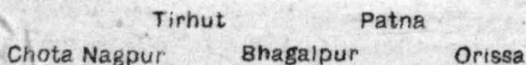


of the province



Bottom lines. Percentage of literates to population.

lines the figures for 1911-12

CHAPTER VI.

Government and social problems.

Apart from the maintenance of law and order and the administration of justice which are the primary social problems with which every Government is faced, possibly the most important and difficult problem that has to be faced in Bihar and Orissa is that of education. In the recent census it was found that in the

The illiteracy of the masses.

whole of the province the total number of literates—that is persons able to write a letter to a friend and read the reply—was only 1,600,000 out of a total population of over thirty-four millions, and though the number of literates is 200,000 more than it was in 1911, the percentage of literates to the rest of the population is only 4·7 as compared to six per cent. which was the figure for the whole of India in 1911. This illiteracy of the masses is a factor of the very greatest importance to the province, and makes the solution of every problem infinitely more difficult. It is because the ordinary peasant is illiterate that he is so easily influenced by

Its results.

political agitators and so easily swayed to mob-violence; it is the same reason that makes it so difficult to persuade him to improve the sanitary conditions under which he lives, even so far as his poverty will allow, and politically it is this same illiteracy which makes it so hard to form that intelligent and interested electorate which is an essential part of the reformed constitution.

So important is the question of primary education that it is advisable to give certain figures to illustrate the educational facilities and the extent of literacy existing in the various districts of the province, and included in Appendix V will be found a table illustrating this; while on the opposite page is a graph making a comparison between the percentage of literates and the percentage of boys attending school in the various administrative divisions of the province.

From the graph it will be seen that the percentage of boys attending school has made progress in all divisions during the last decade—except in Tirhut, where the small percentage in 1921-22 was definitely due to non-cooperation—while the percentage of literates has made a practically uniform advance. The most satisfactory point brought out by the graph is that there is a distinct relationship between the percentage of literates in a division and the percentage of boys attending school. A high percentage in

**The value of lower
primary schools.**

one follows on a high percentage in the other, and *vice versa*. The facts are interesting since it is not infrequently alleged that lower primary schools are of no value, and that boys forget what they have learned as soon as they have left school. But a less satisfactory feature that is brought out by the figures is the fall both in the number of primary schools and in the number

**The decrease in their
number.**

of pupils attending them that has taken place since 1916-17. Thus in 1916-17 there were 23,274 primary schools for Indian boys with 646,345 pupils, while in 1921-22 the number of schools had decreased to 22,443, and the number of pupils to 629,590. At the same time there has been an increase in expenditure on primary schools—in 1916-17 the expenditure from public funds was Rs. 12,17,348, of which local funds provided a net sum of Rs. 89,590 over and above Government grants, while in 1921-22 the gross expenditure from public funds was Rs. 17,71,590, of which local bodies provided Rs. 2,95,640. The increase in the expenditure by local bodies from their own resources is encouraging and shows that they are beginning to realize the importance of primary education.

The causes of the set-back in primary education during the last five years are not difficult to ascertain. In the first place non-co-

**Causes of the
decrease.**

operators undoubtedly persuaded a large number of boys to leave their schools, though this movement had more effect on secondary and college education and will be dealt with later. But more important than this is the general increase in the cost of living which has affected all classes of the community. This influences primary education in two ways; first, it makes it practically impossible for teachers to conduct their schools without help from public funds, and so has led to a great decrease in the

number of unaided primary schools, while secondly it has made it difficult for parents to pay fees or even to spare their boys to go to school when they might be earning their living by agricultural work or at any rate

Economic causes.

saving their parents from the expense of employing labourers. An enquiry that was held in 1920-21 showed that 46 per cent. of the boys of school-going age who did not attend school were kept away by their parents on the ground that they could not afford the small fees that were charged, and 34 per cent. because they were required to earn a living. Too much reliance cannot be placed on these figures, but at any rate they show that the poverty of the average villager is a factor that very seriously militates against any increase in primary education. Other causes have also entered into operation such as the influenza epidemic of 1918-19, to which nearly three-quarter of a million deaths in the province were attributed, and indifference on the part of the parents. This latter cause, however, may be traced to the poor class of teaching, which is perhaps all that can be expected of ill-paid teachers.

The question of the pay of teachers is one of the greatest importance. In 1921-22 there were in all the primary schools under the control of local bodies some thirty thousand teachers, and the average stipend of the teacher only amounted to Rs. 8-12-0 per month, while there were over 7,000 teachers who

Inadequate pay of teachers.

were drawing rupees three or less per mensem. These stipends are augmented by the fee income, but the average fee income of the schools amounts only to Rs. 36 a year, or a monthly rate of Rs. 3. The primary school teacher is therefore lucky if he gets an income of Rs. 10 a month, and no very high standard of teaching can be expected from him. The unattractiveness of the profession is further proved by the wastage that occurs in trained teachers.

and consequent unattractiveness of the profession.

During the five years ending in 1921-22 6,441 teachers were trained in various primary training schools, but at the end of that period there were only 3,943 more trained teachers than there had been before. Even if allowance is made for casualties both among the teachers trained during the five years and among the trained teachers previously in employment, there can be no doubt that a large part of this wastage is due to the fact that trained teachers find other walks of life more attractive.

There, therefore, appear to be two problems to be faced if an improvement is to take place in primary education. The first is to provide an adequate number of schools, and the second to provide adequate pay for the teachers. Both of these will cost money, and it is probable that local bodies will find themselves unable to increase their allotments; and in fact during the last year some District

Improvement of primary education a question of finance.

Boards have found themselves compelled to reduce expenditure under this head. It is probable therefore that the cost must fall on Government. A scheme has been worked out by the Director of Public Instruction, on reports from District Boards, for what he considers to be adequate primary education in each district and adequate pay for the staff. The scheme would take ten years to develop and would ultimately cost 23½ lakhs, or an annual increase of expenditure by 2½ lakhs. It may be impossible for Government to find this sum, but the development of primary education has obviously one of the first claims upon such funds as may be available. This can be shown, too, by comparative figures. In British India there is direct public expenditure amounting to

Primary education entitled to a share of any increased allotment for education.

Rs. 104 for each 1,000 inhabitants on secondary and college education, and Rs. 145 per 1,000 on primary education; in Bihar only Rs. 48-8-0 is spent on secondary and college education and Rs. 61 on primary education. It will be seen therefore that while in the case of secondary and college education Bihar spends per thousand of the population Rs. 50 less than the average of British India, she spends Rs. 84 per thousand less than the average on primary education.

The report of the educational committee appointed by Government contained a number of suggestions regarding the improvement of primary education. As this report is still under consideration it would be superfluous to refer here in detail to their recommendations, but two points of general interest are raised. The first is the question of compulsory primary education. The

The problem of compulsory primary education.

committee by a majority of eight to four, out of a membership of thirty-five, recommended that early steps be taken to introduce free and compulsory education for boys in all municipal and rural areas, though it should be noted that a

number of members have only signed the main report subject to a note of dissent on this and other resolutions. The estimated cost of this reform is Rs. 100 lakhs, or more than a fifth of the present provincial income. The reasons for the small attendance at primary schools have been considered above, and it has been shown that one of the main reasons is that the parent cannot spare his son from the fields to go to school. Therefore it is certain that any measure of compulsion will be distasteful to a very large section of the people. Again if the scheme is to be introduced extra taxation, as has been shown in Chapter II, will be necessary, and the fact that, though municipalities have been empowered to make primary education compulsory and raise extra taxation for this purpose, only the Ranchi municipality has at present done so, shows that extra taxation for this purpose would be extremely unpopular. The question is therefore both financial and economic, and at this stage any measure of general compulsion is outside the range of practical politics.

The second point is the control of the inspecting agency for primary schools. It is a common complaint that local bodies pay stipends to schools that have no existence, and

The inspecting agency for primary schools.

instances have occurred in which sub-inspectors of schools have been criminally prosecuted for embezzling the stipends of masters in their circles who have no existence, and it is natural for the local bodies who actually pay the masters to seek control over the inspecting agency. The committee recommend that the question whether the control of sub-inspectors of schools should be transferred to District Boards should be decided in accordance with the wishes of those bodies themselves, but no final decision has as yet been made.

The most effective control over primary education would be secured if the schools are managed, subject to the general supervision of Government, by people in the locality who would be able to ensure regularity of working. The difficulty, however, of establishing such

The problem of local managing committees.

a system in Bihar is again the illiteracy of the average villager. It is difficult to find people sufficiently literate to be able to control the teachers or sufficiently public spirited to devote the necessary time to doing so. Some progress is however being made in

establishing such a system, and already in Tirhut there are 376 managing committees for primary schools and in Shahabad 408. Though it is doubtful whether as yet these committees are exercising proper control, their formation is a move in the right direction and will facilitate the transfer of control over primary education to the union boards to be established under the Village Administration Act. The experiment also has been successfully tried of handing over the control of certain primary schools to the directors of Co-operative Banks, who in Darbhanga and Saran are taking great interest in this work.

The set-back which has been noticed in the progress of primary education has also occurred in secondary education. Since 1916-17 there has been an increase of 79 in the number of middle and high schools, an increase from 17 lakhs to 23 lakhs in expenditure, but a decrease from 72,000 to 59,000 in the number of pupils, and the number of pupils now receiving secondary education only amounts to 1.74 per thousand of the population, compared to 5.12 per thousand which is the figure for British India. In a way this

The set-back in secondary education.

figure is not so unsatisfactory as is the similar figure for primary education, because, as Professor Rushbrook Williams has pointed out in "India in 1921-22", there is reason to believe that the structure of education has become top-heavy and that too much attention is being paid to secondary and college education. But at the same time the decline in the number of pupils combined with the increase in expenditure is disappointing. There are various causes which have led to this result. The non-co-operation movement undoubtedly dragged a lot of boys away from secondary schools, but the collapse of these schools which is referred to later should result in an increase of pupils in the Government and aided schools at the end of the year 1922-23. The revised scale of fees which was sanctioned during 1921 has probably also contributed to

Increased fees.

the decline, though as the average annual fee in a high or middle English school has only been raised by 2½ rupees, and as Government revenues now pay 36.3 per cent. of the cost of these schools as against 21.7 five years ago, it cannot be argued that the revised scale is unduly excessive. The prevalent idea, that the matriculation standard is lower in the Calcutta than it is in the Patna University has also caused a migration of students to schools in Bengal.

During the year an important change has been introduced into the management of secondary schools. A Board of Secondary Education has been constituted, consisting of the Director of

Board of Secondary Education.

Public Instruction, three representatives from the Senate of the Patna University, three representatives of the Legislative Council, the principals of the three Intermediate Colleges and persons to represent various other communities and departments of Government. The Board has administrative powers over high schools and intermediate colleges, and has the right to initiate and be consulted upon the policy to be adopted with regard to such institutions, to inspect them and to prepare a budget of the sums which they require annually for grants-in-aid. The Board has also taken over from the Director of Public Instruction the power to recognize high schools as fit to send up candidates for the matriculation examination.

The consideration of the alterations necessary in secondary education was also taken up by the committee appointed by Government to consider primary and secondary education. The report is still under consideration, but the committee have considered two subjects of great importance.

The vernacular as the medium for instruction.

The first is the medium of instruction in high schools, which the committee has recommended should be the vernacular

as soon as it is possible to make the alteration. The other point which they raise is the necessity for introducing into the curriculum subjects of vocational training. One of the reasons which was

Subjects for vocational training.

urged against Government schools by non-cooperators was their failure to provide vocational training, and there is no doubt that there is a genuine popular demand that subjects of this nature should be taught at secondary schools and that it should be one of the duties of the school course to fit boys for various trades and professions. The majority report of the committee recommends the teaching of such subjects as agriculture together with surveying, carpentry, weaving, spinning, canework, office work and commerce, and that each student should be allowed, if he so wishes, to take up as an optional subject not more than one of these vocational courses. On this point, however, the majority report was by no means unanimous, and there were a

number of notes of dissent. The inclusion of vocational subjects

**Their value from an
educational point
of view**

can be urged on either educational or economic grounds. Educationally some of the subjects suggested by the committee can have little or no value—cane-

work and the use of the spinning wheels may be admirable accomplishments for leisure hours, but cannot be considered a serious form of education—and if the matter was only to be looked at from an educational point of view it would probably be best to provide instruction in elementary science, since science now enters into every branch of industry. But the committee chiefly considered the proposal from an economic viewpoint, though economically there are also difficulties in the way of introducing such subjects into the curriculum. The provision of the necessary expert

and economically.

teachers in all the subjects would be expensive, and their training would itself

be a matter of no small difficulty, while it is doubtful whether Indian industries are at present sufficiently developed to provide employment for students who would be turned out trained or partially trained in the various vocations. The facilities already provided for vocational training in secondary and arts schools were referred to last year, and no further progress has been made since, although technical instruction, to which reference has already been made in dealing with the Department of Industries, has been improved.

The decline in the number of students in Arts Colleges which

Arts Colleges.

was noticed last year again continued, and the total this year was only 2,075,

as compared with 2,269 last year and 2,924 in 1918-19. The expenditure however has increased, and amounts now to over seven lakhs

**Decline in the number
of students.**

of rupees, chiefly owing to the establishment of post-graduate classes at Patna.

The expenditure on each pupil amounts

to Rs. 340, and it is perhaps worth noting that the amount spent on each pupil in these colleges is approximately the same as the total expenditure on four primary schools. The reasons for the decline in numbers are chiefly the non-cooperation movement and the increase in the cost of living, though in Orissa a succession of bad harvests has also been a contributory cause. During the year

New buildings.

the new buildings for the Ravenshaw and Greer Bhumihar Brahman Colleges

at Cuttack and Muzaffarpur were completed and these have now moved into the new buildings. The Ravenshaw College is particularly fortunate in having secured a fine library building for which the Raja of Kanika gave a donation of Rs. 50,000. The Tej Narayan College at Bhagalpur has also moved into its new buildings which have been built at a cost of eight lakhs, of which Rs. 3,29,000 was given by the Raja Bahadur of Banaili. But these buildings are little good without pupils, and it may reasonably be hoped that with the decline of the non-cooperation movement a material increase in the number of pupils will take place in the course of the next few years. One of the few

Patna Law College.

institutions in which there has been no falling off in the number of students during the year was the Patna Law College, where, though there was a decrease of three in the pleadership classes, the total numbers increased by twenty-eight. The question of acquiring a building for this college was considered by the Council, which sanctioned the acquisition of a private house for the purpose; sanction has also been accorded to the revision of the staff of the college.

During the year little progress has been made in University affairs, and owing to the decision of the Government of India to

The University.

make no further contributions for the establishment of the University, progress is likely to be slow. At present an alternative proposal to locate the University in the neighbourhood of Patna College, instead of on the site beyond the new city which had originally been chosen, is under consideration. The demand for instruction in the vernacular influenced the Senate in passing a resolution that the

Medium of examination for matriculation.

medium of examination for the matriculation examination should be the vernacular of the candidate, and that this change should be permissive after 1923 and compulsory after 1928. The resolution has not yet been sanctioned by Government. The proposition appears simple, but in practice both it and the establishing of the vernacular as the medium for instruction in secondary schools will not be easy. The claims and needs of all classes of the people inhabiting the province with their varying and different vernaculars have to be taken into consideration. Teachers and examiners and text-books in all vernaculars will be required and the provision of these is bound to make the alteration expensive. A suggestion has consequently been made to give the proposal a

trial on a small scale. In addition to the post-graduate classes of Patna College opened in 1919, M. A. teaching in English has been recently added to the Ravenshaw College. The latter innovation was rendered possible by a donation of half a lakh by Maharaja Sir Bir Mitrodaya Singh Deo, the Ruling Chief of the Sonpur State.

The education of girls in Bihar is probably beset with more difficulties than anywhere else in India.

Female education.

Difficulties caused by the *pardah* system and the early marriage of girls are probably stronger than elsewhere, while lack of available funds makes the solution of the conveyance problem one of increasing difficulty. Parents do not like their daughters to walk to school, especially in towns, and usually expect the necessary conveyance to be supplied free of cost, or at any rate at a very small cost, by the school authorities. Partly as a result of this necessity of providing conveyances and partly owing to the necessity of paying women teachers at a higher rate than men, the cost of educating a girl in a secondary school is practically twice as high as the cost of educating a boy, though in primary schools the cost is almost identical. The total number of Indian girls, including those in boys schools, undergoing education at the end of the year 1921-22 was just over one lakh, and represents only 4.1 per cent. of the number of girls of school-going age, compared with 27.8 per cent. in the case of boys. But during the five years ending last year, though the total number of girls being educated has decreased, this reduction has taken place in private institutions, and the number being educated in public institutions has increased, while there has been a substantial increase in the numbers of those attending secondary schools.

Increase attendance at secondary schools.

There has also been an increase in the number of girls attending technical, industrial and agricultural schools. This increase at a time when the figures of practically all other forms of education are decreasing is satisfactory, and the increase in the number of those attending secondary schools is a hopeful sign for future progress, as it should help to solve one of the main difficulties of female education, the provision of teachers.

The non-coöperation movement has been mentioned as accounting for the decrease in the number of pupils in public institutions of various kinds. This decrease has been balanced

to a certain extent by a rise in the number of national schools.

The effect of non-co-operation.

It has been found difficult to obtain accurate figures of the number of boys who attend such institutions, but the Director of Public Instruction has estimated that at the end of March the number of national schools was about 400 with seventeen thousand pupils nominally on their rolls. The schools were then, however, distinctly losing in popularity, and the attendance in most of them was extremely irregular. This decline in popularity continued throughout the year, and by the end of the year of the six recognized high schools which had been nationalized two had already applied for renewal of Government recognition. The establishment of national schools called attention to a fairly widespread desire that more attention should be paid in educational institutions to the vernacular and to vocational subjects, and as has been shown above both these points are receiving the attention of Government. It is also reported that the movement improved the quality of the work in many schools by drawing away pupils who had no interest in their studies, and this is proved by the higher percentage of passes at the matriculation examination in February 1922. But on the other hand the movement has done much harm by undermining the foundations of discipline.

Its effect on discipline.

The attitude of the students is now often disrespectful, they show a contempt of authority and disinclination to submit to discipline, and parents are gradually losing their control over their sons, especially when the parent himself has not had the advantage of school education. The movement has also seriously damaged the education of a number of students; it tempted them to leave Government schools for national schools, but has been unable to provide the necessary funds for the maintenance of these schools, with the result that these students have suffered from a serious dislocation of their studies, the effects of which it will be difficult to eradicate.

Another social problem with which Government have to deal is that of excise. In this province excise provides a large share of the provincial revenue, and both inside the Council and outside

Excise.

the view is commonly expressed that Government encourages drink for the sake of revenue. Nothing could be further from the truth, and, though last year a full account was given of the excise policy of Government and the fallacy of this view was thoroughly exposed,

there still appears to be much misunderstanding on the point, and it may be advisable to recapitulate some of the arguments given last year and to give a full account of the excise policy of Government.

In the first place there is a tendency to overestimate the amount of drink consumed in the province, and to imagine that as the excise revenue forms so important a part of the provincial revenues, so the amount of drink must be correspondingly large. This view however is based on a misconception—the importance of excise to the revenue is not due to the fact that the excise revenue is unduly high, and consumption unduly large, but to the regrettably small total of the remaining revenue. This may be illustrated by figures.

**Consumption of
liquor.**

In Bihar the excise revenue per head of population amounts only to five annas ten pies, which is the lowest *per capita* revenue from excise in any province or presidency in India—rates elsewhere varying from six annas ten pies in Bengal to Rs. 2/2 in Bombay. The annual average consumption of country liquor for every hundred persons, though it is higher than in Bengal and the United Provinces, amounts only to 3·36 gallons, which is considerably lower than the average consumption in Madras, Bombay or the Central Provinces. The opportunities for drinking given in this province also are not unduly large; the number of liquor shops for every 100,000 of the population are 13 in urban areas and 4 in rural areas, compared with 14 in urban areas and 23 in rural areas in the Central Provinces, 9 in urban and 8 in rural in the United Provinces, 8 and 15 respectively in Madras, and 9 and 3 in Bengal. From these figures it will be seen that if it is true—as undoubtedly it is not—that the policy of Government is to augment revenue by encouraging drink, this policy is not meeting with much success. Less revenue is obtained per head of population than in any other province, but, even so, the average consumption per head is less than in several other provinces, and the actual number of liquor shops is smaller proportionately to the population than in any province except Bengal.

The policy of Government has always been, and always will be, to bring the drink traffic under strict control and to secure the maximum revenue from the minimum of consumption. It would be out of place to discuss here whether it is justifiable or advantageous to force a man by legislation to give up the habit of drinking to which he

Government policy.

has grown accustomed, and which he enjoys. Leaving however this much-disputed question on one side, prohibition in this province presents more than the usual complications. The first difficulty, which is common to a large part of India, and as has been pointed out by Professor Rushbrook Williams, is that "liquor can be had from almost any palm tree with no more skill than is required to cut an incision, and with no more apparatus than a knife and a toddy pot", while liquor can also be distilled from molasses and other food-grains. In the jungle tracts of Chota Nagpur there are also large numbers of mahua trees and great facilities for illicit distillation. There is another difficulty more peculiar to the province, in that a large area borders on Nepal and the Feudatory States, and as these States would not necessarily agree to a policy of prohibition, the prevention of the import of liquor from them would be almost out of the question.

In these circumstances prohibition, even if advisable, is a practical impossibility, and if this is admitted then the only alternative policy is that which Government are actually following—namely, to impose an efficient control over the price, quality, quantity, and strength of liquor sold, and to combine the maximum of revenue with the minimum of consumption.

Increase of revenue combined with decrease of consumption.

There is no doubt that excise revenue has risen from Rs. 1,04,00,579 in 1912-13 to Rs. 1,50,00,000 which is the estimated figure for 1922-23. But the figures for consumption are somewhat misleading. During the same period there has been apparently an increase from 1,157,636 gallons in 1912-13 to 1,177,840, which is the figure for the calendar year 1922, in the consumption of country spirit. The explanation is, however, that during this period it has been the policy of Government to decrease the area served by outstills, over which no control can be exercised except by the limitation of their number, and to increase the area served by liquor shops in which the price, quality, quantity, and strength of the liquor sold can be regulated. In pursuance of this policy the number of outstills has been reduced

Reduction in number of outstills.

by 395, the place of which has been taken by only 138 liquor shops. As no reliable figures can be obtained from outstills, the consumption figures for the province are only the figures for liquor shops, and they will naturally be inflated by the addition

of the amount consumed in these 138 shops. The average annual consumption in a liquor shop amounts to 400 gallons, so that the estimated consumption in 138 liquor shops comes to over 55,000 gallons. It may be assumed that the amount consumed in the 395 outstills which have been closed was considerably more than this, but, even if only this amount is deducted from the total consumption in 1921-22, it will be seen that there has been an actual reduction of 40,000 gallons since 1912-13 in the amount consumed in liquor shops, excluding those that have been opened to replace outstills.

The decrease in consumption combined with an increase in revenue can be seen even better by examining the figures relating to thirteen districts in which the areas served by distilleries remained the same throughout the whole period. These are shown diagrammatically on the opposite page. It will be seen that since 1912-13 consumption has dropped in these thirteen districts by nearly 30,000 gallons, while revenue has risen by over 12 lakhs of rupees, and that the steady rise in revenue and fall in consumption during the last three years is particularly marked.

**Comparison of consumption
and revenue in thirteen
districts.**

At the same time there has also been a decrease in the consumption of ganja and opium, combined with an increase in revenue from these sources. In 1912-13, 2,500 maunds of ganja and 900 maunds of opium were consumed, and the revenue from both sources was just over 34½ lakhs. In 1921-22, 1,700 maunds of ganja and 740 maunds of opium were consumed, but the revenue rose to Rs. 64½ lakhs. The duty on both ganja and bhang was raised in April 1921, and resulted in decreased consumption in the year 1921-22 of 200 maunds of ganja and 3½ maunds of bhang, but in increased revenue of over Rs. 2 lakhs.

**Ganja, opium and
bhang.**

The method of settling liquor shops by auction has always aroused considerable criticism—it is argued that the lessee having been forced to make a large bid to obtain settlement will naturally encourage the sale of liquor so as to ensure a profit for himself. A new system of settlement on a sliding scale is now being introduced. The outstanding feature is that the license fee

**Settlement on the
sliding scale.**

of the shop is paid on the actual consumption during the month instead of being settled by auction for the year. The fees so fixed are on a sliding scale, which leaves a sufficient margin for the vendor's profits, but the rate of profit decreases in inverse ratio to the consumption, so that the temptation to push up sales unduly is minimized. The system was introduced first in 1919 in Balasore in the case of opium in order to check the illicit trade in opium between this province and Bengal. As it was found to work satisfactorily, it has now been extended to country liquor shops, and during the year 117 shops have been settled on the sliding scale. It is still too early to say whether the experiment is a success or not, but a comparison of the figures of the last six months of this year with the corresponding figures of 1921, when the shops were settled by auction, shows that there has been a decrease of 15 per cent. in consumption while the loss in revenue has only been 2 per cent.

Interference with the Government excise policy under the guise of a "temperance movement" was one of the main objects on which the non-cooperation party concentrated. During 1922 however they had little direct success; their attempts to interfere with the revenue sales at the

The "temperance movement" of the non-cooperators.

beginning of the year were by no means successful, and all settlements were satisfactorily carried through. In fact vendors showed themselves keener than usual to secure licenses, so that the excise revenue rose to a much higher figure than had been anticipated. During the first half of the year, however, non-cooperators continued their illegal efforts to prevent the sale of spirit and tari. Volunteers, who were often drawn from the very scum of the bazar, continued to picket liquor shops, and in one case actually stole a whole cartload of liquor which was being taken from a warehouse to a liquor shop. Shoots of palm trees were frequently damaged by people to prevent their owners leasing them to *pasis*. But from May or June onwards the movement collapsed, and there was little or no interference with the sale of liquor or tari. The guise of a temperance movement was largely fictitious; it was primarily a movement directed against the Government revenue, and people were exhorted not to abstain from intoxicants so much as to abstain from purchasing from Government licensees. In several cases non-cooperators propounded the theory

that anyone may freely manufacture tari or spirit. The result has been a widespread increase of illicit distillation, which has continued even after the collapse of the movement which originated it. Thus in 1920-21 there were in all the province only 735 cases of illicit distillation; in 1921-22 the number

Results in increased illicit distillation.

increased to 1,031; while during the last six months of 1922 there have been 1,268 cases as against 698 in the similar period of 1921. This increase is directly due to the teaching of the non-cooperators. This can be proved by an instance in the Godda subdivision, where some non-cooperators in April gave out that anyone could freely manufacture tari or spirit. As a result in the following fortnight there were 17 cases of illegal manufacture of tari and 16 cases of illicit distillation of liquor, while subsequently, when excise sub-inspectors went to detect illicit distillations, they were badly assaulted. This increase in illicit distillation, though it was the result of a movement directed against Government, gives an indication of what would be likely to happen if a policy of prohibition was forced on an unwilling people. It shows that the inclinations of many people are not towards temperance. This is also shown by the figures of the consumption of country spirit during the year. In the first five months, during which the non-cooperators were still engaged in picketting liquor shops, the average monthly consumption in the province was 91,000 gallons, while in the last seven months, when picketting had practically ceased, consumption increased to an average of 103,000 gallons. There has also been an increase in the last nine months in the consumption of ganja, and the figures for 1922 show an increase of 156 maunds over those for 1921. There has however been a decrease of 98 maunds in the consumption of bhang and of 10 maunds in the consumption of opium. The decreased consumption in

Increased duty on opium.

the case of opium is probably due to the increase in price to Rs. 63 per seer, which was sanctioned during the year. The duty on foreign liquor was also raised during the year.

The excise committee, which was appointed last year as the result of the debate on excise policy in the Council in 1921, held several meetings during the year, and has just submitted its report. A number of questions were framed dealing with such questions as total or partial prohibition, the incidence of duties

levied upon excisable articles, the best method of settlements and

**The work of the Excise
Committee.**

the working of excise advisory committees, and replies were received from a number of persons, both officials and non-officials, interested in the subject. Meanwhile in the various municipalities the usual advisory committees met, and as a result of their recommendations two outstills, three country spirit and two tari shops were abolished and the sites of two tari shops were changed. These committees also discussed various important subjects such as curtailment of the hours of sale, the prohibition of children going to excise shops, and the prohibition of the sale of country spirit and tari in municipal areas.

The question of licenses in municipal areas was also considered by the Council in the debates on the Municipal Bill, when

**The Legislative Council
and local option.**

an amendment was brought forward that the power to grant licenses for toddy and liquor shops shall be vested in the municipality. The amendment was fully discussed and several members expressed themselves in favour of local option, but the majority agreed with Government that the Municipal Bill was not the right place for inserting a provision of this kind and that the question of its advisability could only be satisfactorily discussed when considering amendments in excise policy.

CHAPTER VII.

Local Self-Government and Public Health.

The year 1922 saw very important developments in Local Self-Government. Two Acts of the very greatest importance, the Bihar and Orissa Municipal Act, and the Village Administration Act, were passed, and another Bill, the Local Self-Government 'Amendment Bill, was introduced, referred to a Select Committee

New legislation. and will be considered at the beginning of the present year. These measures have been discussed at length in the Chapter dealing with the Legislative Council, and it is only necessary here to emphasize the alteration they will make in the general administration of Local Self-Government.

During the year 1922, though all municipalities except two had the right of electing non-official Chairmen, some of the smaller municipalities, owing to the difficulty of finding a non-official to do the work, still had an official Chairman, while there were still in some District and in most Local Boards official Chairmen. The Municipal Act makes it impossible for an official to be elected Chairman of a municipality, but if the municipality fail to elect a Chairman, Government are given a free hand in making the appointment and may select either an official or a non-official. The Local Self-Government Bill, as amended by the Select Committee, goes further and makes it impossible under any circumstances for an official to be Chairman of a District or Local

Removal of official control.

Board. The control of Government over the budget of municipalities and District Boards has been reduced, and though Government still retains power to make rules in cases in which uniformity is desirable, the local bodies have under the new legislation practically complete control over their own affairs, and Government's power of interference is restricted to cases of serious default.

The other main alteration made by these Acts is that the local bodies will become far more representative than they were

in the past. Under the Municipal Act the franchise has been extended to all tax-payers paying Re. 1-8-0 in taxes, while the Local Self-Government Bill provides for direct election to District Boards.

Increased representation. The system of popular control and representation has been carried even further than this by the Village Administration Act, under which Union Boards can be empowered to deal with certain of the administrative duties previously performed by District Boards, such as sanitation, medical relief, primary education and the maintenance of village roads. These Union Boards are wholly elected, and as the area that they control is very small the members should continually be in touch with and influenced by the wishes of their electorates.

It is sincerely to be hoped that this increase of popular control over the working of local bodies will result in the development in the near future of a sense of responsibility and public duty among the members themselves. More especially is this necessary in municipalities, for in the resolution published by Government on the working of municipalities in 1921-22 attention is called to several defects in their working. The

**Some defects in the working
of municipalities during
last year.**

The collection of taxation on the whole was unsatisfactory. Municipalities are expected to collect at least 95 per cent. of their annual demand, and in the years 1912-13, 1913-14 the average percentage of collections was 97.51, and 96.8 respectively, so that it cannot be said that the rate is

Poor collections.

unduly high. This year the average collections only amounted to 92.2 per cent., and as a result the arrears outstanding at the end of the year increased by 1½ lakhs of rupees. Unsatisfactory collections inevitably react on the financial position of the municipality, and the report on the working of the Local Audit Department shows that in twelve municipalities the liabilities exceeded the assets, and that in ten municipalities Government grants for specific purposes were diverted to the payment of current expenses, while in Darbhanga, which is shown by the resolution to be the worst administered municipality in the province, the net liabilities increased to nearly Rs. 43,000 at the end of the year 1921-22.

A necessary preliminary to the successful administration of a municipality is the imposition of adequate taxation, and as any

proposal for additional taxation always excites the strongest opposition it is satisfactory to find that during last year in a number of municipalities taxation was increased, and that the average incidence of taxation advanced from Re. 1-9-4 in 1920-21 to Re. 1-11-1 in 1921-22. But there are municipalities in which the incidence of taxation is still unduly low. Among municipalities at the headquarter of districts, Darbhanga, which still adheres to the personal tax, has an incidence of only Re. 1-4-9, while in Arrah which has now adopted the holding tax in place of the personal tax, the incidence was only Re. 1-7-8. Among the smaller municipalities there are eighteen in which the incidence is less than one rupee, while in two of these towns taxation does not even reach eight annas per head of population. There has however been an undoubted improvement in the income of municipalities, and the total income derived from taxation is higher than it was in the year 1920-21 by more than one lakh. It is much to be hoped that the widening of the franchise which has been introduced will not result in any reduction in assessment, and that the commissioners will realise that it is only by imposing adequate and equitable taxation that they will be able to obtain necessary money to enable them to fulfil their duty to their electorates.

There is one other hopeful sign for the future brought out in the resolution, and that is the increased interest that has been shown at elections, and the increased attendance in most boards by commissioners at meetings. General elections were held in thirty-two municipalities, and the attendance at the polls was satisfactory; in fact the percentage of attendance, for instance at Hajipur where over ninety per cent. of the voters recorded their votes, was in many cases extraordinarily high. Generally also the percentage of attendance at the municipal meetings was satisfactory, though it is noticeable that at Darbhanga the percentage was only thirty-seven per cent., and this lack of interest is probably one of the causes of the inefficient administration of that municipality.

The manner in which municipalities spend their income is worth mentioning. In all the municipalities of the province the total ordinary disbursements amounted to Rs. 31 lakhs; of this

2½ lakhs was spent on general administration and collection charges,

Expenditure of municipalities.

1½ lakhs on lighting, 3 lakhs on water-supply, 1 lakh on drainage, 9½ lakhs on conservancy, 6½ lakhs on hospitals and sanitation, ½ lakh on markets and slaughter-houses, 3 lakhs on public works, including roads, and 3 lakhs on education. The expenditure on medical and education showed an increase of about half a lakh over last year's figures. These figures show the large proportion of income that is spent on conservancy, and yet a visitor to an average municipality would probably not be very much impressed by its sanitary condition. This is due not so much to the

Sanitary condition of municipalities.

inadequacy of the money spent, but to lack of adequate supervision. There can be no doubt that if the sanitary work was well organized, and if each member of the staff carried out his allotted duty, there would be very material improvement in the sanitary condition of every municipality. The expenditure on water-supply was chiefly confined to those municipalities that have piped water-supplies, while in other municipalities the expenditure was incurred chiefly in repairing municipal wells and cleansing and disinfecting private wells, though in a few cases new wells were also built. The importance of providing the ratepayers with an adequate and safe water-supply cannot be over-estimated, and the

Water-supply.

new Municipal Act gives very full powers for improving the condition of all sources of water-supply that are used by the public, and there should be little or no difficulty in making very material improvement in the condition of the wells from which the public draw their water.

The income of District Boards is largely derived from provincial rates which are collected for them and credited to them by Government, and from grants by Government for education and medical expenditure, and the Boards themselves have at

Income of District Boards.

present few duties in connection with the collection of taxation. The chief interest in the working of the Boards is, therefore, to be found in the manner in which they expend their incomes. There are, however, two means by which District Boards augment their income which showed decreased receipts during the last year. The income derived from pounds decreased by nearly 80,000 rupees in the last two years, this decrease being

most marked in Purnea where the income has been reduced by nearly half. The main reason given for this result is the non-co-operation movement, the local representatives of which prevented the settlement of pounds, partly in pursuance of the general policy of hampering the administration wherever possible and partly, as was undoubtedly the case in Purnea, with a view to collecting funds by the establishment of unauthorised pounds. There was also a disappointing decrease in the contributions from private individuals to dispensaries. Generally, however, there was an increase of about fifteen lakhs in the income of all the District Boards, but this increase was confined chiefly to a few Boards, and was largely discounted by the fall in the purchasing power of the rupee. In all Boards there is a demand for the development of primary education and an increase of medical relief, and if the money for this expansion is to be found, the Boards will undoubtedly have to face the problem

**Need for increased
income.**

of new taxation, and to devise means of augmenting their income. The Village Administration Act has given

Union Boards powers of imposing taxation. If these powers are used the Union Boards will be able to supplement the grants they get from the District Board, for carrying out duties, that have been handed over to them, by the income they raise by taxation, and so should have more money available than the District Board had for works of public utility within their Unions.

The most interesting feature brought out in this year's report on the working of the District Boards is the increased expenditure

**Increased expenditure by
District Boards on edu-
cation and medical
relief.**

that has been incurred on primary education and medical relief. In 1913-14 the total cess income of the District Boards was Rs. 48 lakhs, and of this only

seven lakhs, or approximately 15 per cent., was spent on education and medical relief. In 1921-22 the cess income rose to 70 lakhs, of which 22 lakhs or 31 per cent. was spent on those two objects, while three districts Purnea, Balasore, and Shahabad, actually spent over 50 per cent. Since last year there has been among all the District Boards an increase of nearly two lakhs on educational, and over two lakhs on medical, expenditure. The increased expenditure on these two objects leaves less money available for the improvement and maintenance of roads, and

though it is possible that in the past Boards devoted too large a portion of their income to communications, there is a distinct risk that in their zeal for education and medical relief they may neglect this very important side of their duties. The amount spent by District Boards on communications has increased from only 13 to 15 lakhs during the last ten years, in spite of the heavily increased cost of materials, which shows that this risk is a real one.

Decreased expenditure on communications.

Good communications are essential to the prosperity of a district, and are of the utmost value to the individual cess payer. It is essential for the villager to be able to convey his goods to market, and the construction of a small culvert may often make all the difference in his ability to do so, while the provision of a good road will enable him to get better and faster work out of his carts. The maintenance and improvement of village and feeder roads is therefore a matter to which all District Boards might well give the closest attention. It is generally only possible to make fair weather roads, but the expenditure of a small sum in repairs very often opens a road which is entirely useless owing to a small but easily repairable breach. A good deal of the existing unwillingness to spend money on roads, is due to the idea that a number of roads are kept up purely for fast traffic, and are of no practical value to the individual cess payers. This idea was the cause of enquiries that were made in the Council during 1921 as to the number of cases that had been brought by District Boards against carters for taking their carts along the raised portions of the road. The question is one of some difficulty. On the one hand, the carter naturally feels aggrieved that he is not

Cart "liks."

allowed on a portion of the road for which as a cess payer he has paid, while on the other, heavy laden bullock carts very rapidly destroy the metalled portions of the road especially in the dry weather. The solution of the question is to be found in the maintenance of good "liks" or "side tracks"; if these are in good repair, and fit for use there is little objection to making the carters use them. But in the rains cart liks seldom are in good repair and fit for use, and therefore Government have advised District Boards to modify their by-laws by allowing carts to drive on the metalled portions of the road during the rains, and also to take special measures to keep the cart liks in good order.

The nearest approach to the new Union Boards which will be formed under the Village Administration Act are Union Committees

Union Committees.

which have been constituted in some of the smaller towns, and their working during the year conveys a somewhat pessimistic view of the future of village administration. There was a general unwillingness to impose extra taxation and during 1921-22 the total income from taxation of the various boards showed an increase of only Rs. 1,000 over the income of the previous year, while the committees were in several cases merely agencies for spending District Board money. In two Unions lighting schemes were adopted; these schemes are popular with the residents, and the residents should themselves pay for them, but in both cases funds were provided by the District Board. There is little doubt that at present Union Committees are unpopular; people do not like having to pay extra taxation for such sanitation as they provide. With a view to increase their popularity Government decided to introduce the elective system as far as possible, and each committee is being reconstituted on an elective basis on the expiry of the appointment of the present members. The success of this experiment will depend on whether the elected members are prepared to raise the necessary taxation; unless this is done the committees must remain unpopular as, if their income is small they can embark on few schemes of public utility, and the public generally will see little or no return for their money. It is difficult anyhow to make the public realise the value of sanitation, though the example of the Jharia Board of Health, which is discussed later, shows that it is possible to show some actual and obvious return for the money expended.

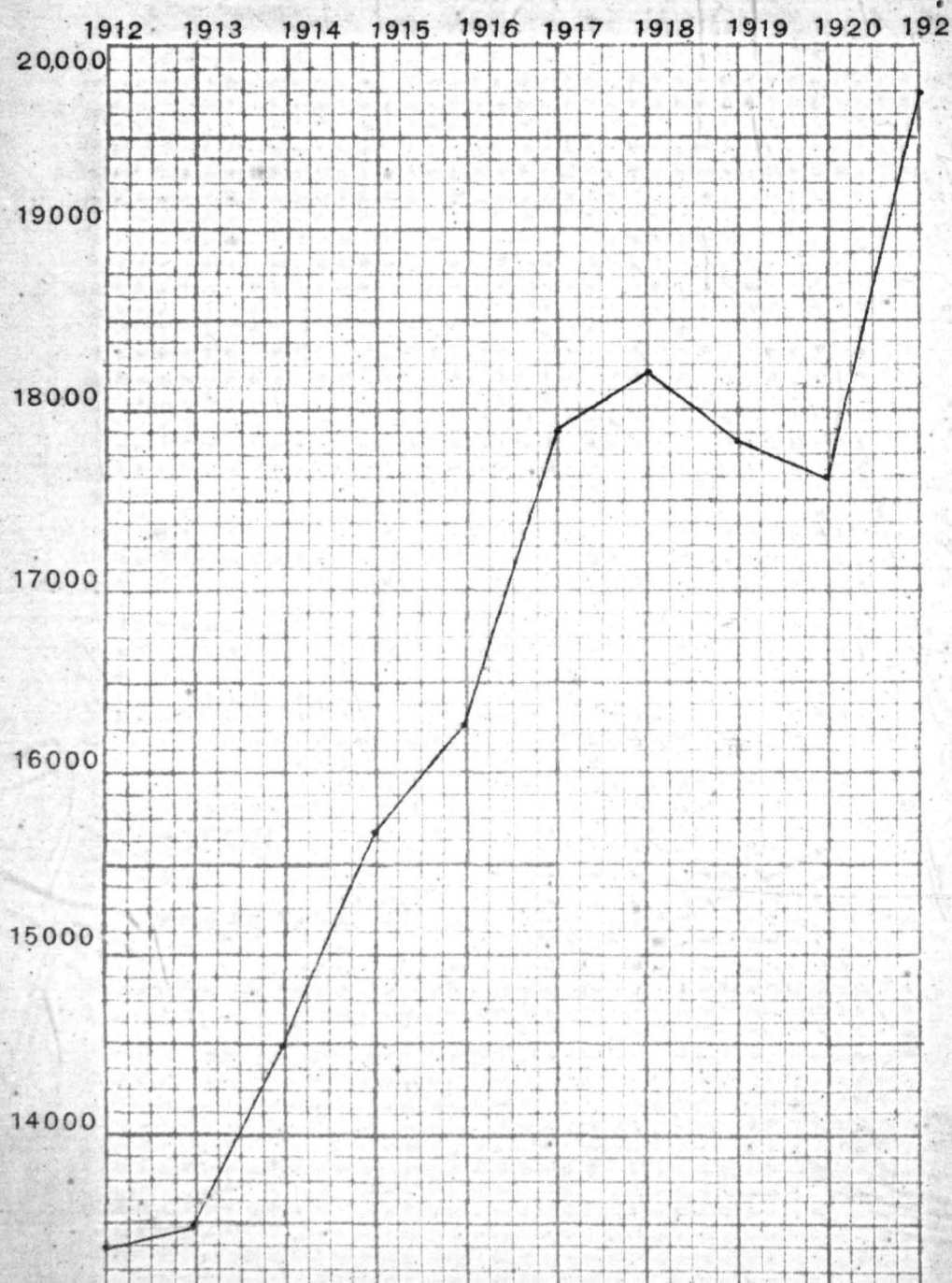
The main problems with which local bodies have to deal are those of medical relief and education, and with regard to both their duties are closely connected with those of Government. It is therefore necessary to consider the activities of Government and those of local bodies together. The

Education and Medical Relief.

difficulties and problems confronting the present system of education have been discussed in the previous chapter, and it now remains to consider how far Government and local bodies are attempting to improve public health, and give that amount of medical relief which the public are beginning to realise is one of the most important duties with which local bodies have to deal.

Diagram showing the average number of daily patients in State and Public Fund

Dispensaries in the province



In 1921 the Council passed a resolution recommending that Government should take immediate steps to see that at least one dispensary was opened within the jurisdiction of every police station. District Boards hardly needed the stimulus of this resolution, as there has been for some years steady progress in the number of

**Increased number of
dispensaries.**

dispensaries maintained. During the year 1922 there was a net increase of 20 hospitals and dispensaries, of which 13 were opened by District Boards, and there are now in the province 454 hospitals and dispensaries of all sorts, of which 308 are either directly supported by Government or by local funds, 21 are partially aided by Government, and 125 are managed by private individuals or railways. The average daily number of patients treated as indoor or outdoor patients in all Government and local fund hospitals and dispensaries was over 19 thousand a day, and the total number of patients treated throughout the year was practically 3 million, while a further million patients were treated in private dispensaries. The total expenditure on Government and local fund hospitals and dispensaries amounted to over Rs. 16 lakhs, of which local funds contributed over 9 lakhs, Government $4\frac{1}{4}$ lakhs, private subscriptions $1\frac{1}{2}$ lakhs, and miscellaneous receipts 1 lakh.

The graphs on the opposite page show the steady growth in the number of dispensaries, in the average number of daily patients, and in the expenditure of Government and local funds that has taken place since 1912. It will be seen that the number of public dispensaries has risen steadily from just under 200 to over 300.

**The need for further
increase.**

The average daily number of patients has also risen steadily, except during the years 1919 and 1920, from 13,400 to 19,600, giving an average daily treatment at each dispensary of 65 persons in both years. As the number of daily patients increases in corresponding proportion to the number of dispensaries it is clear that at present the supply of dispensaries has not outrun the demand, while it also appears that an average daily attendance of 65 persons is the limit which can be expected under the present system of management of dispensaries and hospitals. It is therefore necessary if medical relief is to be brought to a larger number of persons that both the number of dispensaries should be increased and the range of their duties enlarged.

The ideal scheme which it is hoped to be able gradually to carry through is to have a dispensary at first in each thana, and ultimately for each 100 square miles. The medical officer of the dispensary would be entirely responsible for the public health of his area; he would be assisted by a compounder so that it would

Dispensaries and the prevention of epidemics.

be possible for one or other to be away from the dispensary investigating outbreaks of epidemic disease and taking immediate preventive action. The ideal is to have a medical officer, who can at once reach the spot where epidemic disease has broken out and deal with it in its earlier stages, when it is still possible to take effective action. Some District Boards are already experimenting on these lines in consultation with their Civil Surgeons. In Purnea dispensary doctors have received instructions to look after the sanitation of villages within five miles of their dispensaries. In Darbhanga they have been instructed to supervise outbreaks of epidemics, to distribute medicines in the villages, to have wells disinfected, and to give instructions on matter of public health in *hats* in villages within a radius of five miles of their dispensaries. Similar schemes are being started experimentally in Shahabad and Saran.

There are however two main difficulties in giving full effect to this scheme, the first is financial, and the second the lack of

Financial difficulties.

trained doctors of the Sub-Assistant Surgeon class. As has been shown above, District Boards are spending a large and increasing part of their income on medical relief, and in the case of a number of the poorer Boards, they have now come to the end of their resources. In some cases indeed local bodies are not even able to provide the necessary money with which to meet the increased expenditure, and many dispensaries and hospitals are being supplied with funds barely sufficient for purchasing the necessary diet and medicines. The graph shows that receipts from private subscriptions have

Small extent of private subscriptions.

shown little variation, and that even with the increased number of dispensaries there has been no corresponding increase in the amount thus realised. It is therefore unlikely that more than a small increase of income will be obtained from this head, though it is possible that if District Boards and municipalities set about the collection of donations rather than small monthly

subscriptions and, when opening a new dispensary, made efforts to establish by means of donations an endowment fund, a fair sum might be collected the interest on which would be of material help in meeting current expenses.

In order to encourage an expansion in the number of dispensaries Government has met an increasing share of the expenditure. During the last two years they have provided

**Increased grants by
Government.**

5 lakhs to be distributed among various District Boards for opening new dispensaries, but as they were unable to promise any recurring grants to meet the cost of upkeep, a large proportion of this money had to be given to those District Boards which were able to meet this from their own finances, and naturally these Boards were mostly the richest. It is however in those districts in which the Boards are poor that expansion is chiefly needed, and from next year Government hope to be able to give recurring grants and so help in the establishment of dispensaries in these areas.

The lack of Sub-Assistant Surgeons is due to causes both of which Government are attempting to remedy, the first being the

**Lack of Sub-Assistant
Surgeons.**

insufficiency of the pay offered which was failing to attract men. A fresh rate of pay has recently been sanctioned which should result in inducing more men to take up this profession. The second difficulty is the lack of facilities for medical education; there are at present in the province two medical schools, the Temple Medical School at Patna and the Orissa Medical School at Cuttack, but it is not possible for these two schools to turn out

**Lack of facilities for
medical educa-
tion.**

the number of Sub-Assistant Surgeons which is necessary, even for the present needs of the province, and, if in the future a public health organization is established, there will be need for a still larger number. At present applications for admission to the schools are far in excess of the accommodation, and it is therefore hoped that ultimately it will be possible to provide more such institutions. Muzaffarpur and Gaya have been suggested as suitable sites, but no definite decision has yet been arrived at. Reference has already been made to the lack of a medical college, for which there is a real demand. At present medical students from this province have to go to the Calcutta Medical College,

where 18 places only are reserved for them though the average number of applicants during the last seven years was 57. The present scheme is to convert the Temple Medical School into a college. New hostels and laboratories have already been constructed for this school, and considerable improvements have been made in the Patna General Hospital which provides the necessary clinical material. When these new buildings have been fully equipped, and when residences have been provided for the staff, it will be possible to convert the school into a college, but to do so before establishing another medical school would lead to a reduction in the number of students trained as Sub-Assistant Surgeons. It has therefore been recognized that a new medical school must first be opened, and this scheme has been rendered practicable by the donations made to the Prince of Wales Medical College Fund, which amount to 8½ lakhs, and by the further generous donation of 5 lakhs which has been given by the Maharajadhiraja of Darbhanga. As a result of these donations the scheme is beginning to make progress, and the foundation-stone of the school at Darbhanga was laid early in the present year by His Excellency the Governor.

The severe epidemic of cholera that occurred in south Bihar in July and August 1921 called attention to the insufficiency of the agency at the disposal of local bodies or Government for dealing with epidemics. In the latter part of the year a conference was called of representatives of District Boards and municipalities, which appointed a committee to formulate proposals for a general public health organization. A comprehensive scheme has been

General public health organization.

prepared and has been generally approved by the various local bodies, who however, almost unanimously plead their inability to carry it out owing to poverty. The main features are first, the amalgamation of the medical and sanitary staff, including vaccinators, into one organization controlled by the District Boards but subject to the general authority of a Central Board of Health; secondly, free compulsory vaccination; thirdly, the combination of general sanitary and epidemic duties with strictly medical work; and fourthly, the appointment of District Health Officers. The cost of the scheme is about 3 lakhs, which cannot be regarded as a very high premium for insurance against epidemics. Meanwhile, however, some progress has been made. During the cholera

season in each district a small reserve of vaccinators has been employed to take simple preventive

Epidemic reserves.

measures such as the disinfection of water-supply and the distribution of simple medicine. A special epidemic cadre of five Assistant Surgeons has been employed throughout the year, and during the cholera season was temporarily increased to ten. These Assistant Surgeons are sent to districts in which there has been an outbreak of epidemic disease, and with the assistance of the vaccinators are of great use in supplementing the work of the District Boards. Arrangements have also

Elementary training of Kavirajes in sanitation.

been made to give elementary training in preventive measures to Kavirajes drawn from the various villages, and though it is too early yet to judge of the results of this experiment, it appears that some of them at least have learnt that cholera is a preventible disease. Attempts have been made to secure prompt reports of the outbreak of epidemics so that early preventive measures can be taken. District Boards also are realizing the importance of prevention, and the examples above given of Darbhanga and Purnea show that an attempt is being made to utilise the present dispensary staff as an epidemic preventive staff.

A resolution in the Council for the early provision of dais in urban and rural dispensaries calls attention to the very high rate of infantile mortality that prevails.

High rate of infantile mortality.

Statistics which have been collected for the last four years show that 19 children out of every hundred, compared to 3 out of every hundred in England, or very nearly 1 in 5, died before completing a year of life, and that the total number of deaths from the three chief epidemics—cholera, small-pox, and plague—was three hundred thousand less than the number of deaths of infants. There is therefore a very urgent necessity for increasing the number of trained lady doctors, midwives, and dais. A maternity supervisor has been recently appointed at Patna, and it is to be hoped that other large towns will find funds for similar appointments. The new Municipal Act gives municipalities power to control the sale of milk, and if some of the more advanced municipalities take advantage of this power, an appreciable decrease in their infantile mortality, as well as a general improvement in health, should follow.

In his report for the year 1921 the Director of Public Health called attention to the close relationship that exists between

Relationship between public health and economic conditions.

public health and agriculture. There can be no doubt that the relationship between the economic condition of the people, the prevalence of epidemic diseases and the birth-rate and mortality amongst the population, is intimate and definite and each varies with the other. Agriculture is the great national industry, and when a good harvest is obtained the economic condition of the people automatically improves. It has been shown above that both 1921 and 1922 were years of exceptionally good harvests, and therefore, the province should be found to have had an exceptionally clean bill of health in 1922. And so in fact it had. There was a remarkable freedom from epidemic diseases and the number of deaths from all causes only numbered just over 800,000, which is over 300,000 fewer than in

Low death-rate in 1922.

1921. This gives a death-rate of 24·07 per thousand, which is the lowest death-rate on record for many years, and compares very favourably with 35·3—the average death-rate for the last ten years. The number of births totalled 1,186,380, or some 7,000 less than last year.

Of the total number of deaths fever accounted for 576,118, or more than two-thirds. This is partly due to the reporting agency; the chaukidar classes as fever any disease to which he can give no other name, but even admitting this, there is no doubt

Fever.

that fever accounts for more deaths than any other disease. The chart on the opposite page shows the death-rate per thousand for the last three years and for the average of the last ten years up to 1921. It will be seen that there is a rise in the death-rate in March, April, May and also in the average rate at the end of the year. The rise in March, April, and May is probably not due to malaria, and

Relapsing fever.

investigations are being carried out to try and trace its cause, as it is possible that this fever is the relapsing fever which has occurred epidemically during the last five years in the United Provinces and the Punjab. The normal rise at the end of the year, which however has not occurred during the last two years, is undoubtedly due to malaria. Methods of preventing this disease are being

investigated, and arrangements are being made for carrying out a

Prevention of malaria.

special investigation in the iron-ore and forest areas of Singhbhum, where the prevalence of malarial and black water fever threatens to hamper the development of the mines. A scheme of malarial prevention however must be carried out on a large scale, and must very largely pay its own way; it should therefore be combined with agricultural improvement; marshes and wet lands must be drained or flooded in a scientific manner so as to reduce the breeding of mosquitoes and at the same time produce better crops, and it is only if investigation can show the manner in which this can be effectively accomplished that much progress can be expected. Meanwhile as much as possible is being done to cure those attacked. The amount of quinine sold through postmasters and other agencies increased from 600 to 660 pounds; while over 4,000 persons suffering from malaria were treated as indoor patients, and over 800,000 as outdoor patients in the various dispensaries.

There was no serious outbreak of cholera during the year and the death-rate fell from 2'6 in the previous year to '8 per thousand, the total number of deaths

Cholera.

being only just over twenty-eight thousand. Investigation into the causes of cholera however still continues, and two Assistant Surgeons were employed towards the close of the year in the Cuttack district to ascertain the causes of cholera especially in those areas in which it has become endemic and to train the villagers themselves in preventive measures.

Small-pox only accounted for 2,300 deaths this year compared with 7,700 last year and 23,000 the year before. This

Small-pox.

reduction is however attributable rather to satisfactory climatic conditions and good luck than to any preventive measures. The number of vaccinations performed has been steadily decreasing, and fell from 1,060,485 in 1920-21 to 938,851 in 1921-22. This decrease was

Decrease in number of vaccinations.

partly attributable to political agitators, but there was also very great unwillingness among the people themselves to permit the vaccination of their children. This decrease, if it continues or is even maintained, is likely to have serious results and will increase the probability of the province being visited by a serious epidemic of small-pox. The present system of licensed

vaccinators has not been found to give satisfactory results, and the proposed new public health organization should provide a more effective scheme. In connection with its establishment Government are considering the extension of the Vaccination Act to wider areas. But again extension of vaccination can be achieved more by educating the people to realise the value of vaccination, than by the enforcement of any Act, as even in municipal areas where the Act has been in force for many years the death-rate from small-pox is as high as it is in rural areas, which shows that the enforcement of the Act is not being effectively carried out.

The mortality from plague was practically the same as in 1921, though there were signs at the end of the year in some districts of

Plague.

what might develop into a somewhat serious outbreak. This disease is one which requires prompt preventive measures; the value of the evacuation of houses is now generally realized, and arrangements have been made to place at the disposal of Local Boards in selected subdivisions, where plague breaks out every year, funds for carrying out *anti-plague* measures in a regular and systematic way, the chief measures being disinfection, evacuation and propaganda work, and the distribution of doles to the poorer classes who cannot meet the expenses of evacuation.

From these brief summaries of the incidence of the chief diseases in the province during last year it will be seen that the prevention of disease depends very largely on the preventive action taken by local bodies. It is therefore unsatisfactory to find that municipalities generally were not prepared to pay for the maintenance of health officers, and that few of the twelve towns which had previously been provided with health officers retained their services during 1922. The Gaya

Gaya intensive sanitation scheme.

intensive sanitation scheme, to which Government contribute half the cost, is also tending to become more and more an organization for medical relief and less and less a sanitation scheme. The medical side of the work is appreciated; but on the other side little is achieved, as the Sub-Assistant Surgeons in charge of the dispensaries prefer medical practice to the more unpleasant duties associated with the prevention of epidemic disease. The advantages of an intensive public health scheme cannot be better illustrated than by the excellent work which is done by the Jharia Mines Board of Health.

In 1921 the area controlled by the Board was extended by the Local Government to include the whole of the Dhanbad sub-

**Jharia Mines Board
of Health.**

division, which is one of the most thickly-populated areas in the province. The value of sanitation in such an area cannot be overestimated, and this is realized by the inhabitants themselves, so that the Board is now able to obtain by the levy of cess an income of Rs. 2½ lakhs without popular opposition. The Board has therefore plenty of money with which to develop its schemes, and in this it has an advantage over most local bodies. The Board is however an example to local bodies in this that it shows that though the improvement of health costs money, any money spent on it is a profitable investment the value of which can be realized by the assesseees. Its report for 1921-22 shows that the apathy and hostility which they used to meet with from the public has now disappeared, and that they receive constant applications for assistance in the matter of sanitation, water-supply and food control. Again this year the Board checked all outbreaks of cholera, performed through its vaccinators over 12 thousand vaccinations, and carried on further investigations into malaria and hookworm. Though the treatment for this latter disease is still unpopular, as it involves absence from work and abstinence from alcohol, 500 cases were treated. Food control was rigorously carried out, and the adulteration of mustard oil by kusum oil has been almost entirely checked.

The medical and public health organization which has been dealt with above confines its attention to the more common and prevalent diseases and epidemics for which ordinary treatment is required. But besides this considerable progress has been made during the year

Leprosy.

in the provision of more specialized treatment for the less common physical and mental diseases. There are now 7 leper asylums in the province with very nearly 2,000 inmates; of these the Purulia asylum, the largest in India, contains over 600 patients, while a scheme has been sanctioned during the year for the establishment of a leper colony in the Santal Parganas under the management of a missionary society. Government have acquired the land and are assisting in the construction of buildings. Recent medical researches have discovered a means by which it is possible to cure leprosy, especially if treatment is begun when the disease is in

its early stages, and therefore there is good reason to hope that in the near future leper asylums may be transformed into hospitals for treatment instead of serving merely to isolate unfortunate sufferers.

A most important innovation, which is the first of its kind in India, is the establishment of a radium institute at Ranchi. The buildings for the institute will not be ready till March 1923, but meanwhile work has been started in a rented house. Treatment for cancer and other allied diseases has been provided for nearly a hundred patients coming from every part of India and some remarkable cures have been achieved. The Superintendent of the

Radium institute at Ranchi.

institute in a note—a copy of which is printed in appendix VI—explains the value of the work accomplished, and

points out the advantages of having one centralised stock of radium for the whole of northern India. He therefore suggests that the quantity of radium should be largely increased, so that the institute may be in a position to send out treatments to all provinces as is done by the central institute in England and other countries. Though the development of the work on these lines is obviously desirable, it is not a scheme on which the Local Government can justifiably spend provincial funds, as the purchase of two or three grammes of radium would alone cost several lakhs, but it is a scheme in which all local Governments might co-operate under the direction of the Central Government.

There are still only two mental hospitals in the province, one for Indians at Patna and the other for Europeans near Ranchi.

Mental hospitals.

The latter which is meant for European patients from the provinces of northern India was transferred in 1922 to a specially constituted Board of Trustees, so that the provinces which contribute to its upkeep may have a voice in its administration. Good progress is being made with the construction of a new mental hospital for Indians close to the European hospital, and as soon as it is finished the one at Patna will be closed. The abandonment of the old term "lunatic asylum" and the substitution for it of the term "mental hospital" is significant as a recognition of the fact that lunacy is in many cases a disease capable of being cured, and that it is not sufficient merely to shut up persons suffering from it in an asylum to prevent them doing harm to themselves or others. In the Ranchi mental

hospital new methods of treatment are being applied with conspicuous success, and the percentage of patients cured to the daily average strength of patients has risen from 19·55 in 1920 to 25·57 in 1921. The percentage in the Indian mental hospital is at present not so satisfactory, but with a view to introducing improved methods of treatment and providing a qualified staff for the Ranchi Indian mental hospital, when opened, an Assistant Surgeon has been deputed to England for training in psycho-analysis.

The various medical institutions and treatments that have so far been discussed in this chapter relate to the Western school of medicine. During the year a resolution was brought forward in the Council recommending the affiliation of the Ayurvedic system of medicine to the Western, while Government have also sanctioned the establishment during the year of three Kaviraji dispensaries by various local bodies. The difficulty of reintroducing the Kaviraji and Unani system in any degree is to get qualified men to carry on the treatment under these systems on a scientific basis,

**Ayurvedic system of
medicine.**

resting on a sufficient knowledge of anatomy and physiology. In order to begin meeting this difficulty Government allowed two Kaviraji students to attend the medical school lectures on those subjects, but the students unfortunately absented themselves. In the debate on the resolution, which was subsequently withdrawn, Government further pointed out that experiments are being made with indigenous drugs in order to try to find whether any of them could with advantage be introduced into the Western pharmacopœa.

APPENDIX I.

SOURCES AVAILABLE TO THE PUBLIC.

Chapter I.—Political and General.

India in 1921-22 by Professor Rushbrook Williams.

Chapter II.—Finance.

Chapter III.—The Legislative Council.

Proceedings of the Bihar and Orissa Legislative Council, Volumes 4, 5 and 6.

Chapter IV.—Government and Economic Problems.

Annual Report on the Land Revenue Administration of Bihar and Orissa.

Annual Report on Survey and Settlement Operations.

Annual Report on the working of the Co-operative Societies.

Annual Report of the Agricultural Department.

Annual Report of the Civil Veterinary Department.

Annual Progress Report on the Forest Administration of Bihar and Orissa

Annual Report on the Department of Industries.

Season and Crop Report.

Report of the Inspector of Factories for 1921.

Mineral Resources of Bihar and Orissa by L. Leigh Fermor.

Orissa and Chota Nagpur by B. A. Collins.

Annual Report on the Maritime Trade of Bihar and Orissa.

Annual Report on the Trans-frontier Trade of Bihar and Orissa with Nepal.

Annual Report of the Chief Inspector of Mines in India.

Revenue Report of the Government of Bihar and Orissa in the Public Works Department (Irrigation Branch).

Report on Wards, Encumbered, Trust and Attached Estates.

Annual Administration Reports for Roads, Buildings, Irrigation and Railways.

Chapter V.—Government and the Public Peace.

Annual Report on the Administration of the police in Bihar and Orissa.

Annual Administration Report on the Jails of Bihar and Orissa.

Chapter VI.—Government and Social Problems.

The Second Quinquennial Review on the Progress of Education in Bihar and Orissa.

Annual Administration Report of the Excise Department in Bihar and Orissa.

Chapter VII.—Local Self-Government and Public Health.

The annual resolutions of the Government of Bihar and Orissa on the working of the municipalities, and on the working of the District Boards in Bihar and Orissa.

Annual Returns of Hospitals and Dispensaries.

Annual Returns of the Hospitals for Mental Diseases.

Annual Report of the Medical Schools.

Annual Statistical Returns and Short Notes on Vaccination in Bihar in 1921-22.

Annual Public Health Report.

Other Reports published by the authority of the Government of Bihar and Orissa which have not been utilized as a source of information in the present volume.

Report on the Annual Statistics of the Stamp Department.

General Review of the work done by the Board of Health.

Annual Report on the Administration of Income-Tax.

Annual Report on the Administration of the Salt Department.

Annual Report on the trade carried by Rail and River in Bihar and Orissa.

Statistical Returns with a brief note of the Registration Department.

Annual Progress Report of the Archæological Survey of India. Central Circle.

APPENDIX II.

A.—Members of the Bihar and Orissa Executive Council.

His Excellency Sir Henry Wheeler, K.C.S.I., K.C.I.E., I.C.S.

The Hon'ble Mr. Hugh McPherson, C.S.I., I.C.S.

The Hon'ble Mr. Sachchidananda Sinha.

B.—Ministers.

Ministry of Education, The Hon'ble Khan Bahadur Saiyid Muhammad Fakhur-ud-din.

Ministry of Local Self-Government, The Hon'ble Mr. Madhusudan Das, C.I.E. *

C.—List of Members of the Bihar and Orissa Legislative Council.

The Hon'ble Khan Bahadur Khwaja Muhammad Nur—*President*.

Mr. John Alfred Saunders, I.C.S.—*Secretary*.

Mr. John Augustus Samuel, Bar-at-Law.—*Asst. of the Secretary*.

COUNCILLORS.

EX-OFFICIO.

The Hon'ble Mr. Hugh McPherson, C.S.I., I.C.S.

The Hon'ble Mr. Sachchidananda Sinha, Barrister-at-Law.

NOMINATED.

Officials.

1. Mr. Leonard Frederick Morshead, I.C.S.
2. Mr. Victor Herbert Jackson.
3. Mr. Birendra Chandra Sen, I.C.S.
4. Mr. George Rainy, C.S.I., C.I.E., I.C.S.
5. Mr. Maurice Garnier Hallett, I.C.S.
6. Mr. Harry Llewelyn Lyons Allanson, I.C.S.
7. Mr. John Rutherford Dain, I.C.S.
8. Mr. John Alfred Saunders, I.C.S.
9. Mr. Clare Bentley Mellor.
10. Rai Bahadur Bishun Svarup.
11. Mr. Evelyn Lloyd Tanner, I.C.S.
12. Mr. Bernard Abdy Collins, I.C.S.
13. Colonel Herbert Austen-Smith, C.I.E.
14. Mr. Walter Swain, C.I.E.
15. Mr. James Augustine Sweeney, I.C.S. †

* Resigned his appointment as Minister on 9th March, 1923.

† For the period during which the Bihar Tenancy (Amendment) Bill may be under consideration by the Council.

NOMINATED—concluded.

Non-officials.

Khan Bahadur Nawabzada Saiyid Ashraf-ud-din Ahmad.
 Babu Raghunandan Prashad Singh.

REPRESENTATIVES OF CLASSES AND COMMUNITIES.

Mr. Dhan Masih Panna ...	...	} Aborigines.
Rev. Dr. Kenneth William Stewart Kennedy.		
Reverend Emanuel Sukh ...	...	} Depressed classes.
Babu Biswanath Kar ...	...
Mr. Dhanjishah Meherjibhai Madan		Industrial interests other than plant- ing and mining.
Rai Bahadur Purnendu Narayan Sinha.	...	The domiciled Bengali Community.
Mr. Francis Ernest Lopes Morrison		The Anglo-Indian Community.
Reverend Pritam Luther Singh ...		The Indian Christian Community.
Mr. Baij Nath ...	...	The labouring classes.

ELECTED.

NAME.

CONSTITUENCIES.

PATNA DIVISION.

1. Mr. Muhammad Yunus ... Patna Division Muhammadan Urban
2. Maulavi Saiyid Muhammad Husain. East Patna Muhammadan Rural.
3. The Hon'ble Khan Bahadur Saiyid Muhammad Fakhr-ud-din. West Patna Muhammadan Rural.
4. Babu Shyam Narayan Sinha Sharma. Patna Division Non-Muhammadan Urban.
5. Rai Sahib Ram Gopal Singh Chau-dhuri. Patna Non-Muhammadan Urban.
6. Babu Ganesh Datta Singh ... East Patna Non-Muhammadan Rural.
7. Babu Mithila Sharan Sinha ... West Patna Non-Muhammadan Rural.
8. Raja Bahadur Harihar Prashad Narayan Singh, O.B.E., of Amawan. Landholders', Patna Division.
9. Maulavi Malik Mukhtar Ahmad ... Gaya Muhammadan Rural.
10. Maharaj Kumar Gopal Sharan Narayan Singh. West Gaya Non-Muhammadan Rural.
11. Rai Bahadur Kashi Nath Singh ... Central Gaya ditto.
12. Babu Ratneshvar Prashad Singh ... East Gaya ditto.

PATNA DIVISION—*concl'd.*

NAME.	CONSTITUENCIES.
13. Maulavi Hafiz Nurul Haqq ...	Shahabad Muhammadan Rural.
14. Maharaja Bahadur Guru Mahadev Asram Prashad Sahi.	Central Shahabad Non-Muhammadan Rural.
15. Babu Rajivaranjan Prashad Sinha	South Shahabad Non-Muhammadan Rural.
16. Babu Dvarika Prashad Singh ...	Arrah Shahabad Non-Muhammadan Rural.

TIRHUT DIVISION.

17. Khan Bahadur Saiyid Ahmad Husain.	Tirhut Division Muhammadan Urban.
18. Maulavi Saiyid Mehdi Hasan ...	Muzaffarpur Muhammadan Rural.
19. Maulavi Letafat Husain Khan ...	Darbhangha ditto.
20. Maulavi Saiyid Mubarak Ali ...	Saran ditto.
21. Maulavi Saiyid Abbas Ali ...	Champaran ditto.
22. Rai Bahadur Dvarika Nath ...	Tirhut Division Non-Muhammadan Urban.
23. Babu Raghubans Thakur ...	North-West Darbhanga Non-Muhammadan Rural.
24. Babu Shiva Shankar Jha ...	North-East Darbhanga Non-Muhammadan Rural.
25. Babu Ram Nihora Singh ...	South-East Darbhanga Non-Muhammadan Rural.
26. Babu Kameshvar Narayan Sinha ...	Samastipur Non-Muhammadan Rural.
27. Babu Mahesvar Prashad Narayan Singh.	North Muzaffarpur Non-Muhammadan Rural.
28. Chaudhuri Raghunandan Prashad Sinha.	East Muzaffarpur Non-Muhammadan Rural.
29. Babu Kapildeva Sahay ...	West Muzaffarpur Non-Muhammadan Rural.
30. Babu Radha Krishna ...	Hajipur Non-Muhammadan Rural.
31. Babu Madhaveshvarendra Sahi ...	North Saran Non-Muhammadan Rural.
32. Babu Nirsu Narayan Sinha ...	South Saran Non-Muhammadan Rural.
33. Babu Lakshmi Mohan Misra ...	North Champaran Non-Muhammadan Rural.
34. Babu Ambika Prashad Upadhyaya	South Champaran Non-Muhammadan Rural.
35. Babu Krishnadev Narayan Mahtha	Landholders', Tirhut Division.

BHAGALPUR DIVISION.

NAME.	CONSTITUENCIES.
36. Khan Bahadur Saiyid Muham- mad Tahir.	Bhagalpur Division Muhammadan Urban.
37. Khan Bahadur Saiyid Muham- mad Naim.	Bhagalpur Muhammadan Rural.
38. Mr. Shah Muhammad Yahya ...	Monghyr ditto.
39. Maulavi Mir Faiyaz Ali ...	Purnea ditto.
40. Mr. Saiyid Moin-ud-din Mirza ...	Kishanganj ditto.
41. Maulavi Muhammad Umid Ali ...	Santal Parganas ditto.
42. Rai Bahadur Jyotish Chandra Bhattacharjya.	Bhagalpur Division Non-Muham- madan Urban.
43. Swami Vidyanand <i>alias</i> Bishva Bharan Prashad.	North Bhagalpur Non-Muham- madan Rural.
44. Babu Bhuvaneshvari Prashad Mandal.	Central Bhagalpur Non-Muham- madan Rural.
45. Babu Sukh Raj Ray	South Bhagalpur Non-Muham- madan Rural.
46. Maharaj Kumar Chandra Maulesi- var Prashad Singh.	South West Monghyr Non-Muham- madan Rural.
47. Rai Sahib Kharag Narayan ..	North-West Monghyr Non-Muham- madan Rural.
48. Babu Devakinandan Prashad Singh	East Monghyr Non-Muhammadan Rural.
49. Rai Bahadur Prithichand Lal Chaudhuri.	Purnea Non-Muhammadan Rural.
50. Babu Jogendra Narayan Singh ...	Santal Parganas North Non-Muham- madan Rural.
51. Babu Satya Narayan Singh ...	Santal Parganas South Non-Muham- madan Rural.
52. Raja Bahadur Kirtyanand Singh of Banaili.	Landholders', Bhagalpur Division.

ORISSA DIVISION.

53. Khan Bahadur Shaikh Abdul Majid.	Orissa Division Muhammadan Rural.
54. The Hon'ble Mr. Madhusudan Das, C.I.E.	Orissa Division Non-Muhammadan Urban.
55. Babu Birabar Narayan Chandra Dhir Narendra.	North Cuttack Non-Muhammadan Rural.
56. Babu Rebati Kanta Ghosh ...	South Cuttack Non-Muhammadan Rural.
57. Rai Bahadur Harendra Narayan Ray Mahashay.	North Balasore Non-Muhammadan Rural.
58. Chaudhuri Bhaghat Prashad Samarantari Mahapatra.	South Balasore Non-Muhammadan Rural.

BHAGALPUR DIVISION.

NAME.		CONSTITUENCIES.	
36. Khan Bahadur Saiyid Muham-	Bhagalpur Division	Muhammadan	
mad Tahir.	Urban.		
37. Khan Bahadur Saiyid Muham-	Bhagalpur	Muhammadan Rural.	
mad Naim.			
38. Mr. Shah Muhammad Yahya ...	Monghyr	ditto.	
39. Maulavi Mir Faiyaz Ali ...	Purnea	ditto.	
40. Mr. Saiyid Moin-ud-din Mirza ...	Kishanganj	ditto.	
41. Maulavi Muhammad Umid Ali ...	Santal Parganas	ditto.	
42. Rai Bahadur Jyotish Chandra	Bhagalpur Division	Non-Muham-	
Bhattacharjya.	madan Urban.		
43. Swami Vidyanand <i>alias</i> Bishva	North Bhagalpur	Non-Muham-	
Bharan Prashad.	madan Rural.		
44. Babu Bhuvaneshvari Prashad	Central Bhagalpur	Non-Muham-	
Mandal.	madan Rural.		
45. Babu Sukh Raj Ray	South Bhagalpur	Non-Muham-	
	madan Rural.		
46. Maharaj Kumar Chandra Maulesh-	South West Monghyr	Non-Muham-	
var Prashad Singh.	madan Rural.		
47. Rai Sahib Kharag Narayan ..	North-West Monghyr	Non-Muham-	
	madan Rural.		
48. Babu Devakinandan Prashad Singh	East Monghyr	Non-Muhammadan	
	Rural.		
49. Rai Bahadur Prithichand Lal	Purnea	Non-Muhammadan Rural.	
Chaudhuri.			
50. Babu Jogendra Narayan Singh ...	Santal Parganas North	Non-Muham-	
	madan Rural.		
51. Babu Satya Narayan Singh ...	Santal Parganas South	Non-Muham-	
	madan Rural.		
52. Raja Bahadur Kirtyanand Singh of	Landholders', Bhagalpur Division.		
Banaili.			

ORISSA DIVISION.

53. Khan Bahadur Shaikh Abdul	Orissa Division	Muhammadan Rural.	
Majid.			
54. The Hon'ble Mr. Madhusudan Das,	Orissa Division	Non-Muhammadan	
C.I.E.	Urban.		
55. Babu Birabar Narayan Chandra	North Cuttack	Non-Muhammadan	
Dhir Narendra.	Rural.		
56. Babu Rebati Kanta Ghosh ...	South Cuttack	Non-Muhammadan	
	Rural.		
57. Rai Bahadur Harendra Narayan	North Balasore	Non-Muhammadan	
Ray Mahashay.	Rural.		
58. Chaudhuri Bhaghat Prashad	South Balasore	Non-Muhammadan	
Samantarai Mahapatra.	Rural.		

ORISSA DIVISION—concl'd.

NAME.	CONSTITUENCIES
59. Babu Pitabas Patnaik	North Puri Non-Muhammadian Rural.
60. Mahanth Gadadhar Ramanuj Das	South Puri Non-Muhammadian Rural.
61. Babu Shankar Prashad Misra ...	Sambalpur Non-Muhammadian Rural.
62. Babu Charu Chandra Ray	Landholders', Orissa Division.
Chaudhuri.	

CHOTA NAGPUR DIVISION.

63. Khwaja Muhammad Hakim Jan	Chota Nagpur Division Muham-	
	madan Rural.	
64. Rai Bahadur Radha Gobind Chau-	Chota Nagpur Division Non-Muham-	
dhuri.	madan Urban.	
65. Rai Bahadur Sharat Chandra Ray	Ranchi Non-Muhammadian Rural.	
66. Rai Bahadur Gopi Krishna ...	Hazaribagh	ditto.
67. Babu Devaki Prashad Sinha ...	Palamau	ditto
68. Babu Jyotirmay Chatterji ...	South Manbhum	ditto.
69. Dulu Manki	Singhbhum	ditto.
70. Babu Shivadas Banarji ...	North Manbhum Non-Muhammadian	
	Rural.	
71. Raja Thakurai Girivar Prashad	Landholders', Chota Nagpur Division.	
Singh.		

OTHERS.

72. Mr. Prasanta Kumar Sen ...	Patna University.
73. Mr. P. Kennedy ...	European Constituency.
74. Mr. Julian Veitch Jameson	Planting Constituency.
75. Mr. John Herbert Pattinson ...	Indian Mining Association.
76. Babu Umesh Chandra Banarji ...	Indian Mining Federation.

Members of the Legislative-Assembly and the Council of State from Bihar and Orissa.

Council of State.

(a) Elected.

CONSTITUENCIES.	NAME.
Bihar and Orissa (Non-Muham-	The Hon'ble Maharajadhiraja Sir
madan).	Rameshwara Singh, G.C.I.E.,
	K.B.E., of Darbhanga.
Ditto	ditto
	The Hon'ble Maharaja Bahadur
	Keshava Prashad Singh, C.B.E.,
	of Dumraon.
Bihar and Orissa (Muhammadian)	The Hon'ble Khan Bahadur Saiyid
	Zahiruddin.

(b) Nominated.

The Hon'ble Henry Telford Stonor Forrest, I.C.S.

Legislative Assembly.

(a) Elected.

CONSTITUENCIES.		NAME.
Tirhut Division (Non-Muhammadian).		Babu Baidyanath Prashad Singh, Kaliani, Muzaffarpur.
Ditto	ditto	Babu Adit Prashad Sinha, Bela House, Darbhanga.
Orissa Division	ditto	... Babu Braja Sunder Das, Chaudhuri Bazar, Cuttack.
Ditto	ditto	... Mr. Bishwanath Misra, Bar-at-Law, Cuttack.
Patna cum Shahabad (Non-Muhammadian).		Babu Ambika Prashad Sinha, Patna
Gaya cum Monghyr (Non-Muhammadian).		Rai Bahadur Lachmi Prashad Sinha, Monghyr.
Bhagalpur, Purnea and the Santal Parganas (Non-Muhammadian).		Rai Bahadur Nishikanta Sen, Sen Villa, Purnea.
Chota Nagpur Division (Non-Muhammadian).		Rai Bahadur Sarat Chandra Sen, Vakil, Purnea (District Manbhumi).
Patna and Chota Nagpur cum Orissa (Muhammadian).		Khan Bahadur Saiyid Muhammad Ismail, Guzri, Patna City.
Bhagalpur Division (Muhammadian)		Maulavi Miyan Asjadullah, Zamin-dar and Honorary Magistrate, Kishanganj.
Tirhut Division (Muhammadian)	...	Khan Bahadur Sarfaraz Husain Khan, Haveli Begam, Patna City.
Bihar and Orissa Landholders'	...	Raja Rajendra Narayan Bhanja Deo, C.B.E., of Kanika, Kanikaraj-bati, Cuttack.

(b) Nominated.

Rai Bahadur Shyam Narayan Singh, M.B.E.

Rai Sahib Lakshmi Narayan Lal.

APPENDIX III.

GOVERNMENT OF BIHAR AND ORISSA

APPOINTMENT DEPARTMENT.

APPOINTMENT BRANCH.

ORDER No. 4652 A. R.

Ranchi, the 28th October 1922.

Under Rule 2 of the Rules of Business made under section 49 of the Government of India Act, and in supersession of all previous orders on the subject, His Excellency the Governor is pleased to direct that business of the different departments relating to Central and Reserved subjects shall be allotted to the Governor and the Members of his Council as follows:—

HIS EXCELLENCY THE GOVERNOR.

I.—APPOINTMENT DEPARTMENT.

1. Appointments shown in List 1 mentioned in Rule 7 of the Rules of Business.
2. Appointments of members of the Indian Civil Service and to listed posts.
3. His Excellency's personal staff.

II.—POLITICAL DEPARTMENT.

1. Darbars and Titles.

III.—REVENUE DEPARTMENT.

1. Ecclesiastical Administration; including European cemeteries.

NOTE.—His Excellency will deal himself with the expenditure of the grants for the upkeep of Government House.

THE HON'BLE MR. H. McPHERSON.

I.—APPOINTMENT DEPARTMENT

All subjects not taken by His Excellency.

II.—POLITICAL DEPARTMENT.

All subjects not taken by His Excellency.

III.—REVENUE DEPARTMENT.

The whole, except the subjects allotted to the Hon'ble Mr. Sinha.

IV.—EDUCATION DEPARTMENT.

1. Chiefs' Colleges.
2. European and Anglo-Indian Education.

V.—PUBLIC WORKS DEPARTMENT.

1. The disposal of vacant sites, being the property of Government in the New Capital at Patna and elsewhere.
2. The administrative charge of Government residences in the New Capital, Patna and at Ranchi.
3. The administrative charge of the Secretariats at Patna and at Ranchi.
4. The administrative charge of the Legislative Council Chamber at Patna.

THE HON'BLE MR. SACHCHIDANANDA SINHA.

I.—REVENUE DEPARTMENT.

1. Provident Assurance and Life Assurance Companies.
2. Joint Stock Companies.
3. Census.
4. Books, Periodicals and Newspapers.
5. Circuit Houses.
6. Administration Report.
7. Libraries, including Secretariat Library.
8. Supply of Publications.
9. Archæology.
10. Treasure Trove.
11. Languages and Linguistic Survey.
12. Ethnology and Ethnography.

II.—JUDICIAL DEPARTMENT.

The whole.

III.—FINANCE DEPARTMENT.

The whole.

IV.—EDUCATION DEPARTMENT.

Reformatory Schools.

V.—MUNICIPAL DEPARTMENT.

Control of Motor Vehicles.

VI.—PUBLIC WORKS DEPARTMENT.

The whole, except the transferred subjects and the subjects allotted to the Hon'ble Mr. McPherson.

By order of His Excellency the Governor.

G. RAINY,

Chief Secretary to Government.

APPENDIX IV.

His Excellency the Viceroy's reply to the Addresses from the Bihar Landholders' Association and the Bhumihaar Brahman Sabha delivered at Patna on 11th December 1922.

Gentlemen,

I thank you very warmly for your kind address of welcome to me and which you have extended also to Her Excellency.

I assure you that it is a source of great pleasure to me to pay even this brief visit to the capital of the Province of Bihar and Orissa. For on historical, religious and other grounds this Province appeals to the imagination with no common interest. History has taught us about the old civilizations and Empires that held sway here. Within your boundaries pilgrims flock to the sacred places, such as Budh Gaya and Jagannath, which are so closely associated with two of the dominating religious systems of the East.

Patna holds a special interest for the British as one of the early trading outposts of the great English company which grew to fame in Calcutta. Though Patna suffered an inevitable decline in trade when railways took the place of rivers as the great arteries of commerce, its ancient importance and prestige has now revived since its rebirth, by His Majesty's command, as the metropolis of a new province. Bihar and Orissa have another additional interest in being the first British Indian Province of which an Indian was appointed to hold charge as Governor under the Governor-General and the Crown. Lastly as the home of coal and iron and mineral wealth this province will attract increasing attention in the future.

The life of your young province has not been without its difficulties. Before its creation you relied on Calcutta and Bengal for all large provincial institutions such as Universities, Medical, Engineering and other technical colleges. Bihar and Orissa has now had to attempt to create all these necessary and beneficent institutions afresh. There has in consequence (in spite of the fact that the Central Government take no contributions to central revenues from this province) been a serious disproportion between your finances and your needs. I deeply sympathise with your difficulties and with your feeling of disappointment that lack of funds is retarding progress and denies to you amenities and advantages which more fortunate neighbours enjoy; but I feel confident that with care and vigilance and with co-operation between all classes, under the able guidance of your Governor, you will be empowered to advance and by judicious management to bring to fruition those objects, on the attainment of which you have so rightly set out.

I will now turn to subjects more closely connected with the Associations which you represent. I will say in the first place that I deeply value an address from your Associations because they are composed of the great Zamindars and the landlord community of this province. I appreciate the great value of their loyalty to the Crown and of their support to the administration at all times and more particularly in the Great War; and I assign a high place to their influence both in the past and future as an important and stabilizing element in the history of this province. Under the reformed constitution the future of your province in many matters lies to a large extent in the hands of the enlightened classes in the province. Your class has a great position and great responsibilities. I have confidence that you will devote yourselves with increasing energy to shouldering the burden of your obligations—the promotion of the well-being of the people of Bihar and Orissa,—in a manner worthy of your status and position; and I pray that in this task you may be rightly guided and that you may also be enabled to educate and prepare your sons to take your place in the fulness of time in the execution of the noble mission which you have inherited.

You have alluded to the tenancy legislation which will shortly engage the attention of your Legislature. Some of you who are present here today joined in an address to me in March last and will recollect what I said on this subject on that occasion. I would remind you on the one hand that it is on the welfare, prosperity and contentment of his peasantry that the position, wealth and influence of a great landlord depend. On the other hand the tenant class must not forget that their interests are largely wrapped up in those of their landlord; and that any serious disintegration in the position of the landlords or disturbances in the relation between them and the landlords may have disastrous and far-reaching effects not only on the landlords but on the tenants themselves, which the latter may scarcely be able to visualise; but which are familiar enough to students of these evolutions. Economic and other changes must inevitably lead to desire for readjustments and this is the reason of the legislation now in contemplation; I realise that these readjustments often cause friction and misunderstanding; but I am confident that these can be readily overcome if both parties approach the subject in a spirit of trust, with a desire for mutual understanding and for the subsistence of amicable relations of ancient standing. It is only right and fair that in the first place the provisions of tenancy law, where defective, should be placed on an equitable footing and in the second place that in any such process due regard should be paid to long-standing rights and privileges of landlords. I trust that it will be in this spirit that you will bring your agrarian legislation to a successful conclusion. Gentlemen, I thank you again on behalf of myself and of Her Excellency for your welcome.

APPENDIX V.

Table of number of primary schools and of boys attending them.

Name of District.	Population.	Number of primary schools for Indian boys.		Number of pupils in primary schools for Indian boys.		Percentage of children of school to those of school-going age.		Number of literates as shown in the census.	Percentage of literates to population.
		1916-17.	1921-22.	1916-17.	1921-22.	1916-17.	1921-22.		
Patna ...	1,574,287	1,284	1,270	35,267	35,740	23·1	21·2	137,038	8·70
Gaya ...	2,152,930	1,537	1,634	45,590	47,780	17·8	18·2	112,528	5·23
Shahabad ..	1,816,821	959	1,002	29,188	30,400	15·2	15·4	89,551	4·92
Saran ...	2,339,953	1,088	783	31,880	22,169	12·6	9·1	101,237	4·32
Champaran ...	1,940,841	810	619	20,444	18,180	9·6	8·9	59,013	3·04
Muzaffarpur ...	2,754,945	1,339	1,229	35,139	35,845	11·3	10·9	110,612	4·01
Darbhanga ...	2,913,529	1,438	1,396	50,564	40,339	15·8	12·4	122,742	4·21
Monghyr ...	2,029,965	1,345	1,339	34,495	38,200	14·8	16·9	100,668	4·95
Bhagalpur ...	2,033,770	1,096	1,069	31,550	32,561	13·5	15·0	100,493	4·92
Purnea ...	2,024,608	990	1,202	25,806	31,696	11·2	13·2	63,527	3·12
Santal Parganas ...	1,798,639	992	1,088	30,042	35,047	14·04	16·4	52,099	2·89
Cuttack ...	2,964,678	3,235	3,071	82,983	80,446	30·1	29·3	153,690	7·44
Balasore ...	980,504	1,666	1,434	42,958	38,053	32·0	30·2	73,133	7·45
Puri ...	951,651	1,531	1,320	31,683	28,248	25·6	24·2	58,369	6·13
Sambalpur ...	789,466	232	270	14,175	14,035	14·5	13·5	29,826	3·77
Angul ...	182,524	229	232	8,948	8,024	34·02	33·2	4,786	2·62
Mazaribagh ...	1,276,946	663	644	17,230	16,602	11·3	10·6	38,804	3·03
Ranchi ...	1,334,473	1,142	1,169	28,238	29,168	17·8	19·2	46,445	3·48
Palaman ...	738,394	380	283	9,049	6,918	11·3	8·1	20,302	2·76
Manbhum ...	1,548,777	1,036	1,038	39,013	31,175	15·4	16·0	61,327	5·89
Slughbhum ...	759,438	382	347	11,135	11,004	14·0	13·2	30,067	3·9
Total ...	34,002,189	23,274	23,443	646,345	629,590	16·3	15·7	1,566,257	4·66

APPENDIX VI.

THE RADIUM INSTITUTE, RANCHI.

This Institute has now been opened and I am asked to submit a note on it, its value, its future, its working, and its scope of work generally and I gladly take the opportunity of submitting a report.

Of the value of such an Institute in India I have long been convinced. Practically every country in Europe has its medical profession furnished with radium and radiological equipment and America, England and France lead the way in radium work. It was in 1901 that radium was first used in France in medicine in the treatment of cutaneous tuberculosis and since then its use has spread to other countries and has been extended to other diseased conditions. In late years it has not only been used in all conditions of growths benign and malignant, viz., cancerous and non-cancerous growths, but it has been employed in many other conditions, such as diseases of the spleen and blood-forming organs, menstrual disorders, goitres, Grave's disease, skin diseases of various kinds, chronic ulcerations, the removal of disfiguring scars and birth-marks, etc., and among its latest uses may be included its employment in chronic conditions of the tonsils and in immature cataract. Such then is some indication of the range of usefulness of this very remarkable substance.

With all this naturally, experience of its usefulness has varied and many vexed questions have arisen in regard to its employment, and as to its real range of usefulness. Some have been enthusiastic, others pessimistic, others luke-warm regarding its virtues, and a careful study of the literature of the subject forces one to the conclusion that the failures and successes with radium have among other things depended on certain groupings of technical details, which simply means that in the first place we do not know all that there is to be known of radium and its properties and action on living tissues, and that as our mastery of technical detail improves so will the net result of our work with it in disease be more and more really useful. As things are, results are being obtained now in radium and radiological work generally, that were simply impossible a few years ago, and the best successes of the early days of radium work are indicating the directions in which our future work will lead to success. The absolute truth of the doctrine laid down by Wickham, one of the greatest pioneers in this work, is being daily substantiated and his doctrine was "Plenty of radium and plenty of experience"

and the greatest successes with radium are being achieved by those Institutes which have the largest supplies of radium and can treat their cases with the largest ranges of dosage. I do not propose in this note to enter into any thing purely technical but would only in passing insist on this one point that it is futile to attempt to treat cases suitable for radium treatment with quantities of that substance insufficient for the particular case under treatment, and that most failures have depended on a want of realization of this special condition. There have of course been other causes of failure also but this has been a principal cause in the opinion of most workers of experience. And because of failures many have arisen as opposed to the value of radium and of radiological treatment generally especially in cases of cancer. Quite recently Dr. John B. Deaver in his presidential address before the American College of Surgeons, Philadelphia, in October 1921, has sharply questioned the curative value of radium in the treatment of malignant disease. His remarks, coming from a man occupying his unique position in the profession, have excited a great volume of comment from all over the world, a small number upholding his view, a few admitting their inability to judge of the matter, and the greatest number standing strongly against Dr. Deaver. In the course of an address on "Old methods *versus* new in surgical diagnosis" Dr. Deaver made the statement that "at times when its use could have been most valuable radium failed utterly in the treatment of cancer. I almost hesitate to express the fear I have that nothing can be looked for from radium in the future to be of advantage in the treatment of cancer." Such a pronouncement from the newly inducted president of so strong a professional body as the American College of Surgeons might well be estimated as one of the heaviest attacks possible by any one man against the value of radium. But his remarks were followed by an almost death-like hush that came over the audience of nearly 2,000 Surgeons gathered from all parts of the country and from Europe who were seated in the room. Almost apologetically Dr. Deaver recited instances where radium had failed when relief was most sorely needed. Its benefit he declared had been practically negligible and in many cases it was found to work more harm than good. I quote all this purposely because following such action as that of Dr. Deaver it is perfectly certain that there will be many whose opinion will be biased by the admittedly obvious failures of radium in many instances. Let us at once admit that there have been failures, for there have been failures and disappointments, and as Dr. Deaver's address has got into the lay press it is impossible to pass it by in a note of this nature but as has been said by one of the Directors of the Belle Vue Hospital and one of the leading physicians of New York: "The type of publicity which has been given to the speech made by Dr. Deaver to a body of medical men is unfortunate and may do great harm." The public is not in a position to understand a problem of such technicality and complexity. Other American professional opinion is less sparing in its attitude towards Dr. Deaver. Dr. Lincoln Furbush, Director of the Department of Public Health, defends

the purchase of radium by New York City and says "it was one of the most progressive steps ever taken by a municipality. I said radium was not a cure-all but had a most positive place in progressive medicine. The city of New York purchased two grammes of radium sometime ago (£230,000) and is now buying two grammes more". And Dr. Frank Simpson, the leading exponent of radium work in Chicago, says bluntly: "Such a statement is little short of criminal. There are hundreds of cases on record where radium has effected a permanent cure, Dr. Deaver should come west for a few days then he would issue a retraction."

Radium and its auxiliary X-Rays are not a cure-all and many vigorous attacks, and unjustifiable attacks have been made on it. Perhaps the most powerful answer to all attacks up to date has been made in this recent controversy by Dr. Gaylord, President of the American Association for Cancer Research, when he said: "This is no time to raise the question whether or not radium is more efficacious than surgery in the treatment of cancer. Radium has cured cases of cancer which the surgeon could not help. In other cases far advanced, radiation has lengthened life, relieved suffering and helped where the patient has been beyond assistance from surgery. Dr. Deaver found it possible to dispose of radium treatment of cancer by saying 'it is doomed'. I should like to ask him in the name of humanity what he would put in its place. What is he going to do for those suffering from cancer, whom the surgeons cannot help?"

Even at the risk of being wearisome I have written at some length on the subject of this controversy and of the present state of divided opinion regarding radiation treatment. I will conclude this portion of my note by quoting one more American Surgeon because my own personal experience is in a humble way precisely similar to his. He said, "I have several hundred living reasons on which my faith is founded and they are walking about on two legs." So much then on the question of radium or no radium.

II. The next question to which I would invite attention is that whereas cancer undoubtedly forms the largest and most difficult section of radium work what may we take as the position of the cancer problem for us?

In one form or other we are often told that we are no nearer the solution of the cancer problem than we were 20 years ago, a statement which is both loose and untrue, for within this period very great advances have been made in our knowledge of and in our treatment of cancer especially in radiation. These matters are mostly purely technical but leaving such special details aside and assuming that radiation has taken "a most positive place in modern medicine". What is the cancer that we have to deal with in India? It is not generally known that in England and Wales (where registration of causes of death is as good as any where in the world) of the entire population over the age of 35 years, one woman in every eight and one man in every twelve dies of cancer. Please observe the very significant fact that this takes no account of the deaths from cancer among children and

young people under the age of 35. Now, recent study during the last 20 years has established the fact that cancer occurs in all races of mankind independently of racial peculiarities of diet. What then is the incidence of cancer among the population of this province, or in that of India? And how much of it can our surgeons handle. A very recent statement by the Chief of the Cancer Clinic in the University of Frankfurt gives it that 50 per cent. of those who apply for treatment at that Institute are beyond cure, *but radium treatment has given them as much as five years' lease of life.* How have these 50 per cent. come for treatment when beyond cure and why are there also so many "beyond cure" in every country where there is a Radium Institute? To some extent at any rate because they are not recognized early and to some extent because they have not known their condition or have been fearful of the knife or of the ordeal of treatment. It is human nature and with the incidence of cancer in India what can be the number beyond cure? There is in India and every where a certain dread of the real or fancied ordeals of treatment, and specially of the knife, and it is practically certain that in India a considerable portion of those beyond cure would undoubtedly have come forward had they had a treatment to resort to which engendered no special dread. It is quite true that radium offers no absolutely certain cure, but at least it offers relief from symptoms for considerable periods varying in different cases even up to seven years and more. Every man must work out the answer to these questions in his own mind and he can then decide whether in the name of common humanity an institute such as a Radium Institute is worth maintaining and supporting or not. Let him work it out on the figures, one woman in eight and one man in twelve over the age of 35, and I cannot quite tell how many but a very large number besides under the age of 35, and at the very worst let him take half of these and offer them at least the chance of freedom from disease for at any rate some considerable period, anything up to five years, remembering at the same time that we have been working with radium on the present lines for only some dozen years or so and there are patients now living with seven years' freedom from their disease and that some of these are people who were among the worst cases offering for treatment and that most of them were quite beyond the aid of surgery. On this, can there be any doubt in any one's mind that radium though not a cure-all can at least offer a vast amount of relief, and that if like other remedies in other fields of work, it must count its failures, nevertheless it can put up an appeal to common sense and humanity that is at least second to none of similar appeals. And then remember that cancer is not the only thing radium is useful in, and refer once more to the list of ailments given in the earlier part of this note. And if on what I have put forward above it be suggested that I am arguing that radium can take the place of surgery I would say at once that what I advocate is not radium in place of surgery but radiation in co-operation with surgery. And for a report like this I would deprecate entering into any technical discussion and would only urge the fullest collaboration between members of the profession. Let radiologists and surgeons and

physicians work together each to help the other with his patients and we shall find the greatest good achieved for the benefit of humanity.

III. Granting then, that there is plenty of work to do and that radiation is the means to do it with, what is likely to be the future for the Radium Institute. There is only one answer. It depends on our efficiency. I began work with radium in India in 1913. I had but a very small amount which I had purchased myself but I got very good results with it and published them in 1917. Sir Edward Gait gave me some money to purchase some radium "as a preliminary to the establishment of a Radium Institute at Ranchi" and that radium and mine put together were only 50 milligrammes. Sir Edward Gait then bought mine from me and added it to the amount he had provided for the eventual Radium Institute here and these 50 milligrammes have never been idle but they have often proved insufficient, and cases have been left untreated because it was futile to treat them with such small amounts of radium. Then in 1920, on my urgent representation, a scheme was put up for the present Radium Institute and I went home on leave anticipating sanction for my scheme. The sanction and a sum of £10,500 was placed at my disposal. I proceeded to purchase radium and the Treasurer of the Röntgen Society in London (of which I am a member) commented on my modest demand for £8,000 worth of radium telling me that even so small a country as Denmark had just arranged (while he was himself over at a scientific meeting in Copenhagen) for the purchase of £67,000 worth. My purchase of £8,000 worth proceeded to completion and now our total of 550 milligrammes in Ranchi is just as fully occupied as was the 10 original milligrammes, and the latter 50 in 1913-1920, and there are more and more patients applying. I have put them off for the present stating that I have no accommodation for them but the moment we let people know we have room for them we shall be inundated.

The number of cases already treated compare quite favourably with the work of other Institutes having regard to the fact that this is only the beginning of our first year. I think it must be without question that the future of our Institute will depend on our efficiency not merely with regard to the facilities for treatment that we can offer, for, of course, the public will quite understand that under the best of circumstances we can only treat a certain limited number, but we must not only treat with radium or X-Rays but we must be able to deal efficiently with conditions secondary to malignant disease the general falling off in health, the occurrence of conditions where efficient surgical co-operation is necessary. These and like conditions must be provided for. However separate we keep the Radium Institute as an Institution we must co-operate with the Sadr Hospital. I call to mind for instance a case I saw in the Middlesex Hospital of a boy of 15 with a growth in his palate which was so large that it was choking him and the bleeding from which had already endangered his life. Here a timely surgical operation enabled radium to be safely applied and the lad made an excellent recovery. We have of course

just begun and it is hard to forecast requirements at all accurately. But we must provide accommodation to begin with for people of moderate means. Houses in the town are not easy to get and we have already had three cases who have been very badly stranded and one of which had to go back to Calcutta as there was absolutely no place to put her in. On her return there her friends again brought her here to a dharamsala and we have since lost sight of her. It is instances of this kind which will do us harm and it is not as if these occurrences so far could have been helped, but we must not let the idea get about that we cannot take patients. I have recently asked that some of the vacant quarters in Hinu be placed at my disposal. I had asked for six and of these already, in anticipation of sanction, three are occupied and a fourth reserved for another patient. I think we might with advantage have a group of at least a dozen quarters allotted to me and I have already asked for these and I am sure we shall have them occupied.

In my report and working scheme submitted in 1920, I asked for a provision for a 30 per cent. increase in five years, I think it will not be long before we shall need it as regards radium, if our patients increase as they are doing.

IV. As regards the staff and working expenses I think that so long as we work with our present equipment the detail already asked for in my report of 1920, should be sufficient but it will not be too much. All I would ask for is that although we may not at present have entertained more than is actually necessary for *immediate requirements* we shall require the whole of that staff once we move into the new Institute Buildings—and to enable us to get the best results we can, I would urge that our budget grant be placed at our disposal to deal freely with it within its limits.

As regards current work we have had the following detail of cases applying:—

Cancer of bladder	...	...	...	...	1
Cancer of mouth	...	...	...	...	1
Cancer of throat	...	...	...	...	1
Cancer of neck	...	...	...	...	6
Cancer of uterus (womb)	...	...	...	...	7
Cancer of breast	...	...	...	...	1
Cancer of liver	...	...	...	...	1
Cancer of upper jaw	...	...	...	...	1
Keloid	...	...	...	...	1
Fibroid tumour of uterus	...	...	...	...	4
Tubercular glands of neck	...	...	...	...	1
					<hr/> 25 <hr/>

Our first treatment was that applied in Darjeeling on the 21st April 1922, and our first in Ranchi was applied on the 30th of May 1922. This is therefore practically two months' work to 21st June 1922.

Of these two have died, four have not been treated at all, two for want of accommodation when they applied and two as unsuitable for any treatment, and the remaining 20 are still actually under treatment and all but the most recent are already showing improvement, and some of them very definite improvement. And seeing that with the exception of the Uterine Fibroids they are all inoperable, the record so far is not at all a bad one. Some of these cases have been treated free. The remainder have so far contributed Rs. 970 in fees for radium which sum has been credited to Government in the Ranchi Treasury. Of this sum, however, Rs. 500 was paid in by one European patient whom I visited and treated in Darjeeling. As work goes on I anticipate from our radium cases alone a steady return on much the same scale, viz., an occasional big contribution and for the rest about Rs. 200 or less a month but to continue to do this we must, as I have said above, do all in our power to make our patients comfortable and treat them efficiently, and for that end we must make sure of our equipment and staff being up to date and in good order and we must provide accommodation for patients of moderate means.

As regards the Ranchi Sadr Hospital we are working quite separately from them but I am quite prepared to give any of their cases the full benefit of the radium and X-Ray equipment at our disposal as occasion arises, and from time to time cases will come into the Sadr Hospital whom we can and shall quite readily treat there, and there is one such case there now under treatment. As far as radium treatment is concerned there will of course be one limitation and that is the limit to which we can satisfactorily work our equipment, for it will be of no use dividing our radium in such a way that patients get doses which are insufficient. Of malignant diseases alone we shall hardly be able to treat much more than 25 to 30 cases at one time and we shall take on new comers as the old cases retire after treatment. And it would be a great point gained for the work's sake if we could arrange to keep in touch with some of these patients and follow up their progress after treatment. Malignant disease is by no means the only condition that radium benefits and it is rather a pity though perhaps natural that at the starting of our work we are put up so much as "a cancer Institute". We are now treating cases that are not cancer and I should be only too glad when it gets more widely known that cancer work is only one of our objectives.

Another matter put forward at the beginning was that the Institute should train Assistant Surgeons and other Medical Officers in X-Ray and Radiological work and that it should for this province take the place of the X-Ray Institute at Dehra Dun. This can be done once the Institute buildings have been opened and are in full working order. Of course our patients will to some extent have to be used for demonstration and for this purpose again we should co-operate with the Sadr Hospital, so as to have some teaching material besides the few among our own patients who would not object to being shown to medical men attending the course. The course of training would last two or three months and would include a curriculum much the same as that prescribed at Dehra

Dun with the addition of lectures and demonstrations on work with radium. I hope therefore that once we are installed in our new buildings we shall prove an Institution definitely useful to our province and to our neighbours both in training our own staff in the province and in giving our medical men both in the service and in private practice, opportunities of working with us and seeing our work and satisfying themselves from their personal contact with and experience of it, that it has a very varied and a very definite field of very practical utility. When medical men in practice see our work more we shall get their co-operation for a very much wider range of work than that which we now have and we shall, I hope, really prove what I am firmly convinced of, that the Government of Bihar and Orissa are really to be heartily congratulated on being the first in the field in India with an Institute equipped with not only X-Rays but also with radium. And I would urge that those who are charitably-minded in the province be invited to add to our stock of radium and thereby increase our real efficiency.

J. C. VAUGHAN, LT.-COL., I.M.S.,
Superintendent, Radium Institute, Ranchi.