, ganja is believed to take effect in two ways: one is the cumulative benefits that come with “building” one’s blood and strength with regular doses; the other is that ganja has the immediate effect of producing a burst of energy sufficient for completing laborious tasks. There is no doubt in users’ minds that cannabis, particularly when smoked, enables them to work harder, faster, and longer. “Dem c’yan keep up to the work me do when we smoke it,” would not be an atypical comment nor would the respondent who claimed that ganja made him work “like holy hell” be unusual. Nevertheless, unanimity among users about the positive relation of ganja to work does not mean that there are no differences of opinion about the ways and conditions under which it should be consumed for optimum effectiveness. “Is not fe smoke in de hot sun, it will cry up your body and make you sleepy.” Or, as put by a user discussing why one should not smoke ganja in a calabash pipe before working, “it would give you an amount of revolution in your stomach and jerk your structure. For work purposes, a spill is a better thing.” Of the 27 of 30 smokers in the clinical phase of the study who were asked about their alcohol/ganja preferences, 25 indicated that they preferred cannabis to alcohol; the major reasons given for this preference were that ganja enabled them to do their work and that, unlike alcohol, it is not socially disruptive. Significantly, even nonusers note an increase in work drive among smokers. As one such individual put it: “After they smoke it and they decide to work you have to come out of their way, they don’t stop work. They can’t tire, you get more work out of them.” It is not unusual, therefore, for nonsmoking cultivators to provide ganja for smokers who join them in cooperative field labor or for sugar plantation managers to make it available to their field hands.

As reflected in their verbal responses, the belief and attitudes of lower-class users about ganja and work are not at all ambiguous. Ganja is universally perceived as an energizer, a motive power—never as an enervator that leads to apathy and immobility. In Jamaica, ganja, at least on the ideational level, permits its users to face, start, and carry out the most difficult and distasteful manual labor.

The widely reported perception in Jamaica that cannabis stimulates work activity is a significant datum in and by itself but insufficient to demonstrate that this relationship objectively holds. Without other evidence, one could conclude, given the negative thrust of some of the clinical literature on the amotivational syndrome, that the beliefs and attitudes voiced by users are, at best, systematic lies that attempt to rationalize a debasing habit or, at worst, hallucinations of deranged minds. Consequently, we turn to the next category of self-reported data: 60 lengthy life histories collected from the 30 users and 30 controls involved in the clinical phase of the Jamaican study. These data, which were subjected to verification by the field-based anthropologists, were transcribed, content analyzed, and coded for computer, and the results underwent statistical examination. By in-depth comparison of users and controls in the several dimensions generated from the life histories that indicate, directly and indirectly, the presence or lack of motivation, such as education, occupational history, job changes, property ownership, and income, we are able to perceive differences, if any, between the subsamples.

With reference to education, the mean number of years completed by the total sample was 4.5, and the mean grade level, or standard, was 3.0, with no differences between smokers and controls on either variable. Current occupation and occupational history data also showed no significant differences between the groups. Most sample subjects held multiple occupations, a not too characteristic pattern of the Jamaican lower class. The primary occupations reported were, in descending order of importance, farming, fishing, masonry, and carpentry, semiskilled work, produce vending, “scuffling” or odd jobs, and ganja
vending. Two smokers were active ganja dealers at the time of the study; 11 had been dealers at other times. Interestingly, three controls also reported such illegal activity in the past. In the words of one, this illegal activity was undertaken "to raise a penny to send the children to school." Smokers were more likely to have had work experience as fishermen, and controls showed a slight tendency to have had more experience as artisans.

No significant differences emerged in the patterning of job changes or in the reason given for this change, although controls were slightly more inclined to report that they changed employment to better themselves, and smokers were more likely to say that they quit because they disliked the job or their coworkers. Perhaps most importantly, no differences exist in ownership and control of property, such as house, land, vehicles, fishing canoes, and fishing pots, or in income, calculated on a weekly basis. In sum, none of these measures indicate any statistically significant differences. It would appear, in fact, that the socio-economic profiles of smokers and controls generated by these data are virtually indistinguishable from each other and, I would argue on the basis of long field experience in Jamaica, from that of the general laboring population of that island. From the self-reported but verified life histories, we are led to at least one conclusion: no negative effect on work history and, therefore, on work motivation due to chronic cannabis use is discernable in this sample.

Next, we move to objective rather than self-reported subjective evidence, specifically to an assessment of the widely held Jamaican belief that because ganja enhances energy, it has a positive effect on work. As one part of the project, the acute effects on actual work performance and productivity were systematically probed. To accomplish this task, a sample of ganja-using rural cultivators were individually and collectively videotaped over several time periods during work under controlled circumstances. All cannabis consumed in these sessions was weighed, and samples were later analyzed for tetrahydrocannabinol and other properties; work completed was meticulously measured; the nutritional status of subjects was documented; and the expenditure of subjects' kilocalories while at work was monitored by a Kofman-Michaelis gas collection device and a Lloyd gas analyzer. After intensive analyses of these extensive data, Joseph Schaeffer, the anthropologist who conducted this aspect of the research, came to four tentative conclusions:

Ganja Smoking Is Related to Changes in the Rate and Organization of Body Movement and the Expenditure of Energy. To elaborate, the data indicate considerable individual variation, but it appears demonstrable that the internal organization of major body movements of laborers who use ganja during work is less complex, that there are greater numbers and/or variations in numbers of movement per unit of time after smoking, and that the workers' thoughts are more concentrated on the task itself at a cost, on the average, of a higher kilocaloric expenditure per task. At one level of abstraction, it can be argued that the objective measures obtained and the subjective views of the users are not at all contradictory. The user firmly believes that ganja helps him to perform arduous work better; the observations demonstrate that behavior during work changes, giving at a very minimum the appearance of determined effort.

Both Moderate and Heavy Smoking Reinforce Social Cohesiveness During Work in Group Situations. The following example succinctly illustrates this point:

On February 7, 1971, he [the subject] and eleven other farmers plowed a field together with iron forks. Just after arriving, most men shared some of the ganja provided by the host farmer. For a short period (10 to 15 minutes) they 'worked like demons'; talking and laughing as they moved up the hill, forks pounding the earth in a close, straight line. Then, gradually, a quiet, dogged concentration replaced the gaiety. The sharply linear work formation changed, as one, then another man dispersed to carry out his task in seeming solitude. The work pace, highly varied at first, became steady during the extended period of concentration and then slackened as evident fatigue set in. A farmer called for more 'herb'. Skiff (ganja cigar) were rolled and passed and the acute effects began. Again, animation in social contact was followed by concentration, gradual dispersal, and fatigue. The process was repeated twice (a total of four times) during the day. Finally, after a filling lunch served in the field by the host's wife and a late afternoon hour of work, the party ended—the happy host satisfied with a 'fine piece of forking'.

As the behavioral patterns varied in concert among the men throughout the day, one had the impression of togetherness—of social cohesiveness. It was a cohesiveness based on similarities of behavioral patterns in sequence rather than focused social involvement. Ellis [the subject], himself, felt the effects: 'Relations with other people are better when I smoke,' he said, 'I don't interrupt nobody . . . I feel good about everybody.'

Again, the subjective impressions of many coincide with more objective observations.

Behavioral Changes Related to Light or Moderate Smoking (defined by either dose or frequency) Are Not Significant in Agricultural Work Over Extended Time Periods.

Behavioral Changes Related to Heavy Ganja Smoking Are Significant in Agricultural Work Over Extended Time Periods. From our cases, it seems that heavy use does alter the relationship between perception and action, thereby affecting the movement-energy-production pattern related to some agricultural tasks. Extrapolating from limited-time data, it appears that some heavy users work longer and expend more kilocalories to weed, hoe, and turn soil after smoking. It is hypothesized that such an individual without smoking could perhaps cultivate an additional acre with no increase in energy expenditure, even though the subject may believe he is working at full capacity. Nevertheless, we have argued elsewhere that there might well be a positive function to this phenomenon in situations where there are impoverished economic resources and where ethical codes include prescriptions for hard work. It has also been stressed that the productivity findings in specific cases not be misunderstood as a suggestion that a direct and constant relationship exists between heavy use of cannabis and decreased production. Such work as saving, for example, does not show this relationship, perhaps because the movement patterns linked to ganja smoking are those conducive to the successful completion of such work; nor does cane cutting, as we shall see. In any case, it is abundantly evident from all aspects of this detailed research that heavy ganja smoking does nothing to curtail the motivation to work.

While the movement-energy expenditure studies concentrated on acute ganja effects on individual work over short time periods, another project anthropologist, Melanie Dreher, compared work productivity to ganja-using and nonusing cane cutters on a large Jamaican sugar estate over an entire reaping season. There can be no doubt that cane cutting, a manual operation, is one of the most arduous energy-consuming tasks in all commercial agriculture. Consequently, if the chronic use of cannabis produces any physiologic, psychologic, or be-
behavioral impairment to work, under the stress of such grinding, heavy labor, some indication of this damage should be apparent. To test this proposition, three work gangs of this estate, the gangs that regularly worked three topographically similar cane fields, were selected for study. Each gang included smokers and nonsmokers, for a total sample of 77 of the former and 82 of the latter. To ensure the most objective indicators of worker performance, two 3-week time periods were selected for detailed analysis, periods in which there was no inclement weather or labor disputes to prevent work crews from being out in full force. In addition to data collected through the use of standard anthropologic techniques, the records and accounts of the estate that pertain to productivity were made available by the corporation. The most useful information gleaned from these records were daily figures on tons of cane reaped per cutter, the weekly wages of workers for the first 12 weeks of the 30-week reaping season, the distribution of money from a strike settlement, and individual annual bonus figures based on productivity and paid after the harvest to those who worked at least 20 weeks of the season.

Of these data, the figures on tons of cane reaped are particularly relevant for purposes of this argument. Table 1 presents mean and median tons cut per individual per week by smokers and nonsmokers in each gang and for each 3-week time period.

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<th>Field I</th>
<th>Field II</th>
<th>Field III</th>
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<tbody>
<tr>
<td></td>
<td>Smokers</td>
<td>Non-smokers</td>
<td>Smokers</td>
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<td><strong>P er i o d</strong></td>
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<tr>
<td><strong>A</strong></td>
<td>50.2</td>
<td>50.5</td>
<td>31.3</td>
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<tr>
<td><strong>B</strong></td>
<td>50.7</td>
<td>46.6</td>
<td>30.3</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>45.5</td>
<td>44.6</td>
<td>30.0</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>45.0</td>
<td>46.6</td>
<td>32.6</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>30</td>
<td>26</td>
<td>28</td>
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* Adapted from tabulations provided by Melanie Dreher.

What do these subjective and objective measures mean? Most importantly, it is abundantly clear that there are no signs of apathy, ineffectiveness, nonproductiveness, or deficits in general motivation among Jamaican laborers. This conclusion is also strongly confirmed by the results of scores of psychiatric and psychologic examinations given to the clinical sample of 60. Quite the contrary, it is apparent that ganja is associated in the minds of users with what we have termed a "motivational syndrome," even though motivation to work need not be correlated objectively with exact levels of productivity. What we need to know, then, is how and why, and research along these lines is a necessary next step.

Jamaica is not unique in the patterns described and the beliefs voiced. From scattered data, it appears that these elements occur or have occurred in many cannabis-using agricultural societies with a long history of use. For example, the classic Report of the Indian Hemp Drugs Commission, originally published in 1894, makes the following observations about ganja on the Indian subcontinent:

The use of these drugs to give staying-power under severe exertion or exposure or to alleviate fatigue is very largely in evidence. Here it is ganja especially which is credited with these beneficial effects. For ganja is far more extensively used than bhang by the labouring classes. The latter is mainly used by persons like the Chabes of Mathura, who are very frequently referred to, and professional wrestlers. Gymnasts, wrestlers and musicians, pungi-bearers and porters, divers and postal runners, are examples of the classes who use the hemp drugs on occasions of especially severe exertion. Fishermen and boatmen, singhara cultivators working in tanks, dhobis and night watchmen, mendients and pilgrims, are named among those who use them under severe exposure. All classes of labourers, especially such as blacksmiths, miners, ice coolies, are said more or less generally to use the drugs as a rule in moderation to alleviate fatigue.

Similar observations or studies about the relationship of cannabis to work and the alleviation of fatigue have been made about African miners early in this century, workers in the Southwest of the United States and Mexico, Black dock hands in New Orleans in the 1920s and 1930s, and about laborers in contemporary rural India. More recent work has indicated the same phenomenon among the Khmers of Southeast Asia, Colombian laborers, and urban workers in Greece. One may expect that this very incomplete list will grow considerably as cross-cultural field investigations of cannabis use increase. Such studies will enrich our understanding of both the specific linkage of cannabis to work and, more importantly, of the relationship between culture and the patterned use and patterned effects of cannabis.

As the French ethnobotanist Marie Alexandria Martin observes:

... in Southeast Asia, distrust regarding hemp appears among individuals having cultural and social attitudes patterned after those of the West. As for the peasants, they experiment with everything that belongs to their universe, often have complete knowledge of all the elements that compose it, and how to use them in moderation. There is thus nothing surprising in the fact that they consider cannabis to be a plant that is socially beneficial.

† The inclusion of this group in this statement is based on unpublished field reports of a Greek anthropologic team, supervised by this author, who are currently studying chronic hashish use.
What is surprising is the meager effort Western science has made to test the 
validity or invalidity of such contentions.

ACKNOWLEDGMENTS

My coprincipal investigator in this study was Vera Rubin. I am grateful to 
Melanie Dreher, University of Massachusetts, a member of our Jamaica Marihuana Project team, for permitting the use of as yet unpublished data on productivity of Jamaican cane cutters, and to Ansley Hamid, Teachers College, Columbia University, for his able research assistance.

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