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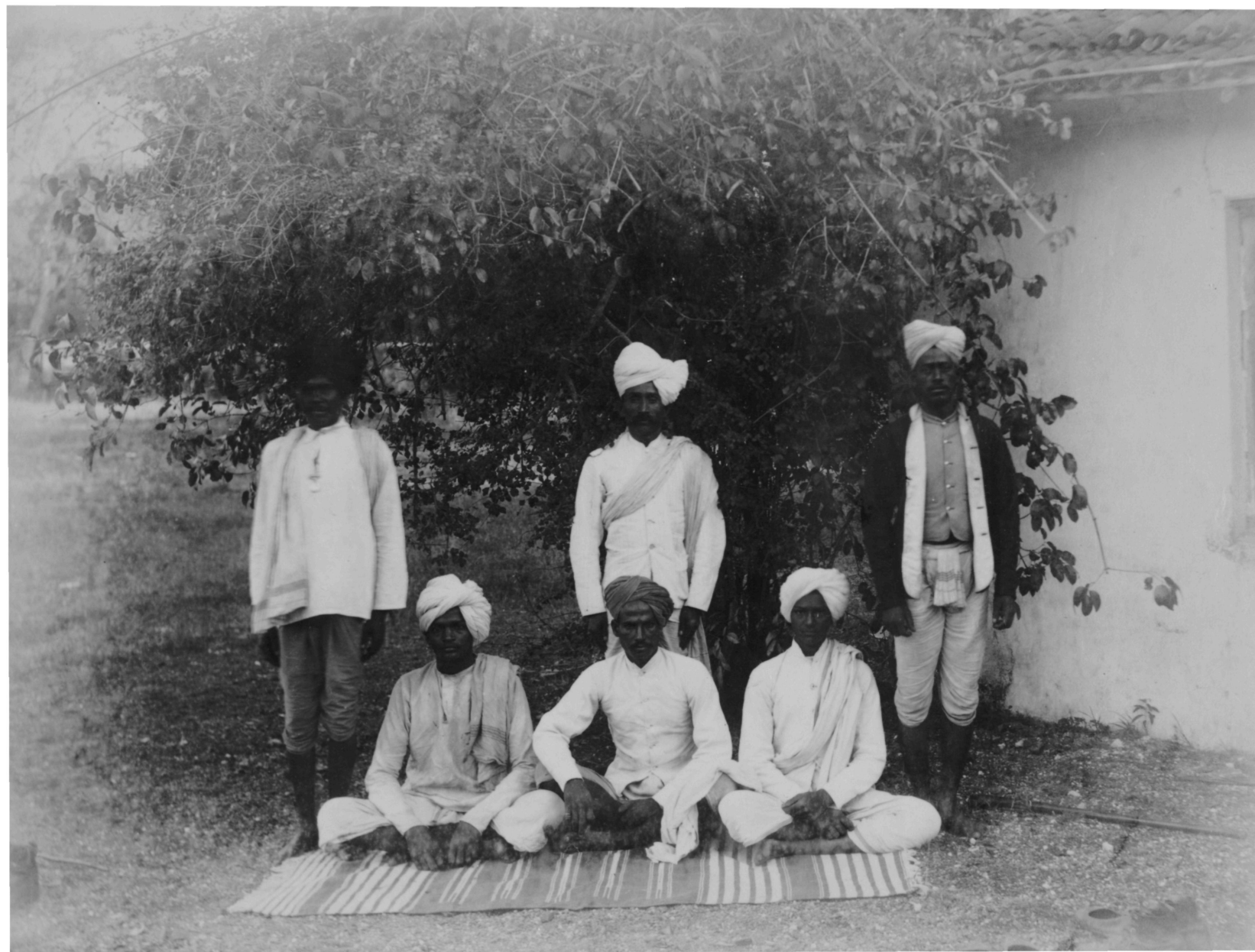
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Survey of India Offices, Calcutta, August 1894.

GROUP OF PARDESHIS, OCCASIONAL MODERATE GANJA SMOKERS, KHANDESH.

CHAPTER XI.

EFFECTS—PHYSICAL.

499. In regard to these definite physical results, the only evidence to which much weight can be attached is the evidence of the medical witnesses. From their training and opportunities of observation they are the only witnesses qualified to give reliable evidence. It is proposed to examine this medical evidence in detail.

Medical evidence regarding dysentery, bronchitis, and asthma.

500. In Bengal eight commissioned medical officers were examined on the effects of the moderate use of the drugs. Surgeon-Lieutenant-Colonel Russell (witness No. 105), 20 years in civil employ in Bengal and Assam, a witness whose evidence has frequently been quoted by the Commission, stated that the use of the drug does not cause bronchitis, dysentery, or asthma, and that scarcely any other noxious effects are induced. Surgeon-Lieutenant-Colonel Russick Lall Dutt (witness No. 107), an officer of over 20 years' experience, stated: "Very moderate smoking of ganja or charas or moderate drinking of siddhi in infusion do not produce any appreciable effects.....but these moderate cases are seldom long-lived. There is in them a slow and insidious undermining process going on in their digestive, respiratory, and nervous systems, which predispose them to acute diseases and cut their lives short." Surgeon-Lieutenant-Colonel Price (witness No. 108), of 21 years' service, who had frequently come across consumers of hemp drugs, was unable to answer the question regarding effects. Surgeon-Captain Prain (witness No. 113) stated: "I do not believe that the habitual moderate use of any of these drugs produces any noxious effects—physical, mental, or moral. I think that perhaps the use of bhang does injure the digestion and impair appetite even when used moderately, but I am convinced that it neither causes dysentery, bronchitis, or asthma." Surgeon-Major Cobb (witness No. 110) stated that the drugs did not cause asthma, bronchitis, or dysentery; and in cross-examination he stated: "I have no experience that the *excessive use* of the drug produces dysentery and bowel-complaints." Surgeon-Lieutenant-Colonel Flood Murray (witness No. 102), five years in military service and nineteen years in civil employ, quoted the opinion of a pandit whom he consulted regarding the ill effects of the drugs. In cross-examination he stated: "The general statement as contained in my written answer is a statement made to me by this hakim and others to whom I applied for information. *My own experience in no way corroborates it.*" "Surgeon-Lieutenant-Colonel Bovill (witness No. 109), of 21 years' service, stated that the habitual moderate use of bhang does not produce any ill effects, and in many cases that of ganja is equally harmless. He added: "I know of no case where it has caused bronchitis, dysentery, or asthma, but I have noted hoarseness of the voice probably due to some laryngeal irritation among ganja smokers." Surgeon-Lieutenant-Colonel Crombie (witness No. 104), of over 20 years' service, is not aware of any ill effects being produced by the moderate use of the drugs; but he added: "If any were produced, the use would no longer be moderate, but excessive." In cross-examination Dr. Crombie stated: "I have had no experience of any diseases attributable to ganja. My experience has been chiefly in Eastern Bengal, where ganja is largely consumed."

Twenty-three assistant surgeons were examined. Assistant Surgeon Devendranath Roy (witness No. 123), of over 20 years' service, and who has had service in Rajputana, the North-Western Provinces, Behar, and Bengal, where hemp drugs are used by a large portion of the people, is of opinion that those who smoke ganja not more than twice or thrice a day do not suffer in general health; bhang does not impair the digestion, whereas ganja does. "Those of my patients," he remarks, "who admitted having been habitual ganja smokers suffered from dysentery or diarrhœa, but they have been exposed to conditions which produce these ailments. Hence I do not draw any conclusion as to ganja being a primary cause of those diseases." Assistant Surgeon Preonath Bose (witness No. 122), Teacher of Materia Medica and Pharmacy in the Dacca Medical School, clearly has no personal knowledge of the effects, as he remarked: "Evidence on these points is conflicting. Some of the consumers maintain, others deny, that evil effects are produced." Another teacher at the same school (witness No. 121) stated: "Evidence on these points is conflicting. The general consensus of opinion is that the habitual moderate use of bhang and ganja does not impair the constitution." Assistant Surgeon Soorjee Narain Singh, of 28 years' service, now Teacher of Materia Medica, Patna Medical School (witness No. 125), stated that "habitual moderate consumers of bhang, ganja, or charas do not apparently suffer from any injurious effects." Assistant Surgeon Narendra Nath Gupta (witness No. 120) as Deputy Superintendent of Vaccination and as a Deputy Sanitary Commissioner and as Civil Medical Officer has had considerable opportunities for noting the effects of the drugs. His opinion is that the moderate use of ganja and bhang does not produce any noxious effects. Durga Dass Lahiri, L.M.S. (witness No. 132), a private medical practitioner, said: "I have not seen any evil results mentioned when taken moderately, but it is very difficult to keep to moderation." Assistant Surgeon Taraprosanna Roy (witness No. 116) is Chemical Examiner to the Government of Bengal. He stated that the habitual moderate use of the three drugs is not known to produce any noxious effects. Assistant Surgeon Bosonto Kumar Sen (witness No. 119) has had service in ganja producing districts. He stated that the use of ganja and bhang produces noxious effects, and "generally produce dysentery, asthma, and bronchitis." The cross-examination of this witness is of interest. "I have seen more than one person, about half a dozen, in my village.....suffering from dysentery, bronchitis, and asthma who were also ganja smokers. *They were all excessive smokers.* These effects do not follow the moderate, but the excessive, use. It is a mistake to have put them under the moderate use.....The fact that they were ganja smokers led me to believe that these effects were due to ganja.....I have no recollection of ever treating any case of dysentery, bronchitis, or asthma caused by ganja. *These cases are the basis of my remarks.* I do not remember any case of dysentery, bronchitis, or asthma in a ganja smoker which I attributed to any other cause. In other words, when I saw ganja smokers suffering from these diseases, I attributed them to ganja. *This was twenty years ago, before I was a medical student.*" Pyari Sankar Dass Gupta, L.M.S. (witness No. 134), is a private medical practitioner, Secretary to the Bogra Medical Society of ten members, and a member of a temperance association founded by the late Keshub Chunder Sen. The witness is pledged against the use of all intoxicants. This witness submitted three papers to the Commission which seem to illustrate the development of tradition into opinion. In one paper the witness states: "The smokers of ganja often suffer from hoarseness of voice

produced by the continual inhalation of its fumes, giving rise to sore-throat, bronchitis, and carbonaceous phthisis.....It has long been a *tradition* in our country that the *ganja-khors* always die of dysentery, their intestines gradually sloughing away." In his second paper the witness states: "Ganja smokers generally die of bloody dysentery, asthma and phthisis, and hæmoptysis." And in his last paper he says: "It produces bloody dysentery and chest diseases, blood-spitting, bronchitis, asthma, and phthisis." Kailas Chundra Bose, L.M.S. (witness No. 135), is a private medical practitioner in Calcutta with an extensive practice. He states that no ill effects are produced by the moderate use, and that, instead of causing bronchitis, dysentery, or asthma, it relieves these affections. The witness, however, states in his oral examination: "My experience is not to any large extent what I have gathered in my practice, but rather what I have learnt from smokers." Assistant Surgeon Akbar Khan (witness No. 124) is another Teacher in the Patna Medical School. He states the habitual moderate use of any of the drugs does not produce noxious effects, but that charas and ganja cause dysentery, bronchitis, and asthma if the consumers are not well fed. Witnesses Nos. 126 and 138 consider that no ill effects are produced. Assistant Surgeon Upendra Nath Sen (witness No. 118) states that bronchitis and asthma are common complaints of ganja smokers. Madhab Krishna Dass, L.M.S. (witness No. 158), a private practitioner in Calcutta, considers that smoking may cause dysentery, bronchitis, or asthma. Assistant Surgeon Durga Nath Chakravarti (witness No. 150) considers that "ganja causes dysentery after a long run." Annoda Prasanna Ghatak, M.B. (witness No. 148), a private medical practitioner, considers that digestive complaints are caused when good food is not procurable. Rakhal Das Ghosh, L.M.S. (witness No. 149), a private practitioner in Calcutta, had apparently seen no ill effects caused by the drug. The remaining witnesses in this class clearly failed to discriminate between the moderate and excessive use, and their evidence has not been considered.

Three hospital assistants were examined. One gave no reply regarding moderate use. The other stated: "The habitual moderate use of ganja or charas does not produce any noxious effects—physical, mental, or moral; but the use of ganja impairs the constitution in some way or other.....and has a tendency towards bronchitis and asthma." Witness No. 145 is a vernacular class hospital assistant, but not now in Government employ. According to this witness, moderate use of ganja leads to excessive use. "The habitual moderate consumers, as well as the excessive consumers, suffer in their lungs and become insane.....No intoxicant can be taken in moderation except when administered medicinally."

Fifteen native practitioners were examined. Bijoya Ratna Sen (witness No. 151), a kabiraj practising in Calcutta, considers that the habitual moderate use of ganja or charas, but not siddhi, may in some cases cause bronchitis, dysentery, or asthma. Witness No. 152, also of Calcutta, gives the same reply couched in the same language. Witness No. 126, of Nattore, in the Rajshahi district, and witness No. 153, of Calcutta, both consider the moderate use harmless. Piyari Mohan (witness No. 154), a kabiraj, states: "I know it causes dysentery, and I believe owing to its heating power it can cause bronchitis and asthma." Kedareswar Acharjya (witness No. 137) remarks: "Those ganja smokers who cannot command abundant wholesome food suffer from dysentery, but it is difficult to determine how far it is due to ganja or to improper food. As to asthma, I have not seen any typical case originating from ganja smoking. I know that a chronic catarrhal condition of the air passages with a certain amount of spasm is the misfortune of

many old ganja smokers. I know a friend who suffered from chronic bronchitis, and in whom asthmatic fits were induced by attempts to smoke ganja." The witness refers also to another case in which a habitual ganja smoker had an asthmatic attack "which subsided on breaking off the habit and reappeared on resuming it." This witness lays stress on personal idiosyncrasy as modifying the effects of the drugs, and on the importance of a diet rich in fat. Witness No. 155, another kabiraj, states that, while no ill effects are produced, occasionally it causes dysentery, bronchitis, and asthma. Witness No. 128, also a kabiraj, states that, according to the Aurveda Shastra, smoking these drugs causes bronchitis and asthma, and in his opinion "even the moderate use of any of these drugs, not according to the rules of Shastra, is injurious in its effects." This witness does not appear to have any personal knowledge of ill effects, but to base his views on the teachings of the Shastras. Witness No. 139 states: "Certainly they produce noxious effects on the moral and physical constitution;" but as the witness is silent as to the effects of excessive use, probably he has not discriminated between the two uses of the drugs. Witness No. 157, a vaid, considers that even the habitual moderate use of these drugs produces noxious effects. This is the pandit who was consulted by Dr. Flood Murray (witness No. 102), and who produced two cases of hemp drug asthma and weakened heart for Dr. Murray's inspection. These seem to have been the only cases in any way connected with hemp drugs that he had. Witness No. 146 is a zamindar and medical practitioner, and does not reply as to effects. Witness No. 147 studied two and a half years at the Calcutta Medical College, but took no degree. He states that no noxious effects are produced without giving details.

501. Three commissioned and three uncovenanted medical officers were
 Assam. examined in Assam. Surgeon-Major Macnamara
 (witness No. 20) has been for thirteen years among
 people who make use of hemp products to a greater or less degree. He is Civil Surgeon of Tezpur, and has had opportunities of observing the effects of the drug on tea garden coolies. Regarding the effects caused by the moderate use of the drugs, the witness remarked: "I can't define moderation no more than I can in the case of alcohol. The limit is reached when any ill effects are apparent when the limit is crossed. The constitution is impaired and digestion is injured. Dysentery, bronchitis, and asthma find an easier victim." On cross-examination, the witness stated: "In regard to the effects of the drugs, I mean what I have seen in people taking the drugs just as I know the effects of alcohol. I have never seen a man actually taking ganja, although I have tried to get people to do so." Surgeon-Major H. C. Banerji has had 14 years' service, out of which five years have been passed as a Civil Surgeon in Assam. This officer considers that bronchitis, asthma, and dysentery are not produced by the moderate use of the drugs. Dr. Macleod (witness No. 23) stated that bronchitis, asthma, and dysentery are caused, but fails to answer the question regarding results of excessive use; and there is every probability that he failed to discriminate between the moderate and excessive use. Surgeon-Major Mullane (witness No. 19), out of nearly 17 years' service, has spent 13 years in the plains districts of the Assam Valley. Regarding effects, he remarked: "Among natives there is a widespread belief that the mortality among ganja consumers from bowel complaints is heavy." He fails to answer the question regarding results of excessive use; and from the nature of his reply quoted it is fair to assume that he has no personal knowledge regarding

effects of either the moderate or excessive use of the drugs. Dr. Partridge (witness No. 22) is an officer of 26 years' service, and stated that he has never seen the evil effects of the drug except in cases under observation for insanity ; " the effects apart from that have never attracted my attention."

Three assistant surgeons were examined. Witness No. 25 states : " Moderate use has not, I believe, much to do with bronchitis, dysentery, or asthma." Witness No. 26 considers that " ganja smoking causes asthma and bronchitis," but he does not appear to discriminate between the moderate and excessive use. Witness No. 30 states that the drug " does not cause dysentery, bronchitis, or asthma ; rather moderate ganja smoking allays hard breathing in asthma."

Two hospital assistants were examined. Witness No. 27, after stating in his paper that in long standing cases the use of the drug is certain to cause bronchitis, asthma, and dysentery, admitted in his cross-examination : " It is no use my making any statement, because I have no experience of the effects of ganja, and in fact know nothing about it." Witness No. 28 considers that the drug causes bronchitis, asthma, and dysentery ; but he fails to answer the question regarding results of excessive use, and it is fair to assume that he has not discriminated between the moderate and excessive use.

Only one native practitioner was examined (witness No. 31), who considered that bronchitis, asthma, and dysentery were caused by the moderate use ; but from his written statement it is obvious that he failed to discriminate between the moderate and excessive use.

502. In the North-Western Provinces nineteen commissioned and two uncovenanted medical officers were examined. Surgeon-Major Tuohy (witness No. 87), of thirteen years' service, stated : " I am unable to answer these questions from personal observation. The consumers of the drugs have assured me that they cause no illeffects of any kind when taken in moderation. One man only said that bronchitis and asthma were caused." Witnesses No. 75 and 89 stated that no ill effects are induced by the moderate use. Dr. Harding (witness No. 92) in his paper ascribed bronchitis and asthma to the moderate use, but on cross-examination admitted that " the moderate use of these drugs does not in my opinion cause any injury or lead to any baneful results." Surgeon-Captain Roberts (witness No. 91) premises his written statement by remarking that " until this enquiry I knew absolutely nothing about the hemp plant, its use or abuse, save a few grains of information acquired by any student of materia medica in a medical school." Dr. Roberts has had $5\frac{1}{2}$ years' service in India ; for one year he toured through towns and villages of the North-Western Provinces and Oudh, and for nearly two years he has acted as a Civil Surgeon, and for the remainder of his service he was in charge of native regiments. Dr. Roberts remarked : " So far as the foregoing opportunities served to impress my powers of observation, absolutely no question of the use, and still less of the abuse, of hemp drugs by the people of India has arisen in my mind prior to this inquiry..... Those who most strongly aver the ill effects of hemp deal (when questioned for definite facts) in generalities, suggesting a dyscrasia, loss of functional power, impotence, chronic rheumatism, pallor, and atrophy, and all these results are precisely what I am led to expect from malarial and splenic cachexia." Surgeon-Major F. C. Chatterji (witness No. 85) has had a lifelong experience of India from Peshawar to Burma.

He stated that no ill effects from the moderate use are known to him. Surgeon-Lieutenant-Colonel B. O'Brien (witness No. 80), of over 20 years' service, stated that no impairment of the constitution is produced; "it gives great relief in dysentery." He added: "In both the Agra and Benares Lunatic Asylums it is thought by the officials that asthma is more prevalent amongst the insane who indulge in ganja. I could find no evidence to substantiate this idea. During my 20 years' attendance at dispensaries in these provinces, I have never met a patient who alleged that he was suffering from the effects of the use, moderate or otherwise, of hemp drugs." Surgeon-Major Cadge (witness No. 81), of over 15 years' service, stated that the habitual moderate use of bhang does not act injuriously in any way any more than the habitual moderate use of alcohol. Surgeon-Major W. Deane (witness No. 88), of 13 years' service, ten of which have been spent in the North-Western Provinces and one in Burma, has no personal observations regarding ill effects to offer. The greater part of his information has been derived from an assistant surgeon. Surgeon-Lieutenant-Colonel A. J. Wilcocks (witness No. 76), of over 20 years' service, has no personal knowledge of ill effects ensuing from moderate use. "On the contrary, it is an excellent drug in the treatment of dysentery." Surgeon-Lieutenant-Colonel Moriarty (witness No. 79), of over 20 years' service, stated on cross-examination: "I have been led to understand that it was a peculiarity of charas smoking to tend to cause asthma..... I have never personally seen any case of asthma or bronchitis which I could attribute to charas." Witness No. 93 made no attempt to discriminate between the moderate and excessive use of the drugs. Brigade-Surgeon-Lieutenant-Colonel W. R. Hooper (witness No. 74), of 33 years' service, of which 30 years have been spent in civil employ, remarked that no ill effects are induced in a healthy subject by the moderate use of the drugs; but, on the contrary, he considers that in some cases of asthma and chronic bronchitis smoking ganja or charas may be beneficial. Cross-examined as to the basis of his remarks, Dr. Hooper stated: "My remarks about the absence of ill results from the moderate use of the drugs on a healthy subject are based on enquiry made from natives both recently and formerly. I have not seen asthma or bronchitis due to smoking ganja. I have no experience of such smoking as a remedy for these diseases." Surgeon-Captain Morwood (witness No. 90), of 6½ years' service, who has had no opportunity of obtaining information about hemp drugs, stated that ill effects are probably not induced if good food be procurable. "May perhaps cause cough." Surgeon-Lieutenant-Colonel G. Hall (witness No. 78), of over 20 years' service and large jail experience, considers that no ill effects are caused by moderate use. Surgeon-Captain Weir (witness No. 84) stated that charas and ganja weaken the constitution; bhang does not seem to do so: ganja and charas both cause difficulty in breathing; bhang does not. The witness does not touch upon the effects of excessive use, and may be presumed to have made no distinction between moderation and excess. Surgeon-Captain C. Mactaggart (witness No. 83) stated that in moderate doses it does not appear to have any effect in producing diseases; the witness bases his opinion on what he had learned from prisoners who had been consumers of hemp drugs before coming into jail under his charge. Surgeon-Major E. Mair (witness No. 82) has been in the Jail Department for a number of years, but has had no special opportunities for obtaining information. He stated: "It is a common opinion that smoking ganja or charas is a frequent cause of bronchitis and asthma." The witness does not deal with the results of the excessive use of

the drugs, and may be presumed not to have discriminated. Surgeon-Lieutenant-Colonel Holmes (witness No. 77) is also a Superintendent of a central jail. He stated: "Those who habitually smoke ganja or charas suffer from chest affections;said also to cause dysentery, bronchitis, and asthma." The witness does not distinguish between moderate and excessive use; and the basis of his information is "from seeing effects on prisoners and others, and from enquiries made of the various officials and medical subordinates." Surgeon-Major G. Emerson (witness No. 86) has had sixteen years' service, seven of which have been in civil employ. He remarked: "I have never seen dysentery caused by it, but there is no doubt that bronchitis and asthma are to a great extent due to the use of charas and ganja." On cross-examination, the witness said: "My opinion in regard to moderate use of ganja and charas is that evil effects might be produced in certain cases even by moderate use, but as a rule not.....I should not be prepared to attribute to the moderate use of these drugs any further evil effects than to the moderate use of tobacco. I should like to transfer my remarks now to answer No. 46, which deals with the excessive use."

Twenty-four assistant surgeons were examined. Witness No. 109 stated: "I have had to treat a few cases of chronic bronchitis and asthma in which charas smoking was the alleged cause. Charas smokers cough very much." On cross-examination the witness said: "I may say that I did not make enquiry as to whether the bronchitis or asthma was really due to charas, and as a fact people suffering from these complaints often take to charas for relief." Witness No. 105 stated: "Smoking causes bronchitis and asthma, but drinking (bhang) does not, and is beneficial in dysentery." On oral examination the witness stated: "The smoking of ganja and charas caused asthma and bronchitis within my own observation. I have found these diseases very prevalent among those who smoke the drugs to *excess*. The *moderate* use will bring about the same results in time, but I have no personal experience of this. It is not a fact that ganja smoking is a domestic remedy against asthma and bronchitis, but dhatura is so used." The witness then referred to two cases of asthma which he attributes to the drug. "Both these cases began with the moderate use, which developed into the *excessive* before the effects I have described came on. I have no experience of the moderate use causing such serious results, but I think it probable it could if long continued." Witness No. 96 does not mention any diseases as resulting from the moderate use. S. P. Roy (witness No. 120) is an M.B. of the Calcutta University and not in Government employ; he is Municipal Analyst, Allahabad. His evidence is to the following effect: "Cases of chronic bronchitis and bronchial asthma and dysentery are too numerous to be cited. It is a popular notion, and I believe well founded in Bengal, that the habitual ganja smokers suffer from bronchitis and die ultimately from bloody stools." On cross-examination the witness stated: "I have never seen any ganja smokers of long standing who do not suffer from bronchitis and bronchial asthma, and in making this statement I do not confine it to my professional observation. I have not noticed that dysentery is so commonly connected with the hemp drugs. I have heard of ganja being smoked for the relief of asthma, and I have tried the extract of *Cannabis indica* for it without good results." Assistant Surgeon Subhan Ali (witness No. 98) is an M.R.C.S. and L.R.C.P. of London, and stated that ganja and charas cause bronchitis and asthma. Witness No. 103 states: "Ganja and charas very often produce asthma and bronchitis and sometimes dysentery, but one

chillum a day would not do so." Assistant Surgeon Hari Lal (witness No. 104) differentiates between the moderate use of bhang and ganja and charas. Bhang the witness considers does not cause dysentery, bronchitis, or asthma; ganja and charas impair the constitution slowly and cause bronchitis and asthma. Isan Chandar Roy, M.B. (witness No. 127), is a private practitioner. He stated: "In some persons moderate use does not produce noxious effects. But in certain persons, especially those who are predisposed or whose particular organs are already weakened, may have their digestive organs impaired, dysentery, bronchitis, or asthma being produced." Witness No. 107 considers that, provided good food be obtainable, the moderate use does not cause asthma or bronchitis. Witness No. 101 stated that dysentery is not caused, but bronchitis and asthma may result from habitual use of ganja and charas. Witness No. 99 stated that all these diseases are produced. Witness No. 100, on the other hand, made a diametrically opposite statement, *viz.*, that none of these diseases are produced. Manohar Pershad Tewari (witness No. 130) was formerly in Government service, but is now a private practitioner for the last eight years. He considers that the use of any of these drugs, except bhang, does cause dysentery, bronchitis, and asthma. On oral examination, the witness stated: "I have had four or five, or at most ten, patients a year who came before me in my private practice who were in the habit of using intoxicants. Of these, the most, up to eight, are consumers of hemp drugs. The other consumers of hemp drugs referred to were suffering from diarrhoea, dysentery, dyspepsia, bronchitis, asthma, and hæmoptysis. I attributed these to the hemp drugs. These people were all habitual consumers, and they themselves said that they were consumers, and that they could not get enough of the drug, and that made them ill, or they were indulging to excess and had not sufficient nourishment, *i.e.*, rich food, which is required in the case of a consumer. *These are the reasons why I conclude that these diseases were due to the drugs.* In all cases of the above-mentioned diseases, when the consumption of these drugs was discovered, the disease was assigned to these drugs if no other cause—*e.g.*, the prevalence of malarial fever—was discoverable. There were no doubt other consumers of hemp drugs who came before me beyond the average of eight a year, but I cannot say how many, as no enquiry was made about their habit, as it had nothing to do with their disorders." Witness No. 97 considers that while the moderate use of bhang produces no noxious effects, the use of charas and ganja does in the long run. Witness No. 112 stated the drugs do not cause bronchitis, asthma, or dysentery. Assistant Surgeon Man Mohan Das (witness No. 94) has been in Government service for 16 years; he has served in Bengal, Madras, and the North-Western Provinces. He stated that the habitual moderate use of bhang causes no noxious effects. "The moderate use of charas and ganja has some injurious effects..... But the evil effects of charas and ganja appear to be exaggerated. In fact, they are all due to excessive doses of the drugs. There are hundreds among Kahars, Malhas, and other lower classes, and even among the higher classes, who with a habitual moderate dose of charas or ganja keep their health well and live a long life, and it does not affect their moral or mental condition. But it is difficult for a ganja or charas smoker to keep within moderate limits. In most cases, say about three-fourths of the smokers will go to excess, and then all the evil effects will follow." On cross-examination, the witness admitted that his statement regarding three-fourths of the moderate consumers going on to excess was an exaggeration, and said: "I should now say that the proportion of consumers who go to excess is about one-fourth." Witness No. 95 considers that habitual moderate consumers who can afford

nourishing food seldom suffer from any ill effects. Witness No. 111 stated that the habitual use of ganja or charas does not cause bronchitis, asthma, or dysentery, but cures these diseases. Witness No. 106 gave no information of effects induced by the excessive use; with regard to the moderate use, he stated the effects are "not much marked," and that bronchitis and asthma might be caused after long use. Nobin Chandra Mitter (witness No. 148) is a retired assistant surgeon. He stated that during a period extending over thirty years he has treated thousands of persons habitually addicted to the use of the drugs, and has had ample opportunity of observing the effects. He is of opinion that the habitual moderate use, provided good rich food be procurable, does not induce any physical effects for a long time. The ultimate effects of prolonged use of bhang, though moderate, weaken the nervous system and occasionally gives rise to palpitation of the heart. Ganja under the same conditions he has known to have caused bronchitis and dysentery. Witness No. 108 has had over 23 years' experience, and has never seen any noxious effects induced by the moderate use of any of the drugs. Assistant Surgeon Munna Lall (witness No. 123), who has had twenty years' experience, and witnesses Nos. 110 and 102 give similar evidence.

Eight hospital assistants were examined. Jamal Khan, witness No. 113, is one of the old class of vernacular hospital assistants. He considers that daily use of the drugs in moderate quantity induces noxious effects. On oral examination he stated: "Out of one hundred ganja smokers who come sick to the dispensary, I find that seventy-five have chronic bronchitis or dysentery and twenty-five have some mental disorder." Witness No. 121 is described as a pensioner, native doctor, and health officer, Aligarh, and gave evidence to the following effect: "It is not injurious to the constitution otherwise than by causing thinness.....At the time of their use the man suffers from asthma and bronchitis; after leaving their use, he suffers from diarrhoea and dysentery." Witness No. 114 considers that no ill effects are induced. Witness No. 118, a retired hospital assistant, considers "that charas and ganja alone produce bronchitis and asthma, and bhang does not; none produce dysentery." Witness No. 119, another retired hospital assistant, replies to the question in precisely the same language and to the same effect. Witness No. 115 states the drugs do not cause dysentery, but bronchitis and asthma result from continued use. Witnesses Nos. 116 and 117 state that charas and ganja cause bronchitis and asthma; the latter witness states he is not aware whether dysentery is produced or not.

Fifty-two native practitioners were examined, of whom 26 failed to discriminate between the moderate and excessive use of the drugs. Their replies are not further considered. Three gave no reply. Witness No. 122, of over 15 years' experience, considers that no ill effects are induced. Witness No. 124 speaks only of bhang, and considers that it does not injure the constitution; he is silent, however, as to any alleged physical ill effects. Witness No. 125 is a hakim, and considers that ganja and charas produce bronchitis and asthma. Witness No. 126, a private medical practitioner, gives similar evidence. Witness No. 164, a hakim, stated that bhang causes no injury, but the moderate use of ganja and charas causes bronchitis, asthma, and dysentery. Witness No. 165, a hakim, remarked: "Injures soul and body, impairs semen, and impairs digestion no doubt." Witness No. 167, a hakim, considers that use causes dysentery, bronchitis, and asthma. Witness No. 132, a vaid, considers that ganja

and charas produce asthma. Witness No. 134, a private medical practitioner, considers the drugs injurious to the bowels and lungs. On cross-examination he stated: "There would be no harm to speak of if a man continued to be a moderate consumer of ganja or charas. But I think it difficult to keep the habit within bounds." Witness No. 136 stated: "Unless used as a digestive, causes asthma, deafness, and thinness." Witness No. 137 stated that ganja and charas (among other evils) cause "asthma to those who are weak." Bhang has no injurious effects unless taken in great excess. Witness No. 170, a native physician, stated that "habitual consumers do not feel any physical, mental, or moral injury. They neither feel pain nor ever have cough." Witness No. 171 considers that bhang produces no noxious effects, but that ganja and charas cause dysentery, bronchitis, or asthma. Witness No. 172 states that ganja or charas may cause dysentery and asthma; bhang is less harmful. No reply is given to the question dealing with excess which is apparently not distinguished from the moderate use. Witness No. 143 considers that charas and ganja produce "various diseases." Witness No. 146 does not deal with the moderate use. Witness No. 147 considers that bhang and charas are both injurious. "Bhang impairs the appetite in the end and charas causes bronchitis and asthma." Witness No. 173, a hakim of twenty years' experience, replied that "ganja often brings on bronchitis and asthma, and charas produces inflammation of the stomach and liver. None of them, however, has been found to cause dysentery." Witness No. 149 considers that bronchitis and asthma are produced. Witness No. 151 stated that ganja produces bronchitis and asthma, but not dysentery. Witness No. 152 stated that the use of charas and ganja causes cough and asthma. Witness No. 153 stated that ganja and charas give rise to a number of diseases, "especially to complaints of the stomach, lungs, brain, liver, bowels, etc." Witness No. 174 considers that the use of ganja and charas causes bronchitis and asthma. Witness No. 160 stated that, in addition to bronchitis and asthma, dysentery is also caused. Witness No. 158 considers bhang to be harmless, but that charas and ganja cause dysentery, bronchitis, and asthma. Witness No. 159, a vaid, stated that "ganja and charas weaken the heart, dry the constitution, and create lung diseases."

503. In the Punjab, Surgeon-Major J. A. Cunningham, witness No. 35, of over 12 years' service, stated that charas and ganja smoked cause chest affections, but not dysentery. Punjab. Surgeon-Major Dennys, witness No. 34, stated that "charas smokers, even in moderation, are generally emaciated and in poor health, and are depraved creatures both mentally and physically. This is not the case with moderate consumers of bhang as far as I have been able to gather." The witness does not mention any connection between the use of the drugs and chest affections or dysentery.

Of the assistant surgeon and qualified private practitioner class eight were examined. Witness No. 48 is an L.M.S. and a private practitioner. He stated that "charas and ganja always bring on bronchitis and asthma if very large quantities are smoked. It brings on dysentery also." A perusal of this evidence indicates that the witness has mixed up the effects induced by moderate and excessive use of the drugs. Assistant Surgeon Jai Singh (witness No. 47) considers that the use of the drugs does not seem to cause bronchitis, asthma, or dysentery,

but rather cures them. Witness No. 39, also an assistant surgeon, stated that the use of bhang is probably quite free from noxious effects, but abuse of charas brings on bronchitis and asthma. Assistant Surgeon Rahim Khan (witness No. 37) is Superintendent, Medical School, Lahore, and has had 33 years' residence in the Punjab, and has been connected with the out-patient department, Medical College Hospital, for that period. He stated: "There are no bad after effects from bhang, but even the moderate use of charas brings on chest affections." Cross-examined as to the meaning the witness attached to *moderate*, he replied: "I call ten or twelve *chillums*, costing one or two annas, in the 24 hours moderate use. I know of no more moderate use than that. I know of no case of a man using only one or two *chillums* a day. I would call a man taking one or two annas' worth a day a '*charasi*'." It is clear that this witness knows nothing of the moderate use. Assistant Surgeon Mehr Chand (witness No. 40) stated that the moderate use of bhang produces no noxious effects, while charas, if even used moderately, brings on bronchitis and asthma, general irritation of the respiratory organs, indigestion, and dysentery. On cross-examination the witness said: "As to dysentery, I saw a case of a man who said he was a charas smoker, and took an excessive dose, and it brought on dysentery. I had doubt as to this being the cause. But I think charas may injure the digestion and predispose to diarrhœa or dysentery. I have not enough of cases to be able to say that the drug really produces dysentery. I am not certain. But I have had one or two allegations as to this being the cause, and I had no other cause. I ought to say rather 'it may produce' than 'it does produce dysentery.'" Assistant Surgeon Bhagwan Dass (witness No. 36) is Civil Surgeon of Jhang, and has nearly 25½ years' service. He stated that charas or ganja smoking caused indigestion and diarrhœa and chronic bronchitis. On oral examination the witness stated: "My personal experience of the effects of the drugs is based on my dispensary practice alone. In my social or domestic life I have no knowledge of moderate or excessive consumers..... I have seen five or six cases of chronic bronchitis in people addicted to hemp drugs. I cannot say that it was due to hemp drugs solely. I have also seen several (say about twenty) cases of indigestion and diarrhœa. But here again I cannot say that they were solely due to hemp drugs, but simply that the patients were consumers. These are all the diseases I have seen attributable to hemp drugs. I have never seen a case of dysentery or asthma which I attributed to hemp drugs, though I have seen both in consumers. *My reason for not attributing these diseases to hemp was that other people also suffer from these diseases equally.*" Witness No. 41 did not ascribe any ill effects to bhang, but stated that bronchitis and asthma are often met with in consumers of charas. Witness No. 38 does not discriminate between the moderate and excessive use.

Three hospital assistants were examined. Witness No. 42 considers that charas smoking causes asthma. Witness No. 43 considers that noxious effects are induced by moderate use of the drugs. Hospital Assistant Karm Elahi (witness No. 44), of 25 years' service, considers that moderate use of the drugs to some extent produces noxious effects; and added: "I have not seen a single case of dysentery caused by the practice: of course cases of cough and asthma."

Seven native practitioners were examined, of whom three failed to discriminate between moderate and excessive use. Witness No. 51 stated that charas

causes asthma and bronchitis, but not dysentery. Witness No. 52 stated that "charas, of course, causes loss of appetite and bronchitis and asthma." Witness No. 53 merely stated: "The mischief is done by charas and ganja." Hakim Ghulam Nabi, of Lahore (witness No. 54), of twenty years' experience, stated: "I have not found even a single person during the last twenty years who complained of these drugs. There are more *takias* outside the Mochi Gate, Lahore, than in any other parts of the city which are reserved for the consumption of such drugs; and as the resorters to these *takias* generally come to me for treatment, and as none of them has during the last twenty years complained to me of having suffered from any disease in consequence of using bhang or charas, it shows that the moderate use of these drugs is harmless."

504. In the Central Provinces three commissioned officers, one Honorary Surgeon-Major, and two senior apothecaries were examined. All these officers are of long service and considerable experience. One, an officer of forty years' service, did not discriminate between the effects induced by moderate and excessive use of the drugs, and his replies to questions dealing with the moderate use are consequently valueless. One witness stated that the moderate use of ganja and bhang does not ordinarily produce any noxious effects, but that ganja sometimes causes chronic catarrh. A second witness stated that no evil effects are induced; then added that bronchitis and asthma may be caused by ganja smoking, but not dysentery. Surgeon-Major Quayle (witness No. 37), who had resided four years in a district where the drug is extensively cultivated, and where it is easily procurable in the adjoining Native States, alleged that he had no evidence that the moderate use of the drug produces any noxious effects—physical, mental, or moral. Surgeon-Lieutenant-Colonel McKay (witness No. 36), after twenty years' service in the country, gives no reply to the Commission's questions dealing with the effects of moderate or excessive use of the drugs. Brigade-Surgeon-Lieutenant-Colonel Gaffney, after 25 years' service as a Civil Surgeon in the Central Provinces, stated: "I do not think the moderate use produces any of these ill effects."

One assistant surgeon was examined in the Central Provinces, a man of 22 years' service, who was of opinion that, while the moderate use of bhang would not cause bronchitis, dysentery, or asthma, these remote effects might be induced by ganja.

One hospital assistant who was examined stated on cross-examination: "I have never seen an asthma, bronchitis, or dysentery case arising from ganja." Another pensioned hospital assistant was of opinion that the moderate use of ganja, charas, and bhang does produce noxious physical, mental, and moral effects; ganja causing dysentery, bronchitis, and asthma; bhang making a person unusually fat, affecting the urinary system, and causing bronchocele and hydrocele. One *vaid* was examined, 55 years of age, who had known hundreds of ganja smokers, and had never known a case in which it did any harm. He had himself been a steady ganja smoker for thirty years, consuming six to eight *chillums* daily.

505. In Madras twenty commissioned and uncovenanted officers, of whom eleven either failed to reply or did not discriminate between the effects of moderate and excessive use, were examined. Surgeon-Major King (witness No. 85), nineteen years' service, sixteen

of which have been spent in civil employ, stated that in the habitual moderate smoker bronchitis is frequent. Cross-examined as to the basis of his observation of the general effects induced by the drugs, he stated : " I have known the moderate use in cases of sepoys and one private servant.....Besides the above direct observations, I have derived general impressions.....My general impression is based upon the fact that persons alleged to have been ganja smokers have presented these characteristics, but I have not specially inquired into the truth of the allegation that they were ganja smokers. They were pointed out as notorious ganja smokers. I did not discriminate in these cases between the moderate and excessive use because I was not called upon to do so." Surgeon-Major O'Hara (witness No. 93) stated that apparently no ill effects are caused, and that he has no information regarding specific affections alleged to be induced by the drugs. Surgeon-Major Sturmer (witness No. 99), of nearly nineteen years' service, said regarding effects of moderate use : " In time, I believe, it leads to mental and moral degradation." Cross-examined as to the basis of his information, the witness said : " I have never been into the question of ganja. I have never seen it scarcely. My first sentence (the one quoted above) is based on what a ganja smoker said. He said : ' It is a bad thing. I should like to leave it off, but I cannot.' I have really no experience as to the effects of either moderate or excessive use." Surgeon-Major W. F. Thomas (witness No. 96), of fifteen years' service, only three of which have been passed in civil employ, stated that users of the drugs suffer from dysentery, bronchitis, and asthma. On cross-examination the witness said : " I had to treat three cases of ganja poisoning. These men drank liquor and indulged in ganja. In all these cases there was congestion of the lungs present.....These are the only three cases in which the evil effects of the drug have come directly under my notice. The symptoms in all three cases were the same, and for that reason I concluded the pulmonary affection to be the result of the drug. I have learnt from enquiry from medical subordinates and people in villages that dysentery, bronchitis, and asthma result from the drug. I have no personal experience on the point." Surgeon-Lieutenant-Colonel Hyde (witness No. 86) stated that, so far as he knew, no ill effects were caused. Surgeon-Major Lancaster (witness No. 90), twenty years' service, nineteen of which have been passed in civil employ, in his oral examination said : " I have had no opportunity of noticing the effects of the moderate use of hemp drugs ; they have not come before me." Surgeon-Major Pemberton (witness No. 98), of fifteen years' service, and in civil employ continuously since 1885, stated that evil effects are induced, but asthma is relieved, and bronchitis and dysentery are not caused. Surgeon-Major N. Chattarji (witness No. 88), of nearly seventeen years' service, nearly all in military employ, stated : " It does not produce any particular disease except a peculiar cough, the result of a kind of chronic bronchial catarrh." On cross-examination the witness said : " I cannot in the case of any sepoy attribute thinness or cough to ganja, for I cannot be certain. I have no proof..... What I have said in my written answer about thinness and cough is my impression ; but I could not assert it about any particular case." Civil Apothecary A. Wells (witness No. 105) has about nine years' service. He stated that bronchitis, asthma, and dysentery are not caused by the drugs, but relieved by them. Dr. K. J. Naidu (witness No. 106) stated that no ill effects are caused. Surgeon-Captain C. Fearnside (witness No. 97) considers that the drugs "impair the constitution, causing weakness of the limbs and other tissues, and hence the drug has

to be taken to keep up the tone of these tissues. It causes indigestion in many." No information is given about any specific affections being induced. Surgeon-Major-General DeFabeck (witness No. 83) was Surgeon-General with the Government of Madras. He had served in Madras and Burma since 1857. On oral examination the witness stated: "My experience is that it is a very rare thing to meet with any case in which the hemp drug has caused evil effects on the health of the population. Apart from insanity, no evil effects have been brought to my notice."

Seven apothecaries and private practitioners were examined. Civil Apothecary T. M. Cheriyan (witness No. 100), of nine years' service, stated: "It causes bronchitis and asthma"; and he also referred to other evil effects. On cross-examination the witness said regarding effects: "All the statements made here are based exclusively on hearsay. *I have not seen any of these ill effects myself in my practice.....*I do not know of any case of illness that has come before me of any kind being due to hemp drugs." Civil Apothecary K. Vasudevā Rao (witness No. 101), of six years' service, stated, under the question relating to effects, that he was once called to see a bairagi who was a habitual smoker of opium and ganja, and that he was a ghostly skeleton of bones covered with skin. No other physical effects are mentioned. On oral examination the witness said: "I did not treat the bairagi; I only saw him once; and, apart from his own statement that he was an habitual smoker of opium and ganja, I learnt nothing whatever of his history. I cannot, therefore, judge whether his condition was due to other causes than the habits he confessed to." Civil Apothecary Mohammad Asadulla (witness No. 104) stated that the drugs caused bronchitis and other evil effects. Cross-examined, he said that he had "treated cases of asthma, bronchitis, and the like which have resulted from prolonged use of the drugs, but he could not recall any such cases." Civil Apothecary G. A. Vellones (witness No. 102) gave a negative reply regarding causation of specific diseases. Assistant Surgeon Saldana (witness No. 107) stated that "consumers say no noxious effects are produced so long as sufficient food is supplied." Civil Apothecary N. H. Daniel (witness No. 103) considered that evil effects were induced, including dysentery and bronchitis.

Thirteen hospital assistants were examined. Witness No. 119, a pensioned hospital assistant, considers that the habitual moderate use never produces any bad effects, or causes dysentery, bronchitis, or asthma. Witnesses Nos. 108 and 109 also gave a reply in the negative regarding specific diseases. Witness No. 111, of 22 years' experience, considers that the habitual consumer generally exceeds moderation; no specific diseases are mentioned as being caused by moderate use. Witness No. 113 stated that, while bhang does not produce any noxious evil effects, smoking ganja does. Witness No. 114 stated: "It produces noxious effects." Witness No. 115, of thirteen years' service, on the other hand, stated: "I have not observed any noxious effects." Witness No. 116, of fourteen years' service, considers that, with the exception of a "kind of hoarse cough in ganja smokers," no noxious effects are produced by the use of bhang or ganja. The remaining witnesses either failed to reply or were not examined on the effects induced by moderate use.

Six native practitioners were examined. Witnesses Nos. 121 and 123 stated that the habitual moderate use of ganja or bhang does not produce any noxious

effects. Witness No. 135 stated: "It impairs the constitution by making the man lean; increases digestion, and removes dysentery and cough." Witness No. 124 stated: "The use of these drugs produces moral effects, physical and mental, only to those people who are accustomed to it, and not in any way distinctive." No. 125 stated: "No doubt it produces noxious effects. In the long run they were subjected to bronchitis, and their eyes became dark gradually." This witness fails to answer the question dealing with excessive use, and has not apparently discriminated between the two uses of the drug. The remaining witnesses failed to reply.

506. Thirteen commissioned medical officers were examined in Bombay, of whom three were examined only regarding asylum procedure in relation to insanity. Of the remaining ten, Surgeon-Lieutenant-Colonel McConaghy (witness No. 69) is an officer of nearly 25 years' service, fifteen of which have been passed in the Civil Department. He stated that the moderate use of bhang or ganja does not impair the constitution in any way. Surgeon-Major Kirtikar (witness No. 73) has served over sixteen years, eleven of which have been in civil employ. He stated: "I have not seen nor have I heard from any reliable source of dysentery, asthma, or bronchitis being traced to the use of hemp in moderation. European physicians use it for the *cure* of dysentery." Surgeon-Major Boyd (witness No. 67), of about seventeen years' service, of which three-and-a-half years have been in military employ, stated: "Neither have I known any cases where it caused dysentery, bronchitis, and asthma." Surgeon-Major Parakh (witness No. 66) does not refer to specific diseases being induced. In his paper he refers to "homicidal insanity" being due to the moderate use, but in his oral examination he stated that probably he had in mind cases due to excessive use, and his reply should be taken as referring to the *excessive use*. Surgeon-Lieutenant-Colonel Bartholomeusz (witness No. 68), of over twenty years' service, stated: "I have not seen a sufficient number of cases to enable me to give a definite opinion;" and he does not deal with excessive use. Brigade-Surgeon-Lieutenant-Colonel J. Arnott (witness No. 65), of about twenty-five years' service, replies to the question dealing with effects of moderate use by entering the word "yes" four times without explanation; and he does not answer the question which treats of excessive use. Brigade-Surgeon-Lieutenant-Colonel G. A. Maconachie (witness No. 64), of about twenty-five years' service, stated that he knows nothing about the subject. Surgeon-Colonel D. Hughes (witness No. 74), of twenty-seven years' service, of which fourteen were in military employ, is Principal Medical Officer in Bombay, Deesa and Aden districts. He stated: "I think the smoking of charas causes asthma and bronchitis, as I well remember cases of these diseases in the 24th Bombay Infantry which were ascribed by the hospital assistant and the men's comrades to charas smoking, and which recovered in hospital quicker than cases due to ordinary causes." On cross-examination the witness said: "I remember that when the yearly inspection for pension took place..... a number of men, of service only just long enough to earn pension, came up suffering from bronchitis and asthma. They were generally weak and broken down in appearance, but this may have been caused by voluntary starvation..... It was explained to me that they owed this illness to charas smoking. I did not certify in any case that the illness of a man who was granted pension was due to charas. I am bound to state that an applicant's disease was not aggravated by vice or intemperance, but I took no notice of the use of the drug in

any of these cases, because I did not attach sufficient importance to the statements made to me, and was not sure that they were correct." This evidence, rejected at the time, is the only basis of the opinion now expressed. Surgeon-Major-General Turnbull (witness No. 63), of 33 years' service, Surgeon-General with the Government of Bombay, stated: "I have no personal experience of the effects of the hemp drugs on the people." Surgeon-Major D. C. Davidson (witness No. 71) stated: "So far as I can learn, the moderate use of ganja in smoking does not appear to be either physically or mentally injurious, generally speaking."

Eleven officers belonging to the assistant surgeon and qualified private practitioner class were examined. Witness No. 76 stated: "I think it does not cause dysentery, bronchitis, or asthma." Witness No. 90 stated: "It does produce dry cough eventuating in bronchitis or asthma, but it does not seem to produce dysentery, so far as my experience goes." Witness No. 91 gives a negative reply to ill effects being caused by moderate use. Witness No. 79 stated: "I have not noticed any other disease to result from occasional or moderate use of ganja or bhang in any form." The disease referred to was *general atrophy*, and death from the use of majum. Witness No. 77 stated that no ill effects are produced. Witness No. 78 stated that he has had no opportunity for observing effects. Witness No. 82 stated that injurious effects are produced. "It is a popular belief amongst the ganja smokers that a long-continued habit produces diarrhoea and dysentery, unless these evils are counteracted by an abundant supply of wholesome food, with especially a liberal allowance of ghee and other oleaginous materials. My experience supports the above made statement." Witness No. 80 stated that no ill effects are produced. Witness No. 81 stated that the use does not cause bronchitis or dysentery. Witness No. 97 stated: "It causes dysentery and other derangements of the bowels;" but the witness fails to discriminate between the effects of the moderate and excessive use. Ismail Jan Mahomed, L.M.S., (witness No. 96), stated: "Many cases of chronic diarrhoea and dysentery, as well as chronic bronchitis and asthma, are seen in those who use ganja." The witness, however, does not answer the question dealing with results of excessive use, and does not discriminate between the two uses of the drug.

Seven witnesses of the hospital assistant class were examined. Witness No. 83, of nearly 30 years' standing, stated: "I have not sufficient information to answer this question." Witness No. 84 does not discriminate between the moderate and excessive use of the drugs. Witness No. 85 stated: "I do not think that habitual moderate use of any of these drugs produces any noxious effects." Hospital Assistant Sudashio Waman (No. 86), of twelve years' service, stated that the habitual moderate use of the drug in certain constitutions produces noxious effects, causes bronchitis and asthma, but not dysentery. On cross-examination the witness stated: "The constitutions affected injuriously by the moderate use of hemp drugs are nervous and weak constitutions. In small quantities the drugs would do no harm to a healthy person." Witness No. 87 stated that ganja causes bronchitis and occasionally asthma. Witness No. 88 stated that no ill effects are caused. Hospital Assistant Purson Singh (witness No. 89) has had nearly 25 years' service in the Medical Department. He stated: "It causes chronic bronchitis and asthma, but cures dysentery."

Eight witnesses of the unqualified native practitioner class were examined. Witness No. 111 is a druggist and chemist, and stated that no ill effects are

produced. Witnesses Nos. 98 and 99, vaidyas, gave similar evidence to the last witness. Witness No. 100, also a vaidya, stated no ill effects are caused by the moderate use of bhang; but he does not express any opinion on the effects caused by moderate use of ganja. Witness No. 92 is described as a medical practitioner of 27 years' experience, and does not think that noxious effects are produced. Witness No. 93, also a medical practitioner, stated: "They do not cause dysentery, bronchitis, or asthma, but, on the contrary, do good to these diseases." Witness No. 94 does not reply. Witness No. 95, also a medical practitioner, stated: "I have not met with any cases in which the habitual moderate use of bhang has produced any noxious effects, but I believe the habitual moderate use of ganja and charas does produce some noxious effect physically, mentally, and morally."

507. Three commissioned officers were examined in Sind. Brigade-Surgeon-Lieutenant-Colonel J. F. Keith (witness No. 16) has
Sind. had twenty-five years' service, of which 14 have been passed in Sind and 15½ in civil employ. He stated that a general negative may be given to the questions dealing with noxious effects from moderate use. Surgeon-Major Corkery (witness No. 17) stated that the moderate use of these drugs does not produce any immediate noxious effects; but if bhang is indulged in for a considerable period, it impairs the constitution and produces emaciation. "At first it acts as a digestive, but afterwards impairs it, giving rise to asthma and bronchitis, but not dysentery." Brigade-Surgeon-Lieutenant-Colonel Bainbridge (witness No. 15) has acted as Civil Surgeon for 26 years. He stated: "I have no evidence, but I should say that the habitual moderate use of any of these drugs is harmful."

Four officers of the assistant surgeon class and one medical officer of health were examined. Witness No. 1 stated that no ill effects are produced. Dr. S. M. Kaka (witness No. 24) is medical officer of health at Karachi, and has practised there since 1884. The witness stated: "The habitual moderate use of ganja and charas acts injuriously upon the constitution physically, mentally, and morally." In cross-examination he stated: "It is difficult to draw a definite line between moderate and excessive use. They merge into one another." Witness No. 19 stated: "I am of opinion that moderate use of *subzi* does not produce any noxious effects—physical, mental, or moral." And Surgeon J. E. Bocarro (witness No. 20) stated: "I cannot say this of bhang, but charas and ganja, even in moderate doses, tend to weaken the bodily frame..... As regards causing the diseases mentioned, I have not a single case on record to warrant such a conclusion so far as bhang is concerned, but several of my cases indicate that the continued use of charas and ganja do cause dysentery and bronchitis. I have no history regarding asthma." Witness No. 21 stated that the habitual moderate use of the drugs does not cause dysentery, bronchitis, or asthma.

In Sind two hospital assistants and no private practitioners were examined. Witness No. 22 stated no ill effects are caused. Witness No. 23 stated that the use "causes bronchitis and shortness of breath."

508. Eight commissioned officers were examined in Burma. Surgeon-Major
Burma. Thomas (witness No. 42) stated that no ill effects were produced by moderate doses. Surgeon-Major Dantra (witness No. 40) has had 17 years' service, nearly the whole in Burma, and

s stated : " It neither causes dysentery nor asthma, but it produces cough." Surgeon-Major P. W. Dalzell (witness No. 41) stated : " I am not aware that it causes either dysentery, bronchitis, or asthma." Surgeon-Lieutenant-Colonel Mukerji (witness No. 39) has 26 years' service, and stated : " I have seen several habitual moderate smokers who did not suffer at all either physically, mentally, or morally. Others have injured their constitutions by use of ganja and charas." Surgeon-Captain Castor (witness No. 44) stated : " Not so far as I know. Causes loss of appetite." The remaining witnesses do not reply to the question.

Three assistant surgeons were examined. Witness No. 46 stated : " Habitual moderate use has apparently no noxious effect." Assistant Surgeon Moonshi (witness No. 45) has 21 years' service, and stated : " I have known habitual moderate consumers of these drugs to enjoy robust health." According to the witness, the drugs do not cause bronchitis, asthma, or dysentery ; "on the contrary, asthmatic people often resort to it to allay their sufferings. Immoderate use causes gastro-intestinal irritation." The third witness was not examined regarding effects of moderate use.

One hospital assistant was examined (witness No. 48), who stated : " The moderate use does not cause dysentery and bronchitis." No private practitioners were examined.

509. Five commissioned and two uncovenanted officers were examined in the smaller provinces, six in Berar, and one in Ajmere. Berar, etc. Surgeon-Major Swain (witness No. 18) has had 17 years' service. He stated : " It does not cause dysentery, diarrhœa, bronchitis, or asthma." Surgeon-Major Roe (witness No. 19) stated : " It is said to cause bronchitis and asthma, but not dysentery." Dr. O. W. Jones (witness No. 21) stated : " The moderate use of ganja or bhang is in no way detrimental to the consumers ; on the contrary, it is beneficial. I give this as my experience and as the experience of men who are in the habit of using ganja in moderation for periods varying from 10 to 12 years." Surgeon-Captain Morrison (witness No. 22) stated : " Eventually evil effects are caused. Ganja smoking has caused asthma." Dr. W. T. Montgomery (witness No. 23) stated that " even the habitual moderate use of these drugs affects the physique, mind, and morals of the consumer." The witness does not reply to the question dealing with effects of excessive use, and has probably really not discriminated between the two uses of the drugs. The Ajmere witness does not reply.

Two officers of the assistant surgeon class were examined. One stated (witness No. 30) that the constitution is weakened and debilitated, and that smoking produces cough and asthma in some cases. The other witness does not reply.

Four officers of the hospital assistant class were examined. Witness No. 27 stated : " Yes ; it does to some extent produce noxious effects, the excessive use causing bronchitis, asthma, and dysentery." Witness No. 28 stated it produces bronchitis. Witness No. 24 stated that first no ill effects are caused, but gradually the dose has to be increased, with the result that " dysentery, bronchitis, rheumatism, loss of memory, epistaxis, softening of brain, etc., set in, and the person becomes so sick that he finds his life a burden".....Witness No. 25 stated : " Chronic bronchitis is caused by ganja smoking. I have not seen dysentery or asthma result from ganja or bhang."

510. The medical evidence which has thus been analysed very clearly indicates in the opinion of the Commission that when the basis of the opinions as to the alleged evil effects of the moderate use of the drugs is subjected to careful examination, the grounds on which the allegations are founded prove to be in the highest degree defective. A large number of medical witnesses of all classes ascribe dysentery, bronchitis, and asthma to the moderate use of the drugs. An equally representative number give a diametrically opposite opinion. The most striking feature of the medical evidence is perhaps the large number of practitioners of long experience who have seen no evidence of any connection between hemp drugs and disease, and when witnesses who speak to these ill effects from the moderate use are cross-examined, it is found that (*a*) their opinions are based on popular ideas on the subject; (*b*) they have not discriminated between the effects of moderate and excessive use of the drugs; (*c*) they have accepted the diseases as being induced by hemp drugs because the patients confessed to the habit; and (*d*) the fact has been overlooked that the smoking of hemp drugs is recognized as a remedial agent in asthma and bronchitis. A few witnesses incidentally refer to personal idiosyncrasy as perhaps being a factor in rendering some consumers of the drugs less tolerant and more liable to be affected by them even when used in moderate quantity. This view the Commission are prepared to accept; but for the vast majority of consumers, the Commission consider that the evidence shows the moderate use of ganja or charas not to be appreciably harmful, while in the case of moderate bhang drinking the evidence shows the habit to be quite harmless. As in long-continued and excessive cigarette smoking considerable bronchial irritation and chronic catarrhal laryngitis may be induced, so, too, may a similar condition be caused by excessive ganja or charas smoking; and to the ætiology of bronchial catarrh and asthma in ganja smokers the Commission have already referred. The direct connection alleged between dysentery and the use of hemp drugs the Commission consider to be wholly without any foundation. In the case of bhang there is nothing in the physiological action of the drug which could in any way set up an acute inflammation of the large intestine resulting in ulceration. On the contrary, it is well known that hemp resin is a valuable remedial agent in dysentery. As regards ganja or charas smoking inducing dysentery, even assuming that the products of the destructive distillation of the drugs directly reached the intestines, there is evidence that those products, when condensed and injected into a cat's stomach, failed to induce any inflammatory process. The connection, therefore, between hemp drug smoking and dysentery appears even remoter than in the case of bhang drinking and that disease, and cannot be accepted by any stretch of the imagination as even a possible direct cause of dysentery.

511. Hitherto the Commission have only considered the *direct* action of hemp drugs when used in moderation in inducing certain marked conditions, but their *indirect* action when taken in excess must also be briefly considered. First, as regards the indirect action of bhang in inducing bronchitis, Dr. Prain may be quoted. He writes: "Here as in so much else associated with hemp some misunderstanding has arisen among Natives and Europeans alike, and it has been supposed that the use of hemp causes the bronchitis. As a matter of fact, cases of this 'bronchitis' cold weather cough would seem to be rather less common among

Summary of the evidence.

General effects of excessive use.