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PART II

ADMINISTRATION REPORT

by

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CHAPTER I—GENERAL

Since the 1941 census has itself assumed a truncated form owing to the Government of India's decision to limit tabulation, this report also must inevitably be limited in scope. Enumeration however was carried out in full and this part therefore permits of full discussion.

2. I have proposed elsewhere and more than once that some provision should at least be made for continuity in census matters during between-census years. If this is done then much of the point of an administration report in the old style vanishes; for that report was conditioned by the circumstance of a ten-yearly *hiatus*. With Census Commissioners coming in after such a gap possibly without provincial census experience themselves; without any practical census knowledge in any Department of the Government of India; and in view of the other peculiar aspects of census functioning in the past, the administration report had to dwell on all sorts of topics, great or small, in order that the new Census Commissioner, working as always against time, should be able to see at once what to pursue.

If there is a steady amount of between-census consideration much of this one-time necessity vanishes and for example the content of the questionnaire, the manner of its presentation, the form of the slip or schedule, the mechanical tabulation issue etc., will all have come under timely discussion and will be more or less determined before 1950 and preferably before 1949.

3. In order to bring these aspects firmly before the Government of India once again I have embodied the chief of them in my general report on the limited operations of 1940-41. They will then be present in a Home Department file and will therefore one hopes receive some kind of definite treatment now.

4. Since however it cannot be guaranteed that this continuity will in fact be achieved, I am setting down various points I suggest for immediate consideration by whoever is in charge of the next census. The report sent to the Government of India will be available along with this note and issues presented will be apparent. In many cases therefore only a brief reference is required.

5. *Legislation.*—The census reposes on legislation, which is required to give the cover for the various operations all over the country and the duties entrusted to census officers and the public at large.

The 1941 census reposed on the Census Act of 1939 (XXIV of 1939). Although everything would seem in favour of taking up such topics in good time, this particular Act came before the Legislature in *the summer of 1939 while I myself was on leave* though I had an opportunity of comment before I left in mid-March. Inevitably in such circumstances the 1929 Act was taken as a model with the incorporation of such comments as remained from the previous census.

The Act reproduced *inter alia* from earlier Census Acts a provision (section 15) purporting to empower the Provincial Government to charge the whole or any part of the expenditure incurred on census operations within any area to the municipal or local fund constituted for the area. It was held in the Legislative Department that in the position produced by the Government of India Act, 1935, a provision in this sense was relatable not to Census (entry 10 in List I) but to Local Government (entry 13 in List II) and the Central Legislature was therefore incompetent to enact the section which consequently was not validly operative.

6. The situation was undoubtedly awkward. In a census like India's it is of the highest importance that every body entitled to tax the public should be expected to carry its share of census effort and expense; since the whole Indian census reposes on distribution and association of effort and this is a notable field for it. Fortunately, whatever the technical non-viability of the section, the action it had in view was in no way novel; in fact it merely expressed a practice as old as the census itself. Therefore there was a strong chance that the momentum of old practice would operate heavily and over most of the country. Momentum, whether in the administrative or physical world, is a phenomenon of the greatest importance and one that should never lightly be disturbed or opposed. Consequently the best course was to let the momentum have its play and to avoid at least during the enumeration year, any appearance of an attempt by the Central Government to force provinces into taking powers through their own legislation to fill the gap left by the invalid section 15. On the other hand it was necessary that the position should be made known, as otherwise a series of notifications on the old lines might have been issued in the provinces, all of which would have been invalid and might have led subsequently to considerable difficulties and possible recrimination.

In the result therefore the course recommended was to remind provincial governments of their undertaking in response to the Home Department letter of 1938, to point out the technical failure of section 15 and that, since the type of action contemplated by section 15 was an essential part of the old practice which provincial governments had agreed to carry on, the Government of India relied on provincial governments to take such steps as seemed suitable to them to secure the continuance of the municipal etc., contributions contemplated by this section. The Government of India accepted my views and approached provincial governments accordingly.

My anticipations were justified. Over the greater part of the country the old practice prevailed; momentum carried the matter through. Here and there, inevitably, individual municipal contumacy showed itself and as might have been expected, considering its past history, Gujarat was prominent in this field. Three provinces found it necessary or advisable to legislate, and thus create the powers which section 15 could not give. These were Bengal, Orissa and Bombay. In the latter two a Governor's Act was passed, since the provisions of section 93 of the Government of India Act, 1935 were in force. In Bengal the matter went through both houses of the legislature.

In all three cases the action was *suo moto*; that is, without any attempt at dictation by the Central Government these provinces decided to fill the gap by their own legislation. Had there been any such attempt at dictation the provincial response might have been different and less willing.

7. Another consideration that influenced me in this attitude was the extreme desirability during the difficult enumeration year of keeping a stormy atmosphere as free as possible from points of contention. All census officers have enough to do in this year of intensive labour without having to spend hours or weeks in cajoling refractory municipalities or grappling with the difficulties of contentious legislation.

8. This position must be remedied however before the next census. There might be scope here for using section 103 of the Government of India Act. Resort to that section would involve the passage of resolutions by all the Chambers of the provincial legislatures and it might be held that this represented more in the way of discussion than the issue was worth. An identity of provision would however be of value and the point is worth considering.

Failing this, those provinces not already equipped with power to give the necessary directions should be approached during the between-census period to take such power—and in a general form, not limited to a particular census.

9. Apart from this, the Act had another defect namely, that no person could be compelled to accept appointment as an enumerator or a census officer generally. Once he had agreed to do the work he could thereafter be prevented from relinquishing it without consent and in general became subject to the provisions of the Act. The Act however gave no power of compulsion. This is a serious lacuna which very nearly produced a crisis in Delhi, where the head of a large firm disputed the power of appointment and at one time was disposed to decline to allow any of his staff to serve. I succeeded in solving this difficulty—but not by legal arguments. I have described elsewhere the great steps taken this time in the direction of limiting the number of census officers who are outside the zone of amenability to official control or influence, and have developed the theory that this process should be taken much further and if possible to its logical end. Nevertheless there may always remain cases in which private citizens are required to assume enumeration or other duty and it is essential that the power to compel should in fact be present. It is not right, nor indeed creditable, that an all-India undertaking should have to repose on defective legislation.

10. It is a profound truth, hitherto little realised in India, that the role of the citizen in a census is far more important than that of the enumerator. And 1940-41 experience lent considerable force to this. This responsibility of the public might well be expressed in the penal sections of the Census Act. Ill-intentioned members of the public can be a far greater menace than an unwilling enumerator. Consequently the abetment of census offences should be made specifically punishable. The presence of some such provision would have been of considerable help in more than one province on this occasion and it is time the public of India realised their own responsibility.

If the government wishes or hopes to continue the unpaid census then it will have to apply a stiff penalty for refusing to take up an appointment or for inadequate performance. Specific provision that breach would be punishable with prison as well as fine might act as a useful deterrent.

A further addition should be to provide a penal provision for the subsequent stages. It should be made specifically punishable for a sorter, compiler, or other member of a census staff to remove census documents; or destroy, damage or secrete such documents; or to deal with them in a manner likely to falsify or impair the tabulation of census results.

This would probably impress the minds of sorters and compilers and would help to promote the desired end, namely to prevent rather than to punish census offences.

A useful addition would be to make it punishable for any outsider to trespass in a census office.

11. Apart from these particular points, some general considerations arise. The Government of India rejected Dr. Hutton's and my own recommendation in favour of a permanent Act. The lead in this respect has been taken by Hyderabad State which now has a permanent act on its statute-book. I personally remain convinced that some such measure should enter the statute book. It need not require in absolute terms the taking of a census in every tenth year but it should give a general permission and cover to census taking. This is the form taken by the British Act which makes it lawful for the Government from time to time to direct that a census shall be taken for Great Britain or for any part of Great Britain. It should avoid all prescription or suggestion on methods. The 1939 Act for example was not altogether congruent with the actual enumeration plan followed and, if as I hope census methods in India take a long step in advance to keep up with modern developments, methods, scale of

education [illegible] of the future should [illegible] that the Census Act necessary powers but be [illegible] to convey the of methods.

12. The anomaly I myself pointed out in [illegible] detail and to which Dr. Hutton also drew attention remained uncorrected in 1939, even though an opportunity had offered itself at the time the Government of India Act was framed. Legislation should ordinarily have some regard to facts but the ascription of the census as purely central in the seventh schedule to the Government of India Act could have had regard only to theory. It cannot be too strongly emphasised that the all-India census at present and for some considerable time to come, will repose on the provincial governments, their staffs, municipal bodies etc., etc. In other countries enumeration is carried through by staffs paid directly from the centre. *This is not so in India and unless the* Finance Department's attitude changes considerably, is never likely to eventuate.

13. It is true that as a result of my own persistence in 1937-38 the issue was put to the provincial governments and they agreed to carry on on the old lines and did so. The financial returns for such provinces as Bombay show that the warning against undue loading of expenditure on to the centre was heeded. It would however be better to get the matter on a logical basis and if between now and the next census there is any possibility of amending the 1935 Act or, *a fortiori*, if that Act is itself replaced by something else then I would recommend the division of the subject "census" into a federal element which would cover all matters of tabulation and ultimate direction and control, and the provision of the actual paper on which the enumeration is carried out; enumeration being declared a provincial subject. The definition might be afforded compendiously by declaring as a provincial subject "enumeration except the actual provision of the schedules or slips on which the enumeration is carried out"; and as a central subject "everything except the operation described as provincial".

This would remove the zone in which conflict is always possible and in which it actually appeared in 1931 to a menacing degree. It would locate responsibility clearly where in fact it belongs. Provincial governments would then be landed firmly with enumeration as a legal duty and one would then find I think that the entire force of the province would be entered behind it. Even now of course provinces lend their men and the enumeration is carried out as a result of such accommodation: but they are apt, not unnaturally, to detach themselves from positive concern. Such a change as I have suggested would make the provinces really responsible. The present system is profoundly unsatisfactory inasmuch as it is provincial agencies which carry out the enumeration but a central agency which is responsible, directs the provincial staffs and pays them nothing. In the old days of a unitary government this might work but under a quasi federation it courts grant difficulties.

It would have the effect of freeing the centre from the constant possibility of financial demands whose dimensions might go far further than is realised. True, the provincial governments' agreement to carry on on the old lines covered this aspect, but [illegible] agreements may not always be forthcoming [illegible] better if possible to remove the region of dubiety. A [illegible] right to claim lies with provinces whose servants are so freely used.

I believe that this view would meet with some support in the [illegible] inseparable from the fullest use of provincial systems it would be better to recognise this frankly and make the provinces responsible, not spectators but participants.

14. In the event of no opportunity offering itself for alteration of the act, the provinces should be *brought again in good time to confirm the promise* they gave in response to our letter of 1938.

15. *Contribution by local bodies etc.*—The matter of municipal contributions could well be extended to every agency of local self-government which draws revenue from the public being required to contribute. The Central Provinces for example this time mentioned that district councils, which in some ways were better equipped from a financial point of view than municipalities, were not covered. This should be remedied and provision made—preferably in general and embracing terms—that district boards, municipal councils, cantonment authorities and other similar agencies of local self-government should be required to contribute. Strictly speaking the 50 : 50 provision for large corporations has no real justification and these bodies might well be put on the same lines as other organs of local self-government. There is a considerable amount of precedent behind the 50 : 50 but the point is one that should be carefully examined in good time for India as a whole.

The Karachi Corporation this time seemed to consider itself entitled to the preparation, free, of various special tables. This should be quite clearly ruled out. If a corporation or other body wants a special table it should pay for it including all printing charges. This with advantage might be mentioned in the Act or at any rate laid down at an early stage.

16. Another point is to take further if possible the practice introduced this year of payment by private bodies *e.g.*, caste associations etc., for special tables or information desired. I introduced this practice by executive order but it is of general importance that might well justify its inclusion—in general terms—in the Act. Payment should be in advance and before tabulation begins. The estimated cost should include that of printing any tables or other documents involved.

17. Connected with this is the payment by States. This of course cannot be the subject of British India legislation but it would be useful to have the principle above embodied in the Act, where it would

serve as a pattern. At this census I took the matter of State payment further than in the past and for example secured contributions from some States which had never paid anything before. If an organ of local self-government has to pay, *a fortiori* a State should carry its whole show. This point could be taken up also with the Political D[illegible]

18. A [illegible] to the Bengal Act referred to *in paragraph 6 above was a sanction for disbursement* from Union Board funds of contribution up to a limit of Rs. 10 towards [illegible] of the last expenses of enumerators and the petty expenses of enumeration. This could be recommended to other provincial governments.

19. *Railways and Cantonments.*—Among the changes introduced this time was to dispense with the issue of separate statutory rules for the census of railway areas and cantonments and defence services. The general power being amply conveyed by the Census Act and the principles well established I could see no reason to introduce into what should be as flexible and convenient a procedure as possible the rigidities which statutory rules involve alike in their preparation and execution. It was difficult to see why in present circumstances statutory rules should have been applied at all; possibly we have here a relic from past insistence. In any case there is no need for them and an appreciable advantage flowed from their abolition this time. Anything expressed in statutory form is apt to be petrified as it were by that very fact; and petrifaction is the last thing one wants in a census.

I went over the ground with the respective authorities at headquarters and both accepted before issue the terms of my instructions affecting their respective branches.

20. *Railways.*—The main change so far as railways were concerned was of course the absence of the one-night enumeration. This in the past was bound up with the theory of past censuses namely that the only facts to find a record were those of a particular night. This theory required the excision from the provisional record of a person who might be making his first journey of a lifetime and even this perhaps only for a day. This artificiality involved the complementary artificiality of trying to take a photograph as it were of moving bodies spread over a continent.

I spent many hours of the census night in 1931 in railway stations observing the one-night theory at work. The pressure it involved on railway staffs was very great, every clerk practically being called out to cover the trains. The difficulties were enormous and, to any candid observer, the process was incapable of offering accuracy that could justify the labour, pressure and expense involved. When one thinks of the number of travellers on the move in India even 10 years ago, of the extreme pressure at which their enumeration had to be carried out; of the enormous possibilities of duplication or omission and the absence of any kind of check on this particular aspect, one could only [illegible] the mobility of feature was not worth [illegible] the last decade is a Indian [illegible] observation. For example the long-distance bus travelling so marked a feature of Indian life would have had to be provided for—and how? It could have been done, but the difficulties involved would have been quite out of proportion to the value of any results.

Once we escape from the claims of one night simultaneity for the entire population, and every individual in it, and reach a position where the normal circumstances of habitation will govern the record the importance of railway enumeration in any case clearly drops.

22. No one appreciated the change more than the railway officers and this census saw a long step taken in placing railway enumeration in proper focus. Railway personnel was treated like other elements of the ordinary household population. And in general railway agencies were used like others, P. W. D., police etc., etc., with the maximum of convenience as links in our census chain.

23. In one railway at least the practice was observed of drawing all railway census officers from the same branch as the senior officer put in charge of census operations generally on the particular line. Thus if the Chief Engineer was deputed to look after the census arrangements of a particular railway all subordinate railway officers entrusted with census duties were also from the engineering side. This practice is worthy of imitation. It conduces towards discipline and avoids the difficulties caused by a junior officer in one department having to issue instructions to a senior officer in another.

24. *Cantonments and Military.*—This is the first all-India census to have been carried out in war time and indeed perhaps the only large-scale census ever to have been carried in such conditions. Military officers were not unnaturally preoccupied with other matters and I was asked whether a block return would not suffice. I explained that such a return could not be transformed into the individual slips which we need for sorting to produce our census tables and stressed on the other hand that our object was to make the whole operation as convenient as possible and that the various changes had been designed to this end. Actually military enumeration is in many ways simpler than any other kind. So many of the answers are cut and dried and could be filled in in the orderly room beforehand for that matter. Double enumeration is impossible since no naval or military unit can be enumerated except through its commanding officer. Then the old idea of a parade on the fixed census day was dispensed with as unnecessary and I emphasised that units could take their own census at the time most convenient to them near the central date. Thus if a unit expected to be on the move about 1st March it could take its census beforehand.

25. There was difficulty over the designation of enumerators and a tendency, not unnatural perhaps, among local civil officers to insist on the returning of names of enumerators well in advance. This is necessary for civil but not for military purposes, where all we want is that within each unit there should be a sufficient number of persons competent to fill up the enumeration slips. We can arrange for the training of men and when the enumeration comes off these men can do it. On this point therefore I was able to meet in full the military difficulty and after a long discussion with Maj.-Gen. Baker, to whose assistance I am indebted, the whole position was cleared up and military enumeration went off without a hitch. As I have said it presents many aspects of simplicity as against the civil charges. The cardinal points are (*a*) each unit should have within it men competent to carry out the enumeration, (*b*) the civil authorities should arrange to train these men, (*c*) the military authorities should then be left to do the enumeration and (*d*) they should be told clearly where to send the completed slips.

26. I suggest further to simplify operations that the old practice of separating civil and military populations in the cantonments be given up. It involves the making of maps or at any rate a difficult definition of areas and serves no great purpose. After all, the Defence Department could state at any time how many soldiers they had in a particular area or town; their own records would show it. Consequently there is no reason why this census should lay an extra burden on its enumeration staff to secure this double record.

This change would not of course affect the standard principle of having soldiers enumerated by soldiers but it would remove a rather awkward and unnecessary piece of detail and be a particular benefit to the northern province where cantonments and soldiers are many.

27. *Superintendence.*—It is important that each province should have a superintendent of its own. If, as I hope but do not expect, enumeration by 1950 has been made a provincial charge, this will be inevitable; but even if the present overlapping system continues it will be equally necessary. Much depends on the ability of the superintendent to get the provincial government and all its officers moving, and moving with reasonable expedition, on his lines and an officer of the province is far more likely to secure this backing than a stranger. The 1941 census in Sind benefited greatly from being a separate charge; even although formerly Sind was a part of Bombay the difficulties of the charge and the individuality of Sind problems made it impossible for an equal measure of supervision to be applied.

Provincial Superintendents are given special pay for their duties and I can think of no case where special pay is more truly earned. There has always been a distinction between major and minor provinces, reasonably enough, special pay for the former being Rs. 300 and for the latter Rs. 200. As a result of the formation of the Orissa province Bihar was this time ranged with the smaller provinces. Actually it stands No. 4 in order of provincial population, lacks the ryotwari system which so considerably helps a census, and in general represents a charge more properly classified with the major provinces than the smaller. I suggest therefore that in future the Bihar superintendent be given Rs. 300 special pay.

28. I obtained the Government of India's agreement on this occasion to the earlier appointment of provincial superintendents and but for the war most of these would have taken over before Christmas 1940. Some in fact did so in any case, the chief example being Sind, where Mr. Lambrick in view of the fact that this was Sind's first separate census had arranged to join earlier. More than one provincial superintendent this time has suggested that at least the head clerk might be designated at the same time as the superintendent himself and join on the same date. Thus he too would have time to take leave if he wanted, and provide himself with the census background.

It would be useful too if accommodation for the Superintendent of Census Operations were determined at the time he himself is selected. This would cut out that wearisome stage of "house-hunting" which is apt to characterise the beginning of a SCO's term.

If this were done then the Census Commissioner could arrange for supply of standard stationery to be sent to his office in time for its opening.

29. A pre-enumeration conference before the main work starts is of great value. But to achieve the best results the officers should have been in their charges for at least 2 months. This will enable them to read up previous census records, to absorb past experience as recorded, and to think over the general ideas which I contemplate the Census Commissioner as sending round as soon as he takes over or before. With all this behind them superintendents would be able to take an active part in the discussions. And the more active their part the better the conference and the more valuable it results.

This was notable at the 1941 conference, where the later-joined superintendents played little part and one, who had not taken over till practically the date of the conference itself, could play no useful part whatever. On the other hand, those who had taken over earlier, particularly Sind, were able to contribute effectively to the discussions. If a greater degree of between-census continuity is achieved it should be possible to have a later appointment of superintendents. And even in 1940 the change to the pad system took a considerable burden off the provincial superintendents who were relieved of the ordering of papers, printing of schedules and connected problems, all of which were taken into my office. My point however remains valid namely that superintendents should come to the conference with a couple of months in their provinces behind them. Thus the

proper date for joining duty can be gathered by fixing the conference date and ensuring that superintendents join at least 2 months before.

March in Delhi would be a suitable time for the conference and thus superintendents ought to join at New Year if not earlier.

30. Moreover as Dr. Hutton emphasised in 1931, the duties of a Census Superintendent are extremely strenuous. The touring alone makes a heavy tax on physical strength and it is only fair to give them some time at the beginning in which to get the background and a general understanding.

The physical strain made itself marked in illness on no fewer than five of my provincial team and Messrs. Archer, Bell and Elwin ended up on what was more or less sick leave, the second actually being taken to hospital while Mr. Dutch spent a period in the hospital during the enumeration year and Mr. Scott was laid aside for some weeks at the end of 1940. I myself passed 11 months of 1940 in constant ill-health and frequent pain, culminating in an operation in December. I cannot attribute this ill-health to the census as an origin but undoubtedly had I been in any other post and been able to take early leave I should have been saved a great amount of discomfort and inconvenience. Under present conditions the census is so personal and so intense an activity that replacement during the enumeration year is impossible without serious influence on efficiency.

31. Fortunately I did not have on this occasion despite war-time pressure any of the unfortunate experiences recorded by Dr. Hutton in connection with Baluchistan and N. W. F. P. and throughout the operations Messrs. Scott and Gastrell were left undisturbed—greatly to the benefit of the census.

My officers however did have local difficulties through inconsiderate transfer of their subordinates. This occured most notably in Bihar, where police officers with specific duties as charge superintendents were proposed for transfer without any reference to the superintendent. Another case was where a member of the staff of the Deputy Superintendent Central India was transferred to the Political Agent's office without any consideration of the Deputy Superintendent's convenience.

32. In order to emphasise the connection of the provincial government with the enumeration stage I suggested that other provinces might adopt the U. P. practice of making their provincial superintendent *ex-officio* Deputy Secretary to Government.

This saves a good deal of minor references while it means that the census officer definitely speaks as an officer of the provincial government. The Home Department circulated the proposal to other provincial governments but the response was disappointing; the common answer was that this was not necessary as provincial government officers were fully aware of the census position. I wish this had been so but I have more than one specific instance of a Deputy Commissioner's attitude towards the census superintendent definitely prejudicing the latter's operations. It is time that where the census is concerned every district officer realised that he is not an outside critic but a part of the scheme. If the Government of India were ready to pay for enumerators it would be much easier for everyone concerned, most of all for the Census Commissioner and the superintendents; but since they are not, it is essential that the provincial agencies through which we work and whose influence is so profound should not through their attitudes or utterances prejudice our difficult operations. It is a curious coincidence that the most notable incidents of Deputy Commissioner truculence came from the province which had been most confident that its officers were fully aware of their position in relation to the census.

One of the Presidencies, while not unattracted by the idea, remarked that the proposal was technically impossible. Frankly this attitude strikes me as ridiculous. Far from being impossible it was actually in practice in a major province; and when one reflects on the whole nature of the Indian census, a theoretically purely central matter carried out as regards one stage almost entirely by provincial agencies, one is amazed that hair-splitting of this sort should be indulged in.

The U. P. government followed up this sensible practice by warning district officers that the condition and efficiency of census operations in their districts would be accounted among the features bearing on their own provincial record. I fancy this had a pronounced effect and the high quality of the U. P. enumeration must in some degree have been due to it. This U. P. action should be an invariable feature.

Similar beneficial effects were observed from a Bihar Government letter declaring the importance they attached to census work and calling for special confidential reports on officers' performance in this field.

33. The Census Commissioner should I think be given some *ex officio* status in the Home Department. I made this suggestion in 1939, but without success. Actually however, under present conditions where everything has to be forced through in the minimum of time, the system should be such as to make references to government as easy as possible. The Census Commissioner's general administrative powers were greater this time than in 1931 and I was spared some at least of the ridiculous references which afflicted Dr. Hutton. Still on each of the three main issues submitted to the government it took four months for orders to come and even then only after persistent urging on my part. References of this sort are largely technical and it would be far better if the Census Commissioner himself as *ex-officio* joint secretary let us say, were able to submit these within the department instead of watching time being consumed by clerks indulging in the general processes of uninformative noting. Time is of the essence of a Census Commissioner's work; everything is linked up in a date succession and great difficulties are involved if the time sequence is upset.

If, as I have urged, there were some between-census continuity and problems like the questions etc., were taken up during the decade, difficulties of this kind would greatly diminish, but so long as the phoenix system obtains the Government of India must make it easier for the Census Commissioner to get prompt orders on the few matters which he submits to them.

34. The practice of appointing a Rajputana superintendent should be continued. The States in this area very greatly in dimensions and efficiency and all need and welcome the direction of a central officer. These States could not easily or indeed at all be attached to any provincial superintendent and proper control of enumeration demands the presence of a central officer. His headquarters need not be at Ajmer and this year at the tabulation stage I authorised the transfer of the headquarters to Jaipur. There is no reason whatever to insist on the presence of this office in Ajmer. Jaipur is even more convenient and has the advantages of better accommodation both for office and officers.

35. It is important to secure the fullest and easiest contact between provincial superintendents and the States whose census they may be directing. This should be secured therefore at the outset by obtaining the consent of the Political Department to direct correspondence and contacts between the provincial superintendent—or in particular cases the Collector of a district—and the State census officers.

36. Enumeration is a field process, totally distinct from tabulation. Consequently convenience is a prime consideration and where States are concerned the largely artificial units represented by the Eastern States Agency, Central India etc., should be disregarded and States associated with that province with which they are most connected and to which access is most convenient. Thus in 1941 the C. P. Superintendent conducted the enumeration of Makrai and the Eastern States were divided between Bihar, Orissa and the C. P.

A list of such associations is attached (Appendix I).

37. With the development of State administrations and State consciousness it must be anticipated that more States will in 1950-51 wish to conduct their own operations. There is no point in opposing this and the letter in Appendix II (which had the concurrence of the Political Department) which shows the principles adopted this time in regard to Bhopal, Indore and Rewa, could be taken as a guide. Provided a State has a reasonable standard of administrative competence and quality in its officers and is prepared to accept supervision it should be encouraged to run its own enumeration. Undoubtedly from the theoretical point of view, large groupings are preferable for tabulation purposes and indeed even for enumeration control. But there is no getting away from the natural desire of States to run the census as they run their other affairs. They will be ready to accept the Census Commissioner's direction, and indeed if my experience is any guide, to seek and welcome it.

38. Actually the best association in certain cases would be with the central larger State. Thus Baroda, which has a distinguished record of census achievement, is the natural centre really for the Western India and Gujarat States. This body of States has in the past been attached to Bombay but represents always an awkward and difficult addition to a provincial charge. Similarly Indore could direct the Malwa Agency, Bhopal the Bhopal Agency and so on. And this year, for the tabulation stage, I took advantage of the diminished British India effort and Col. Watts' desire for early release to take up an appointment outside India, to group the small States in Malwa and Bhopal Agencies with the Census officers of Indore and Bhopal respectively. So far as tabulation is concerned this could probably be extended and this point will be discussed further on. Enumeration however is more difficult, for it is a field process involving direction and issue of orders, and States might not relish this form of direction by another State. The attempt should however be made to develop association at the enumeration stage also, and Bhopal and Indore offer suitable elements for first consideration. The Bundelkhand States could possibly be added to U. P. next time. They are most conveniently approached from that province and although this would add to an already heavy charge the possibility is worth a trial. I do not think the Rewa State as yet ripe for this kind of supervision although ten years hence it may have developed considerably. The point should be investigated.

I regard a State association of this kind, if practicable, as the best and most natural course. Where for any reason it is not possible, supervision of enumeration could be carried out perhaps by a member of the Resident's staff at Western India for Western India States and at Indore, Bhopal etc., for the groups of small States in Central India. After all the Collectors of districts are as it were the deputies of the Census Superintendent in the provinces and a Resident's staff could reasonably carry on parallel functions. This assumes of course that Bhopal, Indore and Rewa can carry on their census activities more or less independently, with liaison substituted for control on the part of the Resident's staff.

39. Ten years hence conditions may be very different here too. There may be no Residents in which case this proposal falls to the ground. There may be a much greater degree of association between small States for other purposes and if they have got the length of accepting a common High Court, police services etc., then *a fortiori* they could be expected to associate for purposes of a purely scientific undertaking like the census.

There is great scope here for between-census study and preparation. If the idea is taken up and worked out in the immediately succeeding years it can be all ready for the next census.

40. If by any chance it should be decided to have a Central India superintendent again, I must strongly urge that a more suitable officer be appointed. To

put into a post in which Indian experience and knowledge are so important, an officer with hardly any knowledge of India and whose interests and tastes and ambitions lay entirely outside that country, was neither fair to the census nor to the States nor to the officer himself.

41. *Superintendents' conference.*—This census for the first time saw the calling of a conference of superintendents before the main work of the enumeration year. In the past such a conference had been held if at all, just before the census date. Everyone of the officers who attended greatly appreciated its value; many of them referred more than once to the assistance and enlightenment it had brought. Census officers should get to know each other as soon as possible; I wished to encourage the greatest degree of local discussion and consultation and to a great extent this was achieved. Such a conference should be a regular feature of any succeeding census. Had the operations of 1941 gone the full course I should have called a tabulation conference also. But of the two the preliminary one is the more important.

The likely development of State independence in the census sphere has some repercussions here. In February 1940 my conference covered the 11 superintendents of British India, *plus* those for Baluchistan-Rajputana and Central India, *plus* the 7 major States which had in the past conducted their own operations. This body of 22 was as big as is really practicable for a consultation of this kind. On the other hand new States working on their own like Bhopal, Indore, Rewa and various others may wish also to be present. I do not think the number should go above 25 and if there is any likelihood of such excess I should be inclined to have the newer arrivals grouped together and represented by a single officer. In 1940 for example Pudukota and Sandur and various individual States of Rajputana wished to attend but I put forward the consideration mentioned above and they did not press their request. Where Rajputana is concerned there is no reason for individual States being represented since a superintendent exists for that region. By achieving the maximum association of States with provinces, at any rate for the enumeration stage, the numbers could be kept down and an efficient conference secured. But this point too is one that will need further consideration and would repay preparation and study in advance.

The complexities of State relations and internal organisations make themselves felt during a census and odd little peculiarities of jurisdiction have to be solved *e.g.*, as regards the Thikanas in Rajputana. These feudatories sometimes by precedent conduct their own census up to the enumeration. This means that not only the State but these minor units have to be pursued to appoint officers and so on over the whole range of preparations. All these complications are solved, as so many others are in India, but they do add to the harassments of a census officer's life.

Rajputana is a difficult area in many ways and it would be a good thing if all sorting and compilation for it were centralised. It would be still better if all the States would take serious steps to improve the quality of enumeration and enumerators. In every scientific enquiry the collection of facts is the foundation just as for a house, and in a census that foundation is the enumeration system.

42. Particular difficulty and delay were occasioned over the frontier *illaqas* in Gilgit. The fact that a controversy between the Government of India and Kashmir existed in relation to these *illaqas* was no reason whatever why census preparations or the appointment of a census officer should have been held up so long. From the census point of view the obvious association of these *illaqas* is with Kashmir and to carry on their census as an isolated effort is rather ridiculous. I insisted on the fullest collaboration with the Kashmir census officer who at one time I found was ignored altogether by the Political Agent as no specific permission had been received for direct correspondence. I was able to cure this through a telephonic message but it should never have arisen.

Unfortunately the same punctilio intervened at the tabulation stage to prevent the Kashmir officer receiving information necessary for his tables.

This division of responsibility resulted in a definitely unsatisfactory census for the *illaqas*, for the Political Agent considered it impossible to ask the most important questions in the schedule although they were asked without difficulty in the immediately contiguous regions directed by the Kashmir census authority. As a result the determination for the *Illaqas* falls far below that for Kashmir State in value.

Actually a census should be regarded as a piece of scientific observation and the enumeration, which is the observation process, should be guided only by efficiency. What we do with the figures afterwards is a totally different matter; they can be taken anywhere for tabulation. They can be shown against any heads or in fact treated in whatever way the governments like. But the collection of the figures themselves, the fundamental stage from which everything else starts, should never be subjected to minutiae of procedure. A census enumeration system like a high tension wire should take the best and quickest route and be enabled to cross frontiers whenever necessary.

43. *Printing and Stationery.*—The earlier paper matters are settled the better but this too I hope will have been solved by greater between-census continuity. If not, there should be an early decision on questionnaire, then on size and form of pad and on code number, all necessary preliminaries to making a start. A full discussion of details will be found elsewhere. Unless the complete devolution of printing is achieved there will always be a certain amount of control to be applied to local printing.

This census saw the removal from provincial superintendents of by far the greatest element of

their printing responsibilities through the change-over to the pad system and the concentration of printing at a single Government of India Press and the control of the entire operation by the Census Commissioner. As a corollary to this however I obtained the consent of the Controller of Printing and Stationery to other items of printing being carried out locally at the discretion of the superintendents. In the past all of this had theoretically to be considered first for execution by a central press if possible. The change-over, in addition to substantial economies well over a lakh of rupees, produced greater convenience and flexibility. For in a country of the size of India languages and local conditions differ widely and in an undertaking like the census, carried out through local agencies wherever possible, these differences have to find expression.

44. This position should be continued and where possible carried further. If provincial governments were, as in a logical system they would be, the actual performers of enumeration, the situation would be automatically established and their presses and printing control generally would govern all such matters. So long as this does not obtain however, and the Controller of Printing is still concerned with a branch of printing effort which is theoretically of the Central Government, he should be able to apply and be assisted in applying within the limits of practicability the criteria and methods by which he controls Central Government printing in the strict sense. It is advisable that provincial superintendents should be aware of at least the main general principles. They will ordinarily be officers without previous acquaintance of printing orders etc., and I observed this time certain directions in which economy could probably have been secured had they been more fully acquainted with certain control principles. In addition the application of these principles would save a certain amount of correspondence with the Controller and thus secure convenience to everyone concerned.

45. All superintendents therefore from the beginning should keep the following general principles in mind in any printing they carry out. The detailed points have been taken from various criticisms made by the Controller on provincial printing activities during this census. Perhaps the most important of these or at any rate the most fundamental is the need when inviting tenders to give as close an approximation as possible to the amount of copies etc., required and in general the mass of the undertaking; and the securing of tenders quoted first for a certain number of copies and then for additional smaller numbers. Clearly the basic number thus mentioned in the call for a tender should itself be a reasonable approximation to the total amount expected.

Printing at private presses—calling for tenders - principles.

(*i*) The number of copies required or in general the amount of matter to be printed should be estimated as closely as possible.

(*ii*) If this estimate cannot be made correctly at the time of calling for quotations a clause should be added in the tender form to the effect that type will have to be kept standing for a specified period. This period should be as brief as possible.

(*iii*) As the cost rate for the first batch is always the highest, tenderers should be asked to quote separately for the first X copies and for a subsequent 1,000, 500, 10 etc., copies as the case may be; and also to say what rebate will be given if fewer copies than the number originally quoted are finally ordered.

The figure should be as far as possible of the same general dimensions as the probable total demand.

(*iv*) Rates per page in the size required should be called for and the area of the printed matter a page should contain should be stated.

(*v*) The printers should be asked to submit along with their tenders, a sealed specimen showing the size of type, style of printing and the quality of paper which they propose to use.

(*vi*) Tenderers should be asked to submit their tenders by a specified date and time. No tender received after the stipulated time should be taken into consideration.

(*vii*) Certain presses may not be suited for the execution of a particular item of work and such presses should not be asked to tender; the number of presses invited however should not be less than 2.

(*viii*) Tenders for several items of work may be called for at once and it may happen that no single press offers the lowest quotation for each item. In such cases the work should be distributed, the press offering the lowest rate for a particular item being entrusted with its execution.

As the enumeration time approaches the pressure may be such that it may not be always possible to observe the full procedure of tender etc., but over the great bulk of superintendent's printing it should be possible to give effect to the points above.

46. Superintendents themselves with their offices, and the administrative stationery of compilation offices (as distinct from the actual enumeration slips or other mass-orders) were this time accepted as a normal central supply, which eased matters considerably as against 1931.

It may be necessary however to supply paper in advance to districts for house lists etc.; at any rate the indications from some provinces *e.g.*, Madras are that this may be necessary. Provincial scales have been so tightened up that there is no longer any margin for them to carry our house list paper etc. Probably however the best course would still be to operate by recoupment *i.e.*, districts could use their own paper and recoup later from central resources. Such issues should be subject to a definite maximum per district in proportion to the number of villages; otherwise excessive demands are likely.

47. At my suggestion and indeed from a draft provided by me the Government of India approached all central departments pointing out the importance of a good lead by them and the exemption matter did not present itself in so marked a form as it did, *e.g.*, in Madras in 1931. Nevertheless the tendency was noticeable for Government of India servants to try to dodge census duties in the provinces

and the Survey of India in particular showed up rather badly in the U. P. Calcutta offices of the Government of India were also unsatisfactory and the Reserve Bank seemed to consider itself above any kind of service in the census; and in general if the Government of India wish this remarkable system to continue they will have to see that their own people give a lead instead of being in most areas away from the Government of India's own headquarters, discreditable shirkers. The main fault is in the heads of the offices whose responsibility it is to see that the Government of India's orders are carried out.

48. It is not generally realised how unfortunate such action is. In the provinces we have the whole body of provincial officers working overtime and spare-time unpaid on the census which is a central subject. When they see central government employees dodging their plain duty as citizens they feel, quite naturally that they have not been fairly treated.

The Collector of Customs in Bombay tried to secure exemption this time but I resisted this and the C. B. R. accepted my protest. After all we do not lay specific duties on such men; what we do is to import his authority into the census. We put as it were his red robe over it.

The principles are simple enough. There should be no general exemptions of any kind except for serving soldiers and police. Even these of course can be used where the enumeration of soldiers or policemen is concerned. Exemptions can only be of individuals for individual reasons such as ill-health etc. Furthermore, such exemptions should be in the complete discretion of the local authorities; there should be no question of the Government of India interfering to secure exemption for its servants in a province. This position is cardinal. We place a responsible officer in charge of enumeration in each province working in liaison with the provincial government and there should be no appeal as regards exemption from census duties beyond these authorities.

49. The difficulty about areas is chronic. Survey determinations are always improving and the improvements, where frontiers are difficult or undetermined may be considerable. It is far better to have this area business taken up thoroughly and settled between 1948-51 *i.e.*, column 2 of Imperial Table I should be settled by the 1st January, 1951 and left unaltered thereafter for that census.

This difficulty does not affect only inter-provincial or State/province boundaries. In the N. W. F. P. for example there exist apparently long unsettled questions on where exactly certain town boundaries run or for example in what particular local area a large jail may be. Since it is an accepted principle that urban and rural areas are kept distinct throughout it is most desirable to get these and any other boundary question cleared up before the superintendent begins.

50. This matter of the lower population limit for what we admit as a town shows, in Shakespeare's phrase, an infinite variety in India. Bhopal State admitted to the urban category places of 2,000 population whereas in Madras and elsewhere places of over 5,000 were freely disregarded. Even allowing something for a greater urban addiction, it is impossible to believe that these villages have any serious claim to be regarded as towns for all-India purposes. It seems to me therefore that the general tables should decline to recognise anything falling below the minimum of 5,000. Similarly for the provincial volumes and in these volumes, for any States for which figures are given. If a State, in its own private volume, chooses to class some microscopic units as towns it may do so if it likes but the volumes in the all-India series should adhere to a common minimum. This will mean a certain degree of variation from the past, *e.g.*, in the case of Mysore but that could easily be met by showing the no longer qualifying places in a subsidiary table and making the comment on the flyleaf that for facility and comparison the common tables observe the same effective minimum.

51. *1941 changes* :—This census saw several radical changes in methods. I have commented elsewhere on the paralysing effect of the phoenix system; what should be the natural scientific progress in a scientific subject, namely small-scale investigation, experiment, check, further experiment and so on is rendered impossible and India's Census Commissioners have either to decide to experiment on an all-India basis or abandon experiment and change altogether. In no circumstance was this more noticeable than in the actual method of enumeration itself. The one-night idea had been taken for granted possibly on the theory that whatever was done in the U. K. must be right for India.

Incidentally, where a very mobile population is concerned-the one-night theory even on a literate householder basis has developed pronounced weaknesses; for the actual fact of a family's or person's whereabouts on a particular night will in many cases have no bearing at all on his normal residence; and where this applies on a large scale the distortion may be considerable. In the United Kingdom the effects of this distortion have already produced serious reflection and it is not impossible that future censuses may see some endeavour there to get nearer to a normal residence enumeration. The most mobile population in the world, that of the U. S. A, is not censused on a one-night theory and the conception of normal residence is one to which other countries than the U. S. A. will have to come if they wish their census determinations to present a picture of normal conditions of local association and residence.

52. Now India, consciously or unconsciously, had realised that with a largely illiterate population a householder census was out of the question. It realised also that having to use enumerators meant that time had to be allowed for producing the basic

record; and finally had used wherever possible existing local agencies in its system. In other words everything was prepared for a system based on normal residence and had the one-night theory not misled everyone India might by now have had a well developed and tested normal-residence system of enumeration, and indeed might have gone some way towards a continuing census. The one-night theory however came in to produce the almost fantastic position which sent enumerators round their blocks all on one night with instructions to cancel any entry of a person absent and insert an entry of new-comers. Theoretically this was admirable, if unnecessary. As soon however as one gives it a detached glance grave difficulties appear.

The original record prepared by the enumerator over a period of days or weeks was carefully checked, tested, revised and so on. It was so to speak open to constant test. The record of this final night however was hardly checked at all. Theoretically the supervisor was covering his circle and the charge superintendent his charge at the time of the final count but a slight acquaintance with the dimensions of the ordinary rural circle for example, and the distance to be covered at night time if supervision was to be effective, is enough to show that as a practical measure no supervision on this final night was comparable in any way with the kind of supervision exercisable at the preliminary enumeration. Anyone who had actually conducted a census under the old scheme could not fail to have this fact very clearly impressed on him. The system in fact was gravely open to corruption and held out both hands to it and had only been saved in the past by the fact that the great bulk of Indians were decent and honourable citizens. That was the condition of this so-called one-night count which simply lent itself to false returns by citizens with or without the enumerator's connivance.

As I said the Indian citizen in the past could be relied on but with the steady increase in communal clamour over census results and the enormous importance given to the community totals by the new political system, and with due regard to the violence of language used by persons in prominent positions, it was impossible not to foresee attempts to gerrymander. I myself saw them at close quarters on a small scale in the Telugu-Oriya agitation over Ganjam in 1930-31 and the possibility of improper action on a serious scale could not be dismissed.

53. Connected with all this, and another unfortunate effect of the one-night theory, was the enormous number of our enumerators. Since everyone was supposed to cover his block, which meant visiting every house in it, whatever the conditions of the area, or the season, in the course of a single evening, that block could not be of very great dimensions. This meant that more enumerators were required and the number employed in 1931 was of the order of 2 million. These features meant that in many areas shopkeepers and outsiders of all kinds had to be pressed into service as enumerators and the net had to go far wider than village officers, schoolmasters and persons of similar standing and responsibility. Hence the possible entry of error or faction through less suitable personnel.

Where travellers were concerned it is impossible to say how many people who should have been counted were not or how many were counted who having been counted already should not have been. Of necessity also this travellers enumeration was done against time, since passengers wished to catch their trains and against great difficulties of language, etc., as when a ticket collector in South India had to enumerate a stalwart Pathan. When one reflects on the great increase in the travelling habits of the Indian public and the advent of long-distance motor buses, as represented for example by the long line that stands opposite to the Delhi station marked " Delhi-Multan ", " Delhi and all Punjab " and so on, one is forced to the conclusion that the application of the one-night theory this time would have represented an intolerable strain on the enumerating staff and an enormous and unascertainable amount of duplication, omission or error.

54. India has been a victim to theory in many ways but in no way more unfortunately than in the census. The one-night theory is in fact the direct product of a system in which the householder is the enumerator. When this is so then the one-night effort follows automatically since every householder can be commanded to do his work on a single night and must be so required if difficulties are to be avoided. And when India has a literate and educated population of householders it may be possible to adopt such a system. At present however she has not, and she has to operate through enumerators who have to explain the questions to ignorant and often illiterate people. This process of questioning may sometimes spread over a considerable time, sometimes be pushed through quickly, but at any rate when bound in the fetters of one night it represents such difficulties under present conditions as to be no longer justifiable.

And apart from the question of literacy communal rancours would have to have greatly diminished before a householder census was possible. A moment's thought will show that with feeling in India as it was in 1941 a census on the British type would have been absolutely worthless for it would have simply lent itself to corruption. Here enters the strength of the Indian system of 1941 in which genuine check is possible and is applied.

Once away from the old practice there is no longer any need to hunt for a night graced (D. V.) by a full moon, and undisturbed by large festivals (to discover any day which did not carry somewhere in India some element of disturbance of this sort was impossible always). And finally it will make it possible to relate India's census to the same date in every decade presuming a common census season

is retained. The statistical convenience of this is obvious.

55. Another important aspect is that of possible extra cost which formed the burden of the series of notes which culminated in a Home Department letter [No. 45/14/38-Public of 9th November, 1938] to the provinces. There were strong demands in 1930-31 in Madras for payment of enumerators. I refused to consider this and secured the backing of the Madras Government for the refusal. But it is idle to blink the fact that what used to be in the old days if not welcomed at least accepted as a function by the private citizen is becoming increasingly regarded as a corvée to be evaded if possible and scamped if inevitable. Yet any general payment of enumerators is out of the question in India unless their numbers can be enormously reduced. The alternative therefore if we are to maintain efficiency and avoid serious difficulties is to integrate our system with existing provincial systems to the greatest possible extent and get the provincial systems to play up. The letter of November, 1938 may be taken to represent the latter feature, the non-simultaneous enumeration the former. By departing from the single-night theory we were able to a much greater extent to confine the enumeration work to persons either in the service of government or in association with it.

56. My own view stated more than once is that the ten-yearly convulsion represented by the ordinary census is a primitive method and that an up-to-date country whose administrative and statistical system is of the proper quality should be able to achieve the population record it wants on a less convulsive and expensive scale. After all what does a country need in the way of population knowledge ? Surely the general dimensions are all that is required for administrative measures. In any case the rows of digits which appear against countries' populations in published statistics have really no meaning after the first one or two significant figures. Year Books give the population of India for example, its various provinces etc., down to the units figure. This units figure lost all significance by the mere occurrence of vital events over these great stretches of the country within five minutes of the completion of the one-night count. The tens and hundreds lost their significance within a month and finally no conceivable system of census enumeration could yield significance in the last digit of a nine figure total and to pretend that it does or could is to nourish an illusion. When citing populations even of provinces far less of India, mention should be only in millions and for smaller units or States in thousands. Quite apart from the mathematical justification for this, a proper recognition of possible approximation would have a pronounced educative effect ; if public and administrators realised that a population in millions for India was all that could be stated they would realise that meticulous methods might possibly be replaced by others, easier and cheaper, which while not professing to give a figure to units or tens would yield it very satisfactorily to all the degree of approximation required.

57. In fact what is required is a new vision. In India, as in other countries, there is too great a tendency to look on anything stated in figures as possessing a different and higher value as against the same thing put in words, and the country is full of percentages taken to two places of decimals where the units digit or even the tens lacks all significance. This is what one might call spurious accuracy. If it ended there it would be bad enough, but unfortunately these figures form the basis of arguments, charge and counter charge, demands, asseverations and all the gamut of dialectic. I remember sometime ago an acrimonious public discussion based entirely on figures possessing so wide a margin of error as to lack all value. This has a clear import for census determinations. It points in the first instance definitely to the limits that are inevitable in any census : I described this once as the conflict between range and penetration. Range is of the essence of a census and penetration in any depth is rarely possible to a blunt instrument such as a census enumeration must inevitably remain. Here enters *e.g.*, the question of the usefulness of the census in present conditions in such matters as infirmity determination. We have gone beyond that. Similarly ethnological and allied enquiries have really passed outside its scope and should be left to the direction of experts in these subjects and the specially trained executive personnel they will be able to command.

It points also in the direction indicated by paragraph 56. It is doing a positive disservice to civic understanding to use these terminal digits at all, and one result of limiting our citation to significant figures would probably be to remove the figures after the decimal point in the great majority of percentages springing from census figures.

And finally it points to the great but often forgotten truth that in every enquiry there enters an original act of observation and a process of treatment. In our census, the original observation is where the enumerator puts his questions to the citizen and records the latter's answers. Since no subsequent processing can replace or improve the quality of observation, it follows that the primary point in all investigations is to raise the quality of our observer and of the human sources from which he gets his information. The fewer observers we have the better, since obviously we are far more likely to achieve relative uniformity of approach and record with a thousand men than with a million. And of course such uniformity of approach is of the greatest importance in raising the standard of statistics.

58. Thus we come to the first element of change, namely to reduce the number of enumerators as far as possible by eliminating the uninterested, unwilling, or unreliable elements and confining our staff to men with some degree of public responsibility, administrative tradition or professional pride—men

who had something to gain from a competent and honest record of work and at any rate were amenable to a degree of official control which made a defective record a possible source of censure and prejudice to them in their ordinary careers. In many parts of India though not unfortunately in all, an admirable system exists readymade in rural parts in the form of village officers and circle inspectors, to use the Madras terminology, or officers corresponding to them in other provinces such as the Punjab, N. W. F. P. and so on. The old system made it impossible for these men to be used to the full ; for insisting on a complete traverse in a single evening meant that they could be given only a fraction of the village of which they had a profound knowledge and that recourse was necessary to other and often far from suitable elements in the village. The fact that enumeration is unpaid work must also be borne in mind. A system which would enable the village to be entrusted to the village officers with perhaps the schoolmasters and one or two other men connected with the administration or definitely reliable would secure a far more dependable body of enumerators and also men far more readily brought together for instruction and training.

It was significant that in the areas where the changes in system was least marked and the numbers of enumerators were reduced least, the quality of enumeration suffered. Thus whereas Rajputana complained of the difficulty of the questions and the contractions etc., Assam, much more remote and difficult in many ways, found the questions and the contractions both understood. The difference was that Assam had gone far in rationalising and getting rid of the weaker vessels among enumerators whereas Rajputana for one season or another was not able to achieve anything in this line. Similarly C. P. enumeration encountered more difficulties than the other provinces and for the same reason.

59. This led clearly to the first requirement ; the one-night theory ought to go. And this census has seen its going.

60. I should have liked to go even further in my changes and indeed to have gone the lengths indicated in my Madras report of 1932. And if India's census is to be properly rationalised such developments will have to come. Working however against time with a team of officers who though capable and willing had no previous experience (with one British India exception) and were diffident even about the changes prescribed, it was only wisdom to have regard to their doubts, hesitations, temperaments and inexperience. Even as it is however some significant effects of the change can be gauged from the fact that the number of enumerators in Madras was reduced from over 370,000 to 82,000 *i.e.*, by 4/5. A connected change, for which Mr. Elwin must take considerable credit, was that the number of charges was brought down by more than half through making charge and tehsil coincide. In other words, in this important province we brought our enumerating staff down nearly to the limits of the amenable and competent personnel who could be relied on to work unpaid. If the logical extension suggested by myself in 1932 and pressed again by Mr. Elwin on this occasion is carried out the number of enumerators can still further be reduced and be in effect the same as the number of village officers.

A similar story comes from other provinces. For example in the Punjab the number of enumerators in 1941 was 71,000 against 146,000 of 1931 for a population ⅓ less.

61. Quite apart from these general reasons which are of continuing validity, the advent of war conditions made it practically certain that a census on the old lines could not have been carried out at all in the larger part of the country.

For one thing, the substantially increased population would have meant an additional number of enumerators with all the problems of control which they involve. It would have meant for the railways, affected as they were by the heavy war-time traffic, the old-time clearing out of every available man on to census work on the census night. It is almost certain that the railway companies would have struck at this. Instead of control and check work being more dispersed it would have meant once again, theoretically at least, the activities of government services on a particular night and the following day being concentrated on this one effort.

Another circumstance militating against the old method was the general insecurity prevailing in the North-West Frontier where quite frankly no enumerator would have gone out of his house after dark and Hindus would have been reluctant to assume any activities at all.

Finally with communal excitement and passions at the height manifested in certain provinces and indeed to some extent all over the country, the old system would have led in many areas to positive riots and to worthless determinations.

The one-night theory in effect was a kind of fetter constricting the free movement of a natural system. The fetter removed, the system can at once move in suitable or preferred directions and some such moves were made at this census. The main one, the adoption of the pad system has been discussed in a separate section but in general the foundation was that having raised the standard of our enumerators and shed as far as possible the weaker vessels, we could at once contemplate developments.

62. India is in some ways a country, in others a continent ; which means that both unity and diversity appear strongly in the general conditions affecting its life and activity. One might say that while purpose is an expression of unity application should be one of diversity and the distinction could be well applied to the Indian census. It is important to preserve unity of purpose and of standard. But where enumeration is concerned we have in essence to get varying systems to serve our common plan

and if that service is to achieve the maximum of convenience and suitability it must pay regard to the diversities of a continent's life.

Take for example the provinces of Bihar and Madras or Bihar and the Punjab. In the southern and the northern provinces the great bulk of the rural areas are administered through a closely articulated system which finds in every village or group of villages, officers paid by the government familiar with the conditions and the very population of the villages, accustomed to handling complicated returns, and in general admirably suited for functioning as an enumeration agency. Indeed it is probable that in a good Madras or Punjab village or in other similar areas we reach as good census enumeration as the world can show. Above these village officers are other revenue subordinates of higher standing who are obviously well suited by the conditions of their ordinary activity to take supervisory parts in the census scheme ; and so on and so on. In Bihar on the other hand nothing of this exists. There are no government officers in the villages. There are no revenue inspectors or kanungos ; the only government agency pervading the country in the same way is the police and the Bihar census system has been based therefore on the police thana. This is unfortunate in many ways. Sub-inspectors of police are busy officers ; their connections with the public are not of the kind best designed to secure willing or cordial cooperation or free disclosure of personal details. Surely there should be some better course possible in this province. In the adjoining province of Bengal where the Union Board is a feature of the local self-government, we took the step of transferring the police census role to the Chairmen of these Union Boards. This meant in effect a non-official basis but in the past in any case these men had in effect done the work for the sub-inspectors of police. Now we cut aside this camouflage and repose the responsibility on the men themselves. Wherever possible we expressed it as an *ex-officio* function *i.e.*, if an incumbent was changed his successor as President took on the duties. There was general appreciation of this step and some of the best work was done by these Chairmen of Union Boards. Bengal was favoured too in the presence of government servants known as the circle officers whose duties suited them admirably for supervisory effort in the census scheme. Thus Bengal saw a radical change in its method of census administration.

Union Boards do not characterise Bihar, to the same extent. What does characterise it however are the huge and wealthy permanently settled estates such as Darbhanga etc. These estates have their own revenue hierarchy going down to the villages and corresponding to a large extent to the village officer systems of other provinces. I can see no reason why the census scheme should not be tied firmly into these estate services and all the personnel of the estates be required to carry out the various degrees of census effort which fall on their parallels in British India.

63. The problem of the census of India is one of mass. We are dealing with a fifth of the population of the world and in an operation of astounding complexity and skill we have achieved its enumeration decade after decade. It is important however to keep in touch with developments of both public attitude and capacity, and anything less suited for so difficult an undertaking than the present system by which the Indian census is carried through could hardly be imagined. Dr. Hutton in 1931 showed the defects of the phœnix system and that it has continued for another ten years is not to the credit of the Government of India. I do not think it can possibly continue for yet another decade. The system is extravagant of human capacity and endurance. It is in fact a kind of sweated labour but if proper thought were given to methods it would probably be found possible to develop the power and scope of the whole undertaking and yet reduce the labour and remove the sweat and keep the expenditure within limits.

64. Even on this occasion I have secured substantial economies over 1931 ; these are masked to some extent by the heavy increase in cost of paper and connected items but remain considerable. Unless the Government of India take thought however they will not be able to continue on the old lines. For one thing provinces may not again be prepared to play the part they have in the past, and the poor return they received this time for their efforts in enumeration is not likely to have acted as an encouragement. Then methods should change along with developments of the people and agencies. Yet methods are not things that can be or should be lightly changed when an entire continental population is in question. Efficiency and economy alike counsel preliminary test and experiment. This is precisely what is defeated by the present system which could be described as a mad rush to extract certain figures and then an equally violent haste to remove all knowledge of how the figures were obtained.

65. To take things for granted is the negation of the scientific attitude. Yet this is precisely what the present system does. It takes for granted that the census can be done cheap and at the last minute. There has been no real thought devoted by the Government of India to the problems of enumeration for 60 years ; all that has happened has been a succession of Census Commissioners struggling against time to apply old systems to new conditions. I have carried through changes this time but for which the census would not have been possible at all ; these were not in any way facilitated by the phœnix system and the Government of India cannot always count on having an officer who is prepared to innovate on so large a scale at such short notice.

66. I said earlier that all that is necessary, and in fact all that census figures can give, is dimensions and that this preoccupation with insignificant digits should disappear. Once this point of view is accepted we come to the point that apart from the fatuity of the one-night record in Indian conditions there

no need even to preserve the reference date. I did so this time partly because the magnitude of the change would have been too much for those with whom I had to deal. But I have noticed conversions among those who had first doubted and the Madras superintendent for example strongly counsels the scheme I myself put forward in 1930 of taking the census of a province at the time most suited to the administration and other conditions of it. There is all the difference in the world between a country, that is prepared to pay for its census like the U. K. or the U. S. A., and a country that is not, like India ; so long as India is not prepared to pay for this operation she is bound to take the keenest regard for the convenience of those who carry it out for her free.

Apart from this powerful consideration, it is only a matter of methods and control to get an accurate determination for each unit at the time suited to it. The determinations would all be within one calendar year and the different seasons suitable and would furnish reliable totals for the country. After all, Bengal, U. P. and Madras are bigger than any country is in Europe except Russia and Germany, and differ as widely in many ways in conditions, and for example though they have no national frontiers between them are far more widely separated. We should in fact treat these major units of India on a provincial basis in the true sense of the word *i.e.*, as provinces and not force them unnecessarily and undesirably into an inconvenient unity of time or method.

67. Different provincial dates of course imply provision against enumeration in more than one province. Here however a normal residence criterion could easily be applied and would solve the whole difficulty. Indians from other parts of India would not be enumerated in a province at all ; the only outsiders would be those without a normal residence in India *e.g.*, commercial travellers, tourists etc., etc. All this is only a matter of methods, and given some between-census continuity this system could undoubtedly be worked out and held ready for the next enumeration. Without that continuity it is unlikely that this would be possible.

" Rural administration has a tempo of its own. Given ample time, the work will get done. But time must be allowed ". I quote from Mr. Dutch and one of my chief objects has been precisely to suit as far as possible the census tempo to that of administration in its various spheres and at its different levels. With so forced and artificial an activity as a ten yearly census under present conditions this suiting of tempo is not easy and cannot be complete. But it should be the great objective.

68. The objective of the 1941 census could be summed up therefore as to make a record of the population as far as possible at their normal place of residence and related to sunrise on 1st March, 1941 ; in working towards this objective the fullest regard was to be had to the nature of the provincial or state system and the utmost endeavour made to integrate census units with units of that system. The actual periods occupied in the enumeration process varied therefore with the province or State. Thus Bihar with its lack of government village or pargana etc., officers had to start earlier than its neighbours while Bombay, the Punjab and N. W. F. P. felt themselves able to do a run-through enumeration in a few days concentrated on the reference date. Other provinces and States for the most part took a ten day period for the enumeration and followed this up by a subsequent round to provide for births and deaths which had occurred between the enumerator's visit and 1st March. Once a person had been recorded at his place of residence there was no reason why he should be struck off merely because he happened to be away at the census date and this for example accounts for the case of the M. L. A. who declared in the Assembly that he had not been enumerated in Delhi. He and his family were already on record in Bihar. To introduce a thorough-going normal residence criterion over the whole of India in the brief period at my disposal with all the pressure on time involved was not practicable and to some extent the 1941 enumeration could therefore be described as a compromise between a *de facto* and *de jure*. The standard instruction was that a person enumerated at one place who subsequently departed should not be struck off unless he would not be back by the 1st March.

A simultaneous enumeration was applied only to elements of the floating population. The great bulk, over 99 per cent. of travellers fall within the category of persons whose record against their houses would remain. The small residue were collected in hotels, lodging houses, caravanserais etc., and the tramps, sadhus, boat-dwellers and the like, in whose regard no " house " record is possible were roped in also at this simultaneous count. This however represented an infinitely smaller degree of effort than the old system under which the one-night visit applied to everyone of India's hundreds of millions of people—applied theoretically, for as already remarked its practical application was a very different and much more doubtful matter.

69. No census as I said more than once in broadcasts and other pronouncements, can rise above the level of the people and it takes two to make a census just as it takes two to make a quarrel and almost everything else in which human relationships are involved. Unfortunately in India this census duality is little understood and the common idea—and not only in the less educated circles—seems to be that the census enumeration is purely an official performance. Actually of course, in any census, anywhere, the citizen's part is the more important and fundamental, for our enumerators are primarily scribes and it is the citizen's collaboration which produces the valid record. It is important to get this point across, for on its proper appreciation depends the validity of any census record. If the regrettable phenomena which showed themselves in Lahore were to occur in the U. K. the whole census would crash

70. Household schedules, which correspond to the U. K. system, used to be adopted for Europeans and similar classes in India. In Madras I abolished them in 1931 and this abolition was general over India on this occasion though here and there they were employed in particular cases. Unless communal passions can be kept in check the U. K. system is impossible for India, quite apart from other considerations; if, as in Lahore, householders are prepared to lie freely about the numbers in their dwelling no census could ever repose itself on the householder's word.

Actually, experience all over India has been in the past that the household schedules were badly filled up. This for example was the case in Kashmir where a few were used in Srinagar, and if I were to recount the answers given by certain distinguished persons to the census questions there would be general amazement. Though census questions are framed with the utmost care to make them explicit and understandable, there will always be a certain amount of difficulty, at a first reading, over such questions as dependency, means of livelihood. The householder confronted with the schedule does his best in the 2 or 3 minutes he gives to it but often misses the point of the more intricate questions. The enumerator on the other hand has been trained and practised on these very points of interpretation. Consequently he knows what he is after and extracts the correct information. One of the abiding difficulties of a census is that it demands in such matters as means of livelihood a particularity that the ordinary citizen never uses in his ordinary life. If we have to classify occupations into the 240 heads, comprising for example half a dozen varieties of agriculture, distinguishing between a household servant and a chaprassi and between a private chauffeur and a taxi driver, then we must have all this on our enumeration record. Similarly a bus driver for our purpose is quite different from a lorry driver in the employ of a business concern and a lorry driver in a cotton mill for us is quite different from a lorry driver in a steel mill. Yet in ordinary circumstances, when either the taxi driver or bus driver or lorry driver appears in a court or wishes to register a document or for other purposes has to give his occupation it is quite enough if he says " motor driver; " so one can understand a natural tendency to take this as sufficient also for the census.

There is no doubt that a trained enumerator is a more efficient vehicle every time than the householder and this applies anywhere, not only in India.

71. A growing mobility produces difficulties for the census, enough in themselves as I have remarked to render the old Indian system impracticable but presenting problems to any counting method. This applies particularly to urban regions, and enumerators experience not unnaturally the difficulty of finding people at home. Our men are unpaid spare-time workers and it is hard for them to have to pay repeated visits to catch the head of the household at home. If the questionnaire can be determined much earlier and the press and other agencies played their real part it might be possible to get the answers considered by every householder in advance so that he could instruct his wife or other person likely to be found at home or leave a record for the enumerator. This would at least give the enumerator the main materials on his first visit. The difficult points here as elsewhere are connected with means of livelihood, dependency and industry, and if a householder left an exact description of these points with his wife then there would be no need for his actual presence. Any wife can give or ought to be able to give her husband's age, birthplace, mother tongue and literacy.

Here enters of course the purdah difficulty, since over much of India, particularly the north, the women of the household would not be accessible to a male questioner. Still a good deal could be done in this direction.

Women enumerators are one answer and in a rational census which has got rid of the one night theory, it should be possible to make much more use of this sex which incidentally has much more time as a rule than the men at least in the more educated circles from which we should probably draw. Here is a piece of civic service for the women of India.

An interesting feature this time was that 12 English and Parsi women volunteered to act as enumerators in Calcutta on this occasion to deal with blocks in the more prosperous residential quarters to which household schedules had formerly applied. Six of these were actually employed. Let us hope that the portent will have become a main feature by the time the next census comes.

72. In Turkey and Persia, the bull was taken by the horns and I believe that census efforts there actually covered a requirement that every person should remain within doors at a particular time until the census enumerator has visited him. If India was prepared to go this length and could raise the number of efficient and reliable enumerators required, a one day census might be possible but the probabilities are against.

73. In one province, Sind, a normal residence census was in fact carried out. The essence of this was that the house list and first enumeration were combined but only persons with a residence in Sind were recorded at this time. This record, taken in the autumn of 1940 was checked, and at census time in February, 1941 revised with reference to births and deaths and at this time also persons without a normal residence in Sind were enumerated. This innovation was made in order to widen the field of experiment to see what prospects and methods were indicated for a normal residence criterion in an Indian census.

Thus a wide field of experience is on record for those who conduct the next census of India.

74. One general principle that suggests itself is that if the enumeration is spread evenly round the reference date so that equal numbers are enumerated

before and after it there would be no need for a subsequent round to check births and deaths. Statistically the influence of these over a period thus spaced, and not extending beyond say 10 days could be safely disregarded. And when one remembers that what we want are dimensions and not a purely theoretical figure down to the units digit it will be clear that this particularity could be dispensed with—as was done for example in the N.-W. F. P. where the short run-through was evenly spaced round 1st March.

75. In any all-India census the training of enumerators must be to a large extent through their supervisors, charge superintendents etc., and what happens is that the superintendent in his tours through the province holds classes at which revenue officers and others designated as charge superintendents or supervisors have expounded to them the questions and the mode of answering. A few local officers may be present but the bulk of instruction has to be at second-hand. When one considers the old schedule system with the large sheet of paper it involved (20″×8½″) it was clear the enumerator cut his teeth so to speak at the actual enumeration time. Now the great desideratum in any enumeration of the Indian type is confidence on the part of enumerator. He should feel that he knows his stuff and that he has been grounded in it before ever he goes into the field. This adds enormously to his efficiency, to the confidence of the public in his work, and appreciably diminishes the time he takes. In fact the idea should be rather of an examinee going up for a test. During the test he can have no assistance and therefore he is given assiduous practice beforehand. I emphasised the importance of such practice from the outset and had the Government of India not taken four months to pass their orders on the questionnaire we should have been able to use the slack months of the hot season for such practice.

76. The pad system lent itself admirably to a greater degree of preliminary practice. To begin with the entire census record was embodied in a slip of paper 6½″×4½″. This meant that enumeration could be practised on the back of an envelope, on an old piece of paper, on a slate or on a blackboard. The enumerators' guide, on my particular instruction, was invariably made up in booklet form with the text of the questions on a detachable sheet. This meant that he could carry the questions in his pocket with ease and convenience and refer to them at any time.

The simplicity of the slip meant that it could be reproduced with the minimum of difficulty on any flat surface and thus in a well-filled schoolroom or hall even the persons at the very back could follow everything said on the platform since a reproduction of the slip was on the blackboard in sight of all. There was no entering of long column heads etc., etc. Mr. Elwin in Madras devised a small folding blackboard on which a replica of the slip was painted. He took this about with him throughout his tours and greatly facilitated his instruction classes. I passed on this idea to other superintendents all of whom were loud in its praise.

The more our enumerators are familiar in advance with the job they have to do the better and more quickly they will do it, and our census procedure should always have this in mind. If as I hope, the slip system is continued and the code system developed there is no reason why ten years hence every village should not be done by one or at most two men familiar long in advance with what is expected of them.

77. A common reply in India to any suggestion for change is that the country is not ripe. Even my own superintendents at the conference in Feburary, 1940, were doubtful whether the country was ripe for the pad system or for the contractions I had introduced. I insisted on their application however and over the great bulk of the country the doubters were convinced and the slip enumeration was a great success. Incidentally men with previous census experience greatly appreciated the saving in scriptory labour and the general increase in convenience. One Patwari in the Punjab even made a brief calculation of the number of hours he would be saved.

After all, if a man is intelligent enough to put our census questions and record the answers he should be intelligent enough to use a natural and intelligible system of contractions. In 1931 Dr. Hutton suggested that answers might be represented by actual numbers, in preparation more or less for a possible mechanical tabulation afterwards. I considered this myself but the general view of the superintendents was that this represented too great a step. As it was they who would have to carry on the enumeration I did not press my point then but did insist on such contractions as that any answer of yes should be represented by a √ and any answer of no by a X. Similarly for the civil condition question symbols were introduced and for such matters as partly dependent or partly literate the initial letter of the word "partly" was prescribed.

As a part of this development, I was at pains to cast the questions in such a form as to permit wherever possible of answer by yes or no. Thus the birthplace query was framed not "Where were you born?" but "Were you born in this district?" Since over 90 per cent of the people found in nearly every district have been born within it and in some cases well over 90 per cent, this casting of the question meant that 90 per cent of the answers could be given by a simple √. Then the dependency question was phrased "Are you wholly or partly dependent on anyone else?" This meant that for the entire population of India every answer to this question was either a √ or a X or P.

Not all questions of course can be so completely accommodated in this way, for example community or means of livelihood, but it is important to make whatever use of it one can. After all if we save the enumerator six inches of writing and he has 400 people to cover we have saved him 200 feet of scriptory labour. And the saving must have been well over 6″ per head.

It is noteworthy that in Assam and Bihar, both of which have considerable areas that can be classed as backward and difficult, there is no suggestion that symbols were beyond the comprehension or should be avoided. This is a significant testimony and I am quite satisfied in my own mind that symbols are not only practicable but good and can, as Mr. Archer for example suggests, be developed. In any case they have begun this time and ten years hence will see the fruit of this beginning.

78. I suggest that next time the opportunity be taken to simplify at least some of the answers to say the means of livelihood question. When we consider the heavy proportion of the Indian population occupied in agriculture I do not see why we should not prescribe 4 or 5 numbers to represent the various categories of this we recognise. Other means of livelihood can be written in full but even this limitation would represent a most substantial saving. And in general I recommend some further steps in the direction of semi-coded replies. If as I have suggested elsewhere, the census is integrated to the full with provincial systems and all outside enumerators are dispensed with, leaving us with a core of men accustomed to handle forms etc., I am certain that we could greatly extend the practice of simplified answers. Incidentally it would as I have mentioned elsewhere, reduce the amount of space necessary to take a full record and when one multiplies by approximately 400 millions one arrives at paper savings alone of the dimensions of a lakh.

79. Mechanical tabulation on the lines of the pioneer venture carried out this year for Delhi should be possible in every large city where there are machines. If this is done, enumeration in these cities at any rate should have the answers given as much as possible in terms of code numbers.

80. Every census year has seen the old nuisance about tribal enumeration and 1941 saw communal activities at their height. The religion return in respect of tribes has never been anything but worthless and this time a step towards reason was taken in basing the imperial table on the community and not religion. This at least gave us the important point of the number of persons of tribal origin. Any who care can then argue about their religious associations, For the purpose of the census it is the tribal aspect that is important. An attempt was made to improve the asking of the question in order to elicit a more accurate response but interested clamour from such bodies as the Hindu Mahasabha resulted in its abandonment; it was not worthwhile, since we were tabulating on a community basis in any case and enumeration was beset with other problems of a war-time census, to waste officers' energy and further attempts in this unpromising direction.

81. Attempts were made on this occasion to have communal agencies recognised in the enumeration stage. I declined to countenance this and early in the operations sent to all superintendents a copy of a letter which a U. P. reference had elicited. Extracts from this are given below.

> It is essential that all census officers during enumeration should be absolutely detached from any kind of partisan activity or assistance. It is our duty to secure as faithful a record as possible and it is the duty of the citizens of the country to give us individually the materials for that record. The matter is one between the census officer and the individual citizen and while we will make heavy calls on the assistance of the public we must avoid any kind of association with organised communal bodies. We do not need such help, it would lead to duplication and friction rather than to efficiency, it would almost certainly cloud our records and expose the census to the charge (however unfounded) of having been mixed up with partisan activities.
>
> There might appear to be a certain conflict between the necessity of taking advantage of all civic assistance and the attitude proposed towards assistance from organised communal bodies. The distinction however is of importance and must be kept clear. In essence the position could be summed up as that our enumeration should be like Cæsar's wife, above reproach. Consequently while every citizen should be our ally we must observe the greatest circumspection over any question of association with organised bodies which have a communal or other definite partisan connotation. The true way in which such bodies can help is by impressing on their members the duty of each citizen to play his part readily when called on, either as an enumerator, supervisor etc., or as an individual answering the census questions, and the need for a high standard of accuracy and detachment in all such activity.
>
> I would like this attitude applied throughout. In some parts of India there have actually been suggestions that two enumerators should be appointed, one Hindu one Muslim, and so on. I shall never be associated with any such position. We choose our enumerator and put on his shoulders the mantle of government for this duty of enumeration. We give him the fullest training and assistance we can, and then we send him forth as a representative citizen to act efficiently and honourably in that capacity. If the citizens of the country cannot answer such a call, it is the country's misfortune; but we shall not develop such qualities by a system of watch dogs.
>
> I hope this has made the position clear; in our enumeration function, of asking these questions and recording them the only agency we recognise is our enumerator and the individual citizen whom he questions

82. 1941 saw communal prejudices affect the language of record. This had its chief appearance in Bihar. In that province past practice has always been to produce all documents in Hindi and make the enumeration record in that language which is understood throughout the province by all communities. This leads to economy and uniformity. For example all the slips being in one language sorting office speeds are enhanced. This time however a tendency showed itself for Muslims to demand the production of a proportion of census instructions in Urdu, notwithstanding the fact that Muslims in that province are generally acquainted with the Hindi script. Some Muslim enumerators also insisted on making their record in Urdu. The first point is

more or less straightforward but the second introduces the difficulty that since few Hindus in Bihar know Urdu the bulk of the supervisors are unable to read a Urdu record. This at once weakens check and supervision. Generally the difficulty was solved either by replacing the Muslim enumerators who insisted on writing Urdu by other Muslims more civically minded who were prepared to make a Hindi record, or in some cases by the Muslim writing in English. Given a proper attitude on the part of communities, no difficulty would arise, and it would be advisable to get this point cleared up well in advance. If instructional material is supplied in Urdu, Muslim enumerators might see the desirability of making their record in a script which their supervisor could read, but in the last resort, when using an unpaid spare-time agency it would be necessary to accept this insistence, and if we could not replace objecting Muslims by others more complaisant, to accept their Urdu record. In any case as a I emphasised in the sorting instructions, every sorting office should contain persons conversant with both or all the scripts used, and preference in taking on men should be given to those who know both or all. When India has an accepted lingua franca it could require all census records to be put into this form. But meanwhile we have to use the main languages of the country. Actually English operates effectively as such a common language and, as remarked above came in usefully in Bihar. A good deal of the record in advanced provinces and States is made in English even now and the spread of education should help in this direction.

The more we can get uniformity into our processes the better. Such a development however as an English record comes back at once to the standard of the enumerator as regards education, etc., and thus we see again how the enumeration system conditions everything; a system which enables us to use fewer enumerators enables us at the same time to raise the standard.

83. District officers will always assail the provincial superintendent for extra enumeration paper. There is no use expecting a close regard for economy; their idea is safety first. The provincial superintendent on the other hand and *a fortiori* the Census Commissioner have to defend the central fisc and this year I required that my consent should be taken to any local printing of enumeration pads. This had the salutary effect of making provincial superintendents satisfy themselves that the pads were necessary before they wired to me. Had the compulsion not existed I imagine that district importunity would have been a good deal less rigidly scrutinised. It is always difficult to strike a balance between central control and provincial initiative and my own tendency and practice where methods and their application were concerned was strongly in favour of encouraging provincial initiative. This point however is rather different and is really an element in financial control of which the essential point is that the indenting and expending persons are not really in this point parts of our chain at all; for the expense of what they order so freely does not fall upon them or their government and they cannot in any way be held accountable for it. Hence the value of the provision.

84. In Bihar this time members of tribes were appointed as superintendents and enumerators and did excellent work, one or two of these areas being the best in the whole province. This development had my cordial support and the success achieved is a tribute to Mr. Archer and to the tribespeople themselves. They took their duties much more seriously than other enumerators in that province, possibly because they felt the entrustment of duties in this way to be a tribute and a test.

85. I insisted on a booklet form for the enumerator's instructions as I was determined to get away from the enormous sheets of the old system with their *liability to crumpling, tearing and damage*. I suggest that in future the house list also be reduced to a slip form. This was actually done in the Central Provinces in 1940 with my express approval as I wished the experiment to be made. It was completely successful and if a house list is to be taken again in 1950 it should be on a small pad. The necessary details could be accommodated on a much smaller pad than that needed for the census and a lighter paper could be used.

86. I issued no enumeration code this time but confined my printed issues to a general indication of the scheme to be followed which preceded the first conference and, when the Government of India had at last approved the questions, a second part covering other details of enumeration. One or two circulars later on dealt with the general points that had arisen. These will be found in the census records bound together.

I am convinced that the less paper we put out the better. Given the conditions of our census, carried out by unpaid men in their spare-time, we should not attempt to run it as if it were a continuing department of government through paid whole-time staffs. And in any case what we have to develop is the initiative and intelligence of everyone of our hierarchy from the Superintendent of Census Operations down to the enumerator. For this reason I am no believer in examples except so far as how symbols, etc., are to be used and placed on the sheet. There is no use pretending that we can solve difficulties in advance or imagining that conundrums will fail to accompany us till the very last moment. What therefore was aimed at this time was to get the enumerators to practise, and to encourage the development of self-reliance and the application of common sense.

Questionnaire—

87. *Name.*—The name cannot be dispensed with in enumeration but the sooner it disappears after enumeration the better. The new pad suggested has it at the top where it can be immediately and easily removed. One of the advantages of a mechanical tabulation is that the name automatically disappears.

88. *Religion* should go and the single community question be put as was suggested ten years ago by Dr. Hutton. Opinion in 1940 was that its omission would not be understood but I imagine that the experience of 1941 will have dispelled that fear.

89. The only case where religion is important is where members of tribes *e.g.*, have been converted to Christianity. Indian Christians are a recognised element in the country and its political system; consequently they should be considered as a "community" for the purposes of community table. On the other hand, tribal origin is a circumstance of great importance which should find a record. Our questionnaire should provide for both points coming on record and the best course would be for a subsidiary question to be asked to the following effect after the main community question. If the religion of an Indian is Christian, and this is not returned as a community *e.g.*, in the case of a tribe, the fact should be mentioned in brackets after the answer to this question.

This overlapping is difficult. With the abolition of the caste sorting this year, it was essential to bring the figures for tribes into a community table if they were not to be lost sight of. Had the operations gone their full course, the information on other associations overlapping tribes would have been examined and presented in subsidiary tables or in flyleaf comment and thus full continuity with 1931 would have been preserved. The contracted operations however made this not always possible and where the overlapping was considerable as in Assam there was a certain amount of misunderstanding. The religion question lends itself to undue influence and this was notably present at this census, when men in public position took a prominent part in trying to secure a Hindu covering being applied to every person of tribal origin. Consequently it would be better to drop the religion question altogether and to put the single question community.

During the enumeration year I received a request that a return of Dravidianism in answer to the religion question should be accepted. Since religions were not tabulated this remarkable new development does not appear in any tables. But when Dravidianism becomes a religion we have surely the height of nationalistic frenzy.

90. "*Race, tribe or caste,*" is one of the oldest in the census list and has been absolutely unchanged in form for three censuses and in essence for six. Yet misconceptions still attended it. For instance there was an impression that Muslims were expected to return a caste and in general the idea of the three categories as alternatives meant for different elements in the population has even yet not made a complete penetration.

In form of course the question is really three questions compressed into one and omnibus questions of this sort are apt to be difficult. It is difficult to think however of any improvement on this simple and compendious form and if the query itself is repeated I should be inclined to retain the form of question but deal more fully in the instructions, particularly in the oral instructions, with its real import.

The real difficulty is that while it could be replaced in English easily enough by some such term as unit and sub-unit of the community, the translations into Indian languages would almost certainly make use of the very term "caste". Hence my proposal not lightly to alter the terminology but to improve the instructions.

If of course the idea of recording sub-units is given up altogether a straight community query could be put and really this is the solution to be desired.

Caste is no longer a suitable element in a census questionnaire and I have nothing to add to Dr. Hutton's remarks in 1932 except corroboration. It should in any case disappear as an element in all-India tabulation, as it has on this occasion.

In many provinces however particularly in Bombay, an elaborate distribution of appointments and other matters rests on a caste basis and in the Punjab community subdivisions are necessary for the purpose of agriculturist legislation in that province. While in Sind and Baluchistan tribes are in some ways the real unit of the population.

On this occasion I was able not only to put through a Government of India decision not to tabulate castes but secure also the agreement of various provinces to pay for the extraction of sub-community detail which they needed. In this way caste tables were produced in Bombay, Bengal and C. P. at the cost of the respective provincial governments.

This offers one solution, *i. e.*, let the question stand but only as a matter for tabulations at provincial or other cost. This leaves, however, the questioning difficulty, *i. e.*, we do not relieve the enumerator of his task and an interesting phenomenon at this census was the widespread refusal of Hindus in Bengal and to a less extent elsewhere to return any caste at all. This refusal sprang from the mistaken idea that as compared with Muslims, a Hindu should not admit to divisions which might be taken as subtracting from the unity of Hinduism. This argument of course lost sight of the fact that a natural social unit need not be a source of weakness or division, but in a sense we have to be pragmatic; we have to deal with the actual attitudes of people, not what we think these attitudes ought to be in a broader world. And thus the position which is emerging and showed itself markedly on this occasion is that the actual replies to the caste question will become less and less and if this is to develop, we might as well come down to the plain community question.

Private interests may wish caste totals and in this case too I applied the principle that if they were wanted those desiring them must pay. The Maharaja of Darbhanga for example wished separate figures

of Maithila brahmins and Maithili-speakers and when told he must pay tried to get the Government of India to overrule me. I stood firm however and in the end they deposited the money. Other caste associations in Bihar paid up likewise.

Thus a precedent of great value has been established and should never be let go.

91. India will always want to know how many there are in the various communities, whatever her political system; this information for example has a powerful social interest quite apart from the political and administrative considerations which make it necessary to know the nature of the aggregations of the people in the various parts of our large country. So long however as the political system is based on separate electorates this question is difficult and even dangerous. We carried it through this time successfully but at the cost of great strain and in one major city, Lahore, communal passions were violent enough to destroy the value of the enumeration record. Looking ahead one cannot envisage anything but extreme difficulty in the Punjab and Bengal ten years hence and to a less extent elsewhere also. If joint electorates come in much of the difficulty will be avoided. If not, then early thought must be given to the means of securing a valid record. The point to be borne in mind is that it is not the enumeration agency, though like every other big organisation it will have its weaker vessels, which is the danger. It was not the enumerators who wrecked the Lahore census. It was the people themselves. Any census reposes on the householder's truthfulness and in a purdah country this is all the more so.

In rural areas where a powerful system like that of the Punjab or Madras obtains, where the enumeration can be more or less confined to men of the patwari or village officer type, it should be possible to secure an accurate tale of heads. In towns this cannot be guaranteed, particularly where municipalities also have representation through communal electorates and municipal servants are the enumerators. Something could be done by having paid and carefully trained enumerators for larger towns but even this does not meet the real issue which is the householder himself. Unless communal organisations and political leaders generally can achieve a greater sense of responsibility than in the past the possibility must be faced that accurate enumeration in the larger cities and indeed in the majority of urban areas may not be possible.

I have discussed elsewhere the more general aspects of this community question but would here mention only one element in it, namely the profound value of a continuing record in such contentious issues. If throughout the decade observations can be made of this phenomenon when public and party passions are not directed to it the data obtained may be of the highest value at census time. And as a corollary, the nearer we can get to a usual residence system and further we can get from any question of visitors, etc., the stronger our record will be. The *de facto* system lends itself to corruption should the public be so inclined, but if there is no question of visitors being counted at all and the home record alone is accepted then the census staff is in a far stronger position. Some advance was made this time towards this objective and it was with an eye to the future that I encouraged and authorised the departure in Sind which adopted this method of approach.

92. *Mother tongue and subsidiary language.*—These are valuable questions and of great general and social interest but in many parts of India were completely corrupted by political influence, and the returns of Hindi and Urdu in the Punjab, Rajputana, etc., are absolutely worthless. Muslims were told to return their mother tongue as Urdu and many cases were brought to my notice where men who manifestly knew nothing of that language but were Muslims by faith persisted in returning it as their mother tongue admitting that they had been "told" to do so. If this is how leaders imagine they can misuse a census then there is not much hope for India.

However that may be, if communal passions are running high ten years hence the language question should be given up. After all, interesting though it is it is not a greatly varying element and could be asked once in 20 years instead of every 10.

93. *Literacy.*—This of course is a standard question. The concept of partial literacy might be tried again but the script record should be dropped. This again was hopelessly corrupted by communal passions so far as Urdu and Hindi were concerned and nothing will make me believe that the number of persons actually literate, *e. g.*, in Urdu is anything like so great as the number who returned it. The only effect of such misguided zeal is to destroy the very facts it is sought to obtain.

94. *Infirmities* were dropped at this census. I declined to have anything to do with a record which admittedly could not get anywhere near the facts and which had been glaringly shown up in regard to leprosy in 1931. It is time the provincial governments, who are in charge of such matters, got down to their real task and the continuance of the census question merely provided them with an excuse for neglecting it.

The professor referred to by Dr. Hutton ten years ago persisted in his attempts to secure a continuance of the record of blindness and also in a definition which frankly I regard as fatuous at least as applied by a census enumertor.

Actually in Bengal, thanks to the enthusiasm of the same officer who was so keen on continuing the census enumeration of blindness, travelling eye dispensaries were begun at the end of March, 1936. There are now 4 travelling through the districts of Bengal. Each unit has 2 medical officers who in addition to preventive and curative work carry out a survey. This is the way to get at the facts and it

as a significant corroboration of my own attitude that the proportions found by these dispensaries indicate a blindness figure nearly three times as great as that discovered by the 1931 census. How therefore anyone can say that the census figures "no matter how inaccurate" are valuable, is beyond my comprehension.

Apart from this criticism the departure represented by this travelling service is of the greatest importance and represents the correct way or one of the correct ways of approaching an infirmity determination in India.

95. *Means of livelihood, etc.*—The "partly dependent" category corresponds to a genuine feature of the country's life and one which merits study; for the part-earner is a considerable phenomenon in India; as say 100 years ago in the United Kingdom before the Factory Acts and in the days of large families. It represents in fact a social element of much importance about which more should be known.

The definition of partly dependent this year was some one who contributed to the upkeep of the household without having reached the stage of self-support. Undoubtedly there will always be marginal cases and in a joint family system many conundrums. It might help if an upper age limit were applied, say 21. On the other hand this might exclude a good many typical cases of partial dependence *e. g.*, women or adult sons who have not been able to secure employment other than ocasional or seasonal jobs. On the whole I should be inclined to repeat this year's practice.

There is no real difficulty about means of livelihood apart from the chronic one of getting the citizens to be sufficiently explicit for our purpose. Incidentally it should be laid down that the same particularity must be given for the means of livelihood of a person on whom some one else is dependent as for the main question (cf. 10 and 14) of this year's series. Similarly insistence on full detail should be made in regard to the industry question. The enumerator will do what we tell him to and do it very well. But, not unnaturally he looks on his booklet as his Bible and if we want full detail for an answer we should say so categorically in the instructions on that question.

96. Question 11 of this year's batch was admittedly an experiment designed to see how far we could, through a census questionnaire, discover something about the family or one-man occupations. This is a sort of question that could be put of course much better through a limited enquiry conducted by a trained staff. I was quite aware of this but it was necessary to see what the census could do. The quality of the response varied greatly in different parts of the country and, I observed, bore some relation to the superintendent's attitude towards it. This important feature is apt to be disregarded by officers coming new to census work. They do not always realise that enumerators and other census officers can only take their cue from their superintendent. If he lets it be seen that he does not think much of a particular question they will inevitably and excusably give less attention to it themselves. The Indian enumerator especially the village officer-patwari type, can bring back anything if he feels that it is really wanted. If he does not feel this, then, particularly in an extra piece of work, he concentrates on the points to which his superior officer appears to attach the main importance. I explained to all superintendents at the beginning that this question was an experiment and an important one, though admittedly as such difficult. Some demurred then to its inclusion and I am afraid did not take the trouble with it they took with others.

The object of a question of this sort is to discover the dimensions of the type of activity between the purely one-man earner, and the more organised activities which go under the name of industry; i. e., one-man businesses etc. Possibly the family association might be dropped in any future enquiry and for the paid employee aspect it should be made plain by a fuller definition what is covered.

97. The N. W. F. P. suggests that the whole aspect of dependency and occupation should be removed from the census questionnaire as too difficult with the exception of the actual question on means of livelihood. This goes too far; dependency is an essential feature of the life of any country and particularly in a country like India, and the new idea of partial dependency is certainly worth investigation. But the advent of a more rational census and statistical system in the country would undoubtedly help towards simplification.

98. *Unemployment.*—The unemployment questions of this year could be telescoped on to the relevant point of active search for employment. This would remove certain difficulties occasioned by this year's question 12 which asked the preliminary question: "are you in employment"?

The standard of education was inserted to link up with the one about search for employment in order to throw light on the feature of educated unemployment. It gave rise to certain misconceptions, *e. g.*, where European women were concerned, and although exceptions are generally to be avoided it would make for simplification I think if enumerators were told that no answer to this question was required from foreigners *i.e.* non-Indians. As soon as one introduces a point like this however one comes up against difficulty, *e.g.*, the domiciled European, in regard to whom such information is desirable. Birthplace would not afford an adequate criterion for explanation since a substantial number of British persons in India are born in this country.

99. In general under our system the selective question is difficult *i.e.*, the question which is asked only of some and not of others; for our unpaid spare-time workers we must make the thing as universal as possible. In one or two cases I am afraid, although in general I stressed this aspect, the 1941 question-

naire might have been better. Wherever possible leave the selection to the tabulation stage; thus if we wish to apply a fertility enquiry only to married women, not widows, it is better to leave the rejection of widows to the tabulation stage than to tell the enumerator not to put the question to widows. It is in matters like this that sufficiency of time and reflection is so useful. When everything is being done against time it is inevitable that some details of this sort should go unnoticed.

100. I cannot make any comments on the age sorting, grouping, etc., since no sorting was done for British India and I have no record from the States at the time of writing this report. I doubt very much however whether the asking of age and months can be of any serious value and in the conditions of India age to the nearest birthday is all that can really be asked. To ask for months when every enumerator knows that even the ages are generally an approximation—not to say a guess—tends to give an air of unreality to the question; and it is important that the enumerator should not feel that he is being asked to make a useless enquiry.

101. Question 15 I think might be dropped from the all-India list in future and if the vital statistics have taken the development which they should, and which I hope the Government of India will press for, then 7 and 8 will have fulfilled their function of breaking the ice and can retire with honour. If however the vital statistics are still undeveloped or in fact not seriously existent over large parts of the country then these questions should again be asked.

If some kind of between-census continuity is achieved then I would urge strongly for the working out of considered sample enquiries which could deal with the type of problem represented by question 15 or question 7 and 8, or other directions too. Thus the main questionnaire would be lightened without the volume of information coming in being affected. In fact this represents a too long deferred rational approach to the census.

As already remarked the real solution of the communal problem lies in 100 per cent vital statistics.

102. Use might be made of the census, particularly if the village-block idea is carried out, to obtain information about Indians abroad. Thus each household head might be asked whether any members of his household were abroad, if so where and for how long. There are obvious possibilities of duplication here; for example three brothers in a tehsil might have a brother in Malaya and all would answer about him, thus giving a figure of 3 instead of 1. The true approach for this is of course at the other end, as I impressed on the E. H. & L. Department at an early stage *apropos* Burma. Since *ex hypothesi* every Indian in Burma was outside India, Burma questioning could not be affected by this source of danger and in fact 1941 saw the appearance in the Burma schedule of two questions bearing precisely on this point.

103. In general therefore while the type of information desired is in itself useful, its collection at the Indian end might be difficult and subject to so many precautions as to add appreciably to the enumerators' difficulties, I would recommend in future an early approach to the governments of all countries where Indians are known to resort in appreciable numbers with the request that in the next census certain questions might be put to all Indians enumerated in the respective countries. These questions might be (1) which province in India do you come from? (2) what is your mother tongue? (3) how long have you been here? These questions along with age, means of livelihood and literacy would afford a very useful picture of Indian conditions and representation abroad.

104. *House lists and other details-suggestions* Most provinces approved of the giving up of the old telegraphic rush to get the provisional figures in. Bihar however suggests that the competitive element it inevitably introduced had its value and lent a certain interest and punch to the end of the operations. The change of method was partly as a consequence of the abandonment of the one-night system but was partly also occasioned by war circumstances and a desire to avoid as far as possible elements of pressure on the ordinary provincial revenue and other staffs. If as we all hope, the next census is conducted in normal peace conditions Mr. Archer's point might be considered.

105. Perhaps the main theme of my labours at this most difficult of censuses has been to try to get the census rationalised and recognised as a long-wave but regular part of the administration of the country. Anything that would help to a realisation of this is to be welcomed. Thus for example why should there not be in the standing Revenue Code of a province a reference to the census and its fundamental features under Indian and particularly provincial conditions? This would mean that every assistant and deputy collector and others who have to master the Revenue Code for examinations would willy-nilly become acquainted with at least the existence of the census as a regular feature and the fundamental role played in it by the provincial and particularly the revenue administration of the province. Such points as the house list, house numbering, the nature of census units and other general aspects could well appear in such a compilation and each ten years the provincial census superintendent would bring the matter up-to-date in the light of his recent experience.

106. There is scope for a good deal of simplification in the early stages, Thus it has hitherto been the practice at the time of preparing village lists, etc., to have a volume for names of persons qualified to act as enumerators. This is no longer necessary; and with the growth of literacy and the changes in method reducing the number of enumerators required, this could be omitted and enumerators appointed when the blocks had been made.

Here enters the importance of having the village as a unit, one of the main elements I should like to see established. Under the old method, when the block was the unit, everything had to be held up till houses were numbered or blocks allotted. With the village as unit the scheme is practically ready made.

With this goes the importance of having village statistics and preferably having them printed. The village statistics indicate the dimensions of any subdivision that is necessary and the whole scheme can be drawn up at once.

A good many details of census procedure date from a time when conditions were very different from those of today. The pressure on superintendents' time however under the phoenix system makes it difficult to bring about changes particularly those at the first stages.

107. It ought to be possible to have in all the settled parts of the country permanent census numbers for every house and it would only need provincial goodwill and energy at the beginning of a decade to bring this about. Some steps have been made this time but there is great scope for still wider development. If this were done census-taking would be greatly simplified since the house list would be more or less readymade. Incidentally, if the village can be made to equal a block, the actual importance of the house list itself in the census sphere diminishes. Under the old one-night practice where the block was only 25 to 30 houses, even small villages had to be divided into blocks and these blocks were designated by house numbers. If the village itself is the block and the enumerator the village officer then he knows already every place where he has to go and the preparation of an *ad hoc* house list could possibly be dispensed with. This presumes of course that houses have been allotted and retained permanent numbers: for the house number is an important element in checking. I would suggest that wherever a good numbering system has been maintained, the experiment be tried of carrying out the census without the elaborate house list preparation.

108. On this occasion I put a good deal of fresh material into the house list. Some of it was designed to throw light on general housing conditions and this had the operations gone their full length, would have been pursued through a random sample study. Other information collected bore on the numbers present, sex and age and in fact the house list under my directions approximated to a preliminary census. This was done partly in order to circumvent possible accidents of war or communal passions and in fact the house lists came in most usefully in checking and purifying enumeration in the Punjab and, everywhere, in assisting correct indenting for pads.

109. Another possible idea was tried out in the N.-W. F. P. No house list was drawn up there at all only a village map. This map was not to scale but showed every house in a village and its general position in relation to its neighbours and the village streets. My instructions were that these maps should be most carefully checked and I myself checked several on my tours to the province. The results of this experiment were most encouraging. I myself, entering a Peshawar village completely strange to me was able to walk through it and identify the houses from the patwari's map. Now villages do not alter greatly from year to year and it is easier to provide for a new house on a map like this than by a fresh entry in a register. Consequently it seemed to me that there were great possibilities in this map both as a guide to the village for officers of the provincial government itself, postmen, etc., and for the future census officers and I suggested to the N.-W. F. P. Government that steps might be taken to have these maps as a permanent record.

The map of course does not provide for a continuing record of population, as a maintained house list would. But we have to make our census as easy and simple as possible and, if we get down to the patwari-enumerator stage then we can count on a skilled and reliable man already furnished with ample local knowledge and for such a man the house list can be dispensed with. Theoretically of course advantage would be on the side of the maintained house list which would be a most useful document and if a continuing community record could be embodied in it much of the acuteness of the community question in relation to the census might pass.

110. Actually, if even the number of houses were alone kept up this would itself afford a useful pointer towards population strengths and thence to enumeration slip indents. Such maintenance is implicit in the village map idea and thus the N.-W. F. P. procedure would lend itself also to a calculation of approximate populations, although not in the same way as a house list.

Incidentally the house list showed itself extremely useful in many ways and was frequently referred to by other officers. For example in Assam it was used to discover what tribesmen away from their homes were doing. The Superintendent examined the house list and found all this duly recorded.

He suggested that the house list could be used as a check on the unreliable vital statistics of the provinces. A comparison between its original and its final form as corrected from the enumeration would show the deaths and births over a period of three months. This comparison would be well worth doing and might throw up some information of considerable value.

111. A suggestion from Madras that all electoral wards should be so formed as to consist of specified groups of town survey blocks deserves comment here. So far as the census is concerned what we want is identification with existing administrative units and the administrative unit of a town or a municipality is of course not the survey block but the electoral ward. Clearly however if the degree of rationalisation put forward in the Madras suggestion were adopted municipal and other convenience would be secured.

and the census would be glad to make use of the resulting divisions.

112. *Village Statistics.*—Madras, which has in many ways the most advanced and rational system of administration in India, has followed for some decades the practice of producing from the census record volumes of village statistics. These were printed up in district books, with tehsil separation. Within each tehsil population figures for every village were given.

These documents are of great value and of constant reference in all offices of the province, and in many ways were of more direct use to the individual district officer than the provincial—or *a fortiori*—the all-India tables, and in 1931 I developed them towards something like a village directory by giving community figures, mother-tongue information, and wherever possible notes regarding manufactures, festivals, etc.

Other provinces were not so advanced and in many the village statistics were not even taken out at all. I impressed on superintendents this time the usefulness of these statistics and the desirability of having them issued in print. Their production is, so far as figures are concerned, a mere by-product of an ordinary census operation and the directory aspect can easily be gathered from tehsil or other local officers.

I am glad to say that there has been a good response to this lead. In 6 provinces this time village statistics will be produced in print for the first time. Rajputana has produced a regular village directory; Assam likewise, while Gwalior's response has been such as to equip that State with a complete rural picture from which administrators or others interested will be able to determine the average distance from schools, from water and a variety of other information which lies really at the bottom of efficient administration.

For administration is like building, it is best begun from the bottom; and at any rate the foundations should be broad and well-based if they are to carry an extensive superstructure.

We should aim at a regular flow from the smallest areas. These currents will feed the larger channels, of information and which thereby will as it were receive a constant inflow of local knowledge from their tributaries. I stress the adjective 'regular'; for regularity as against spasms is the secret of a sound informational base for administration.

I should like the villages themselves to become custodians of their own statistics and their panchayats village officers, etc., to be responsible for maintaining them. That indeed was one of my main purposes in pressing on provincial and State Governments the preparation and maintenance of these village statistics. One could hardly expect perhaps the idea of local maintenance to be taken up at once, even where as in Madras the statistics already existed; but obviously if one entertained this idea at all one must at least first produce the statistics.

The collection of figures for the sake of collection is an administrative blunder and an intellectual crime; and whenever one thinks of a new return, or changes in old returns, one should always have clearly in one's mind the main objective. In all the changes introduced at this census my objective has been to prepare the way towards a rationalisation not only of the census but of the informational system generally. Hence the insistence on better vital statistics. Hence also the development of village statistics. With these two fundamentals properly maintained, the way becomes open for possible changes which would remove the convulsive element from population determinations. And along with this should be kept firmly in mind the important principle that in all population determinations the last digits are never and can never be significant. Therefore, if a simpler, cheaper and more convenient system can give the dimensions which alone are necessary for any administrative or other purpose that system should be adopted.

113. *Storage of slips.*—I have described the code system fully in a separate section and there is little scope for further comment. The slips stood up to the sorting involved and the choice of 24 lbs. paper was justified. The slips are stored in British India according to the list given in appendix III. Till after the reference date, 1st March, the Government of India had reached no decision whether they would tabulate or not. As a result no preparations in the provinces could be put in final form and in most of them, accommodation, etc., provisionally reserved had been lost. When the belated decision came in its final form of very restricted tabulation, it occurred to me that convenience and economy were behind an experiment desirable in itself, to see how far sorting could be carried out in districts or tehsils. I therefore told the Superintendents to apply this if possible. In the Punjab, Sind, Assam and Madras it was done. Though the actual methods differed in detail the principle was the same and this experiment carried out in relation to a third of the population of British India has shown that the first stage of sorting can undoubtedly be done in the tehsils. One great advantage of this is that the preliminary handling of the slips is by men who know the areas and are familiar with village names, etc., etc. I suggest therefore that definite consideration be given next time to the possibility of carrying out the first sort for sex and community and preparing the village tables at the tehsil headquarters. Thence the slips, sorted by sex and by community, could be directed to central sorting offices or possibly to one central office, where the remaining tables would be extracted.

When storage of the slips was to be done there was an obvious convenience in not removing them from the local areas and both freight, cost and trouble and time were saved. It was noticeable that the provinces which adopted local sorting in this way were able to finish much earlier than those where centralisation had to be carried out.

114. *Tabulation.*—Despite what I thought were extremely detailed instructions I had the same ex-

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perience as recorded by Dr. Hutton; several superintendents failed to give in their flyleaf the details for minor elements summed up in the body of a table under "Others". These details are essential for the all-India table in which for example a total of Parsis or Sikhs has to be given. In an ordinary census the provincial offices are still in existence when the all-India tables are being constructed and a reference to erring superintendents is all that is necessary. This time however I was in the unfortunate position of compiling all-India tables after the provincial offices had been closed and in several cases it was impossible to get at the individual details.

I can only suggest that in future the instructions for every table be given in the most detailed form and if repetition is involved, never mind.

Thus for every table draw up a little sheet of instructions and tell the superintendent in the simplest language everything you require from him. It is perhaps an outcrop of innate provincialism that leads some superintendents (not all I am glad to say) to think that what is enough for the province must be for all-India.

For sample tables too very specific details should be given. The superintendents should be told the elements that may be disregarded, *e.g.*, trifling or minor communities, age groups, etc. Thus the sample might follow a broader age grouping than the main table. It was not possible to give all this detail in our restricted operations since it was doubtful whether officers would be able even to handle the sample for the straightforward table forms already prescribed, but in a more normal operation this line should be followed.

115. *Suggestions by provincial superintendents.*—At the end of Chapter IV will be found a set of extracts from provincial administrative reports. These are not being printed this year and in any case it is desirable to include in the central volume extracts from provincial experience and recommendation.

One point touched on by several officers is that the questionnaire should be smaller and more than one hold the view that only with a smaller questionnaire can the unpaid census continue. I am not sure about this, although I am quite sure that it cannot continue without much more in the way of between-census thought and timely preparation on the part of the Government of India; but this view of officers who have actually been in direct touch with an enumeration deserves careful attention.

Elsewhere I have stressed the importance of introducing new methods such as sampling and in fact a rational approach to the whole question. If this is done I agree that it should be possible to reduce the area covered by the wholesale questioning.

The general opinion of these officers is that payment is inevitable in some form or other. Of this again I am not sure; but again it will need a good deal of thought than the Government of India has ever given to the census before, if it and its financial implications are probably avoided.

116. An interesting illustration of the attitude of the Government of India towards census was given by the I.C.S. probationers school at Dehra Dun. Officers from other provinces, etc., were called down to lecture on various matters. But although their school was going on in the midst of a census enumeration there was never any suggestion that the census superintendent of the province should be asked to address them on a point for which 90 per cent of them are likely to have direct responsibility 10 years hence.

117. Mr. Ramadhyani's note draws attention to a point I have taken myself. Namely, that the census is nowhere referred to in any body of permanent instructions for guidance of officers.

118. The prime issue is whether the census system can continue at all. It will not continue without some serious thought by the Government of India and that thought must be in good time and should begin now. I invite attention to the remarks by provincial officers on this point, notably Mr. Archer's excellent and constructive study. All of them take strongly a point I have stressed, namely that to call the Indian census voluntary is to deceive oneself dangerously. It is unpaid, true, but voluntary, no. The provincial officers' reports show the growing tendency to resent it as a corvee. The Government of India can preserve the essential feature of a remarkable system, namely the carrying by the people of their enumeration, but they will need to take timely thought and be ready to incur some additional expenditure in order to make it possible. If they do not then they may be faced with the alternative suggested by Mr. Archer and Mr. Dutch among others, of a paid enumeration system, which would multiply the cost several times over and turn the global figure for India's census from 50 lakhs into a figure in crores.

119. In paragraphs 12 and 13 of chapter I, I pointed out the desirability of laying enumeration on the shoulders of those who have in any case to carry it out, *i.e.*, the Provincial governments. There is however on the other side the point brought up in the Central Provinces report quoted later of the importance of authority remaining undivided to avoid the danger of local or communal interests entering to affect the quality of enumeration. In two provinces this time experience was such as to provide some support for this C. P. warning and while logic and convenience and operational efficiency are all on the side of laying enumeration on the provinces, this other aspect must be taken into consideration before a decision is reached.

The new system of non-simultaneous enumeration makes control very much more efficient and contracts greatly the opportunities for mischief. Still the point is one to be examined and, once again, examined in good time and not in desperate haste at the last minute.

APPENDIX I

Provinces and States in charge of Provincial and States Census Superintendents

(Number in brackets indicates the page in the Memoranda on Indian States 1939 edition giving the names of the States)

Superintendent of Census Operations, N. W. F. P.

North-West Frontier Province.
North-West Frontier Province States (204).

Census Commissioner, Kashmir State.

Kashmir State.

Superintendent of Census Operations, Punjab.

Punjab.
Delhi.
Punjab States (222-224) *except* Khairpur State.
Punjab Hill States (248) *except* Tehri (Garhwal).

Superintendent of Census Operations, Baluchistan.

Baluchistan.
Baluchistan States (10).

Superintendent of Census Operations, Sind.

Sind.
Khairpur State in Punjab States (222).

Superintendent of Census Operations, Rajputana and Ajmer-Merwara.

Rajputana Agency (266).
Eastern Rajputana States (272).
Jaipur Residency (284).
Mewar and Southern Rajputana Agency (292).
Western Rajputana States Agency (300).

Superintendent of Census Operations, United Provinces.

United Provinces.
Benares State (150).
Rampur State (150).
Tehri (Garhwal) State in Punjab Hill States (248).

Superintendent of Census Operations, Bengal.

Bengal.
Sikkim (308).
Bengal States Agency (102) *except* Mayurbhanj.

Superintendent of Census Operations, Assam.

Assam.
Assam States (4).

Census Commissioner, Gwalior.

Gwalior State.

Superintendent of Census Operations, Bombay.

Bombay.
Gujarat States (20-26).
Western India States (314-316).
Western Kathiawar Agency (326-328).
Eastern Kathiawar Agency (340-352).

Superintendent of Census Operations, Bombay —contd

Sabar Kantha Agency (354-358).
Kolhapur and Deccan States (172 and 174-176).

Census Commissioner, Baroda.

Baroda State.

Superintendent of Census Operations, Central India.

Bhopal Agency (50) *except* Makrai.
Bundelkhand Agency (64-68).
Indore Agency (86).
Malwa Agency (90).

Superintendent of Census Operations, Central Provinces.

Central Provinces.
Makrai State in Bhopal Agency (50).
Chattisgarh States Agency (108) *except* Kalahandi, Patna, Jashpur, Changbhakar, Korea, Surguja and Udaipur States.

Superintendent of Census Operations, Bihar.

Bihar.
Jashpur, Changbhakar, Korea, Surguja and Udaipur States in Chattisgarh States Agency (108).
Gangpur, Sarnikola and Kharsawan States in Orissa States Agency (124).

Superintendent of Census Operations, Orissa.

Orissa.
Orissa States Agency (124) *except* Gangpur, Sarnikola and Kharsawan States.
Mayurbhanj in Bengal States Agency (103).
Kalahandi and Patna States in Chattisgarh States Agency (108).

Census Commissioner, Hyderabad.

Hyderabad State.

Superintendent of Census Operations, Madras.

Madras.
Coorg.
Pudukota (188).
Banganapalle (194).
Sandur (194).

Superintendent of Census, Mysore State.

Mysore State.

Census Commissioner, Travancore.

Travancore State.

Census Commissioner, Cochin.

Cochin State.

APPENDIX II

No. 1-C

OFFICE OF THE CENSUS COMMISSIONER FOR INDIA

Simla, the 25th June 1940

Tabulation etc., by Bhopal and other States

Your confidential letter $\frac{297\text{-Census}}{59/40}$, dated 1st June 1940.

In the past, tabulation began by the very considerable operation of slip-copying. This stage in census work was in some ways critical since high outturn in copying was essential for economy while on the other hand all the possibilites of error arising from haste, and the actual fact of copying entries not always legible, were present throughout. Hence it was particularly important for control and supervision to be strict and efficient.

2. This time we shall have no slip-copying, since it is the original record of the enumerator which will go straight into the sorter's hands. This makes a transfer of sorting operations more practicable and on general grounds I myself am in favour of decentralisation as much as is compatible with efficiency. Where a State pays for the whole of its census there is the obvious argument that it is entitled to expect to handle the sorting operations.

3. My approach to this question is therefore as follows ;—

Certain conditions must be satisfied,

(*a*) The State must pay for the whole of its census operations.

(*b*) It must accept the right of the Superintendent to visit, check and criticise.

(*c*) The State must have attained a stage of development in education and similar matters as to be able to produce without difficulty staff of the proper quality.

(*d*) Its general administration must be of a standard which entitles us to expect that both efficiency and impartiality can be secured in its sorting operations.

4. Where the Superintendent after consulting the Resident is satisfied that these conditions obtain we may agree to the States taking over sorting.

It must be impressed on all States that if their material is to appear in all-India tables, for which the Census Commissioner and the Superintendent are responsible, it is the duty of these officers to be satisfied that the products of a particular State are worthy to be included.

5. States are not unnaturally difficult about any interference of outsiders in appointments but it would be an excellent thing if wherever possible, the Superintendent could be consulted on the choice of officers to be in charge of compilation work in the respective States.

M. W. M. YEATTS,
Census Commissioner for India.

To—The Superintendent of Census Operations, Central India.

APPENDIX III

STORAGE OF ENUMERATION PADS

Madras	Taluk offices
Bombay	Satara
Bengal	Pads for
Dacca	Treasury building, Maijdi, Noakhali.
Faridpur	
Noakhali	
Calcutta	
Howrah	
All other districts	In their respective district headquarters
United Provinces	Aligarh, Allahabad and Lucknow
Punjab	Rural areas and Kulu tehsil in Punjab Secretariat; rural areas other than Kulu, in tehsil headquarters.
Bihar	Hazaribagh
Central Provinces	Nagpur
Assam	District headquarters
N. W. F. P.	Peshawar
Orissa	Pads for
Ganjam	Subdivisional office, Angul
Koraput	
Cuttack (part)	
Puri	
Balasore	District office, Sambalpur
Sambalpur	
Cuttack (Part)	
Sind	Tehsil headquarters
Baluchistan	Quetta

APPENDIX IV

ENUMERATION STAFF 1941 AND 1931

Province or State	Charge Superintendents		Supervisors		Enumerators	
	1941	1931	1941	1931	1941	1931
INDIA	**14,628**	**10,068**	**141,152**	**165,093**	**1,056,813**	**2,023,516**
Provinces	**11,213**	**7,099**	**102,199**	**122,298**	**690,020**	**1,554,854**
Madras	808	1,789	10,696	19,068	82,821	366, 322
Bombay	381	404	3,594	7,811	27,804	86,588
Bengal	6,087	918	22,175	22,935	115,771	263,70[illegible]
U. P.	1,210	1,193	30,764	29,316	144,779	318,215
Punjab	747	785	10,875	11,674	71,762	146,011
Bihar	700	661	8,450	12,512	102,855	159,699
C. P.	489	629	7,224	8,005	84,452	93,043
Assam	352	285	4,042	4,354	18,299	45,509
N. W. F. P.	46	94	349	1,212	7,109	14,580
Orissa	185	116	2,480	2,510	22,883	31,176
Sind	97	108	600	1,669	3,952	20,011
Baluchistan	78	82	228	443	1,460	2,784
States	**3,415**	**2,969**	**33,953**	**42,795**	**366,793**	**468,662**
Central India	305	320	5,014	4,700	51,881	52,051
Rajputana	465	361	8,101	6,064	88,781	74,018
Hyderabad	775	789	5,249	7,953	53,951	78,066
Mysore	142	97	3,647	3,395	38,981	41,490
Baroda	104	106	1,180	1,255	8,466	9,409
Kashmir	258	..	1,706	..	19,997	
Gwalior	163	146	2,301	2,492	21,282	28,470
Travancore	66	49	1,176	3,618	5,476	35,981
Cochin	17	15	585	602	3,672	6,305
Eastern States	385	350	3,552	3,468	37,971	46,330
Punjab States	309	254	2,642	2,896	15,978	34,620
Deccan, Gujarat and Western India States	361	409	2,728	5,131	14,636	47,980

1931 figures for Orissa relate to areas transferred from Bihar only.

CHAPTER II PAD SYSTEM

Former censuses were carried out on large sheets of paper known as schedules arranged by vertical lines into columns, one for each question, and by horizontal lines for individuals enumerated. The text of each question was printed on every sheet at the head of its respective column. This meant that the text of the questions and their translation into the various languages of India had to be determined before the schedules could be printed. Another consequence was that printing could not be carried out in a Central Government press, except in regard to English matter and one or two other branches. From this flowed the fact that heavy consignments of paper had to be sent to various provincial regions where printing was done and then despatched back again from the printing centres to the enumeration regions in the form of schedules.

2. Another consequence was that, under a hand-sorting system, the first stage in the tabulation had to be slip-copying, in other words the recording on separate slips of the details for every one of India's hundreds of millions of inhabitants. This meant about three months work, substantial expense and, once again, large consignments of paper.

It has been held that under a mechanical system of tabulation schedule enumeration is preferable, because columns can be entered for code numbers and distinct cards have to be prepared in any case, cards of a special type which could not be used for direct enumeration. Even here however my impression, corroborated by the experience of this census, is that a simpler and a more economical system of enumeration, with a free use of symbols or even figures could perfectly well be associated with subsequent mechanical tabulation. I deal with this general question elsewhere but for the present it is enough to say that it was out of question on this occasion. Incidentally the time question alone would have defeated any attempt to do all-India tabulation mechanically and all the points brought out by Dr. Hutton in 1933 on this aspect have repeated themselves in a melancholy iteration.

3. This meant that the course was clear for a consideration of whether the old schedule system need be continued.

Arguments of expense were clearly in favour of a new departure, if only because of the saving of slip paper and the three months employment of a copying staff. Objections to new departures are always forthcoming, perhaps particularly in India. But it seemed to me that the inertia which must inevitably oppose a great undertaking carried out in ten-yearly bursts without any connecting thread of effort and preparation in the intervening years, must be challenged. If an enumerator was able to write down answers on a schedule he should be able to write them on a slip, and I personally had sufficient confidence in our enumeration staff to be certain that with proper training, explanation, and encouragement—and also of course various administrative measures to make the change as simple as possible—they would be quite capable of applying a new idea.

4. One conclusion reached at the very outset was that the questions must be separated from the enumeration slips if we were to economise in paper, time and money. It should be sufficient to give each enumerator a list of the questions in his own language and for his own use, without having to go to the trouble and expense of printing every question on every sheet. Hence the first element, namely the questions and the enumerator's instructions were to be supplied to him separately in his own language, and the enumeration slips should bear only the numbers of the questions. Against each number he would write the answer to the relevant question.

This paved the way immediately to concentration and simplification of the printing issue; for, with variety of language removed altogether from the enumeration slip, the entire quota of these could be struck off at a single press and thus bring the major operation into the Central Government's own establishments. As a consequence, we saw this year the Government of India Press in Calcutta turn out by the million slips which were sent all over the country from Peshawar to Tinnevelly and Karachi to Assam.

5. It was not possible to contemplate slips being handled loose. They were therefore prepared in pads of a hundred.

6. In happier times I might have investigated the possibilities of having pads printed in different colours for at least the two great communities of India and thus secure an automatic sort or partial sort, for one table. This would have involved certain local difficulties and probably the provision of pads in each colour to the great majority of enumerators, with the consequence of an increased wastage of paper. The idea however, which I had always entertained, was ruled out by war conditions. Even though in November when I arrived in India, these could not be said to be present in an acute form, it seemed to me that, looking ahead, I was bound to take cognisance of possible developments in the succeeding twelve months in the direction of restricted supplies of paper and difficulties in securing coloured paper at all. This prescience was fully justified by the month of May, when events in Norway had made a paper economy campaign inevitable.

Different colours at enumeration time could of course be applied in a safer direction than for communities *i.e.*, for sex, and in happier times this could be seriously considered.

With bigger blocks wastage would be reduced. If we can count on blocks of several hundred people at least then an enumerator's overlap of pads would

be a much smaller percentage of his total amount than in the case of smaller blocks. In fact unless the blocks are really substantial in size the wastage would be so considerable as to represent serious extra costs. On the other hand the point has obvious convenience, and would at once be understood by the enumerator.

Once again we come back to the consideration that the basic enumeration scheme enters into every detail and to produce the best and most economical scheme it is essential to get one's general plan settled well in advance.

7. The considerations that guided me were therefore: (*i*) The paper used must be of a type normally used in great quantities by the Government, for this meant that contracts and supplies would be easier; (*ii*) it must be as cheap as possible but at the same time of a weight likely to stand up to the contemplated use; (*iii*) the size of slip must be a simple fraction of the normal unit in order to avoid wastage and provide the maximum amount of space for entries; (*iv*) the size on the other hand must also lend itself to easy handling in a pad to be carried in an enumerator's pocket, and be convenient for subsequent sorting.

The outcome was the use of paper, semi-bleached double foolscap 24 lbs., divided into slips approximately $6\frac{1}{4}'' \times 4\frac{1}{4}''$, each of which was exactly one eighth of a foolscap sheet.

8. Here I have to express my deep indebtedness to Mr. C. F. Weakford, M.B.E., Controller of Printing and Stationery with the Government of India, and to Mr. H. F. Trousdell, Superintendent of the Government of India Press, New Delhi. In the latter's office I settled details of the pad and Mr. Trousdell struck off samples. Armed with these I had several discussions with Mr. Weakford in which his experience was of great value in determining such matters as backing, binding, etc., for the pads.

Before I went on leave in spring of 1939 I had asked the Home Department to inform the Stationery Office of the advent of the census and the likely demand for paper, and on the occasion of my first call on Mr. Weakford I found him armed with samples of all the varieties of paper used in the last census. When I explained the new system I had in contemplation he expressed his relief at being freed from the grave problems of the paper difficulties which war conditions seemed likely to involve. In our discussions we settled the weight of an average despatch bundle of pads, the order for gunny bags, string, etc., and, most important of all, Mr. Weakford then went forward to the arranging of the paper contract which was concluded in March, 1940 at the following rates for approximately 500 tons. By getting this matter settled in good time we were able to secure a more advantageous rate than would have been possible even a few weeks later :—

Semi-bleached .. Rs. 0-3-7½ per lb.
Brown Wrapping .. Rs. 0-3-1½ per lb.

(*plus* 5 per cent. departmental charges in each case).

9. When I came out in November the Government of India were undecided whether to proceed with enumeration at all and the final decision was not communicated to me until the middle of February. Had I been able to place the paper contract by Christmas 1939, we should have secured an even better rate and I should mention here that it was only because I authorised Mr. Weakford to go ahead with his contract arrangements in advance of the formal intimation to me of the Government of India's decision to go on with the enumeration that we were able to secure even the rate we got.

10. I cannot too strongly urge the Government of India not to defer these matters of preparation for the census until the pre-enumeration year. Not only does it put an enormous strain on everyone concerned, it also means that possibilities of economy are lost and also, what should be the aim, possibilities of using existing machinery to the utmost.

11. The following details of the pads in their final form may be of interest :—

(1) Size of a pad—$6\frac{1}{4}'' \times 4\frac{1}{4}''$.
(2) Weight—5 ounces.
(3) No. of pads printed and bound—3,650,000.
(4) Weight of paper used—489 tons (semi-bleached, $27'' \times 34''$, 48 lbs.).
(5) Weight of paper used for backing sheets—$13\frac{1}{2}$ tons (Brown Wrapping, $17'' \times 27''$, 72 lbs.).
(6) Weight of stitching wire used—2,640 lbs.
(7) Size of gunny bags—$30'' \times 20''$.
(8) Normal package - 200 pads *i.e.*, the quantity that can conveniently be packed in a gunny bag, weight just under one maund, the maximum convenient cooly load.
(9) No. of gunny bags used—18,000.
(10) Weight of twine used—350 lbs.

All the machines used with the exception of one guillotine were old, between 17 and 22 years, none of them really suitable for first-class production. Several had to be repaired during the printing and in considering the output, allowance has to be made for mechanical work involved in stoppages and the consequent extra operations involved.

It was a real mass production job, the biggest handled perhaps by any Government of India Press, done under war conditions when certain supplies were short and the press overloaded with other work.

Some indication of the dimensions of India's census can be gathered if it is realised that had the slips been put end to end they would have gone $1\frac{1}{2}$ times round the world and if put one on top of the other would have made a column nearly four times as high as Mt. Everest. Similarly the stitching wire would have been enough to join up Allahabad and Cawnpore, and to sum up, the 11 million odd sheets would have stretched from Bombay to London by the usual peace-time route.

One awkward little point of constant occurrence was that a certain proportion of the pads had either one or two slips more or less than 100. The work was carried out at great pressure and occurrences of this sort were perhaps inevitable. But in view of the obvious convenience of having an absolutely exact quota of slips in every pad, this point is one that could be brought to the notice of the press before any subsequent printing is taken up.

12. There exists a great fund of experience and knowledge in such officers as Mr. Weakford and his assistants in the various presses. Given reasonable time to apply their experience and ingenuity and also for a moderate degree of experiment, they can produce notable improvements in any scheme and it is the falsest of economy to deny this capacity an outlet and to force one and all to work against time. Even as it is, however, despite the extreme pressure under which we had to work, Mr. Weakford's advice and suggestions were invaluable and even more so his quick appreciation of the position and cordial cooperation. The Government of India Press, Calcutta, in the printing and binding of the enumeration pads executed a colossal task with great expedition, the Manager particularly cooperating readily and efficiently in the meticulous requests I found it necessary to make.

13. It should be possible if the number of questions is not increased to make the pad even smaller than the 1941 specimen. The number of slips is so great that even an inch or two saved per slip may mean a substantial saving in paper and money over the whole field. I give below a sketch I have drawn and which Mr. Trousdell of the Government of India Press, New Delhi was good enough to prepare for me and sample pads will be found among the census records. With the same quality of paper, 24 lbs., this pad would mean a saving at 1941 costs of Rs. 31 per 1,000 pads. For 4 million pads the saving becomes 1¼ lakhs of rupees. If a lighter paper were used the saving would of course be even greater.

Adoption of this smaller shape implies certain rearrangements of the questions based on the principle that questions which will be answered by a symbol or a figure can be put abreast on the pad. Those requiring an answer in words are given the whole width. In the specimen below therefore the questions have been arranged so as to provide the full width for the name; then follow 14 questions to which the answers are either figures or symbols or a single word. These cover community, age, civil condition, dependency, unemployment, birthplace, language and literacy. The reduction from 22 to 20 is represented by the omission of the religion question and the question about employment. Since what we tabulate is search for employment the two questions of 1941 can be telescoped into one.

In this new slip the name has been put at the top above the code number and the house number; this illustrates the fact of its unimportance and at tabulation time the top of the slips can be cut off thus removing easily and finally, all personal identification.

1. .....

10-12-5-7.

2. ..... 9. .....
3. ..... 10. .....
4. ..... 11. .....
5. ..... 12. .....
6. ..... 13. .....
7. ..... 14. .....
8. ..... 15. .....
16. .....
17. .....
.....
18. ..... 20.
19. .....

14. One of the interesting features of the census is the close inter-connection of practically every aspect of our work. Thus the striking of a suitable form of pad is bound up with the questions to be asked and since the printing of 4 million pads is a matter of some months in the presses and the designing of a pad itself repays study and experiment, it follows that for the most efficient and economical pad the questions in their final form should be determined by the year 1949 at latest; at this census they were not settled till June, 1940 although my proposals had gone to the Government of India in February.

15. Keeping the slips bound in pads undoubtedly preserves them. If the enumerator had to handle loose slips a large number would be creased, etc., inevitably during his operations. Preservation in the pad form avoids this almost entirely. Thus it is possible to use a lighter weight of paper than would be practicable if the slips were handled individually. On the other hand at the sorting stage, a certain degree of stiffness aids and improves sorting accuracy and speed. Kashmir State slips, which the Government of India Press was unable to take on, were prepared from a much lighter paper and I noticed that sorting was definitely slower on that account. The paper used this year on the other hand stood up excellently to sorting and in a smaller form would be even more easily handled.

Here as elsewhere experiment and trial would be of great assistance. This experiment and trial could extend also to the possibility that slips could be printed loose in future and punched in a corner to take a tag. To punch slips in such huge numbers would involve a separate operation by itself and possibly appreciable slowing down and expense. It was for this reason that I could not have the corner of the slip perforated; there was a definite limit to

the number of slips which could be dealt with at once for perforation. The same will apply to punching.

Moreover loose slips would not keep anything like so well as those in the pad form.

However the point should be examined, like all others which may be of value to the next operation. If slips were to be issued loose they should be wrapped in banderoles.

16. The 1941 slip also had to some extent a double row; here too the second row questions were put opposite questions to which the answers would be brief. The object of the doubling-up was to get all the questions into the standard size sheet and the triangle etc., were devised in order to assist the enumerator; thus he was told with reference to question 5 to put his answer in the triangle. Actually there was no difficulty whatever about this. It was suggested that it would have been better to have all the questions in the numerical order instead of No. 2 at the foot. The sex question had to be at the foot because of cutting off the corner but it could easily be given a later number and this has been suggested in the revised small pad.

17. At this census the Government of India press printed pads for (*a*) British India, (*b*) Rajputana and Central India, (*c*) States whose census was conducted by provincial superintendents and (*d*) Cochin State. Kashmir State wished us to make their pads but the manager of the press, already apprehensive about the volume of work involved and the limited time available, pleaded inability to take on any more. Actually it was carried through in good time and the Kashmir slips could have been taken on. States such as Hyderabad will always want to produce their own pads but I suggest that in future if any States wish their pads printed along with the British India mass this should be conceded. It leads to uniformity of method and procedure and to interchangeability of pads.

If the questionnaire and the form of pad were determined in good time it would enable the three Government of India Presses, Calcutta, Aligarh, Delhi or even four (adding Simla) to be used. This would simplify distribution and reduce considerably the freight charges. Nothing can avoid heavy freight charges when matter has to be sent from North India to Madras or Cochin but the difference between Delhi and Calcutta would represent a substantial saving for the whole of North-western, Western and Central India.

Against this of course has to be put the fact that the paper used is manufactured in or near Calcutta and would have to be transferred to these other presses and although it could be done in bulk at cheaper rates than individual bundles of pads, general conditions might urge retention of the 1941 procedure. Whatever be the outcome one point is clear, namely that all this sort of thing should be gone into carefully well in advance; it should be cleared up with the Controller before ever even the form of pad is settled or paper orders placed. This means early 1949 at latest.

18. The Government of India printing charges are high and include an element on account of overheads. The discussion above presumes that it will be held in 1949-50 as now that all slip printing must go into a Government of India Press. This is understandable enough and the census was a heavy contributor to the prosperity of the press. I think however the possibilities of devolution should be considered. Paper could be sent cheaply in bulk by sea to Madras and Bombay and if suitable arrangements could be made there for printing, some economies would almost certainly be secured. In the more advanced parts of the country each district could probably produce its own pads and certainly each revenue division. The printing of the pad is so simple that even a comparatively small press can cope with it.

19. If the details of the code system and other entries in the slip are determined in good time it should be possible to make fuller use of the rotary machines whose output is so much greater than that of the flatbed. These machines however need very long runs if they are to be used to the fullest economy. On the other hand if preparations are made in good time then the need for particular speed does not arise and a numbering system down to the village would fit in better with the flatbed machines than the rotaries.

20. In census printing a clear distinction could be drawn between the general and particular. The former should mean the enumeration papers; the latter the expression of questions, instructions, etc., in the various Indian languages and all the local detail concerned with the actual application of the enumeration scheme. Logically then we should aim at putting the general matter into Government of India presses and the particular into presses in provinces.

In the past this was not done: it was impossible so long as the old schedule system prevailed. With every question set out on every sheet this meant the presence of every one of India's many languages in the schedules; and with such variety no single press could cope. Hence a wide distribution of the main printing effort, and in not unnatural compensation, the bringing into Central Government presses of as much as possible of provincial work. The results of this were inevitably delay—in an undertaking where time is always short—frequently difficulty, and sometimes absurdity, as where the postage charges on a set of forms were more than the cost of paper, printing and all, had it been done locally.

With the pad system and concentration of this entire branch of printing into presses of the Central Government the way was clear for a more logical attribution of effort. The incidental printing required in provinces is frequently urgent and nearly always presents features of local concern, not necessarily applicable or necessary in another province.

Thus it is not suitable to concentration in a central press. Moreover, it is very desirable, since enumeration is inseparable from the fullest use of all

provincial systems and agencies, that the provincial superintendents should be able to utilise the assistance and experience of provincial presses and other agencies in the actual performance of various stages—and incidentally put into the provinces some share of remunerated activity connected with the enumeration. By bringing the entire pad printing into central presses we were able to give them as much as they could handle and thus make possible a logical and efficient distribution of work.

21. *Code system.*—Once the idea of a common pad, printable in one place for the whole of India had been reached, the next stage presented itself namely how to express local detail through the printing machines and thus save the enumerator having to write it every time. Hence the code system which in essence meant that every provincial or state superintendent made a list of his districts or comparable administrative units in the order in which they usually appeared in census tables, the numbers running from 1 onwards. Against each district he similarly allotted the tehsils in the order of their usual citation. Similarly against each tehsil he numbered each charge in it and against each charge similarly the circles.

It will be seen at once that every province and state using the system would have a number 1 district and against each district a number 1 tehsil and so on. So far as the press however was concerned the number 1 is identical with another and they therefore could print off every code number at a stretch for the entire area of British India and many states. Distribution was based on the indents received from the various areas.

22. I have dealt with this code matter much more fully elsewhere, both as regards its use at this census and on the developments I should like to see applied in the future. For the present I would only say that thanks to Mr. Weakford and Mr. Aylmer, the enormous task of printing these slips and adjusting the code numbers was carried through with success and economy. Thanks to Mr. Dutch, Census Superintendent in Bengal, whom I put in immediate charge of distribution, these millions of slips found their way to hundreds of tehsil headquarters all over India. His note on this feature is appended. Had we all had more time we should have been able to do still better but I hope that before the next census comes the printing authorities of these days will find the system and material so developed that they will be able to print at greater leisure and on an even more simplified system, slips which will reach the provinces with local detail down to the village applied on them by the press.

APPENDIX

A NOTE ON THE PACKING AND DESPATCHING OF CENSUS PADS BY MR. R. A. DUTCH, O.B.E., I.C.S, SUPERINTENDENT OF CENSUS OPERATIONS, BENGAL.

1. Introduction.—To achieve economy by mass printing, census slips destined for every province and all the states which did not print their own census slips were centrally printed, at the Government of India Press, Calcutta. The press was unable to take responsibility for making up consignments and sending them to the various addresses. This work therefore fell upon the Superintendent of Census Operations, Bengal.

2. Commencement of printing.—Enormous quantities of paper, stitching wire, cardboard, etc., were required for printing on this scale. The assembling of sufficient material was a matter of long preparation, which the Manager of the Government of India Press estimated would extend to the beginning of May, 1940. As a matter of fact, pads began to come off the press at the end of April, about two weeks sooner than expected.

3. Outturn.—The printing was done both upon rotary and flatbed presses. The presses worked overtime. The daily outturn varied, partly owing to the claims of other work, partly to the addition of extra binding machines at a later stage. It was never possible to forecast accurately the number of *bound* pads which would be delivered by the press in the course of any given day. On some days, the outturn reached 31,000 pads. The average was in the neighbourhood of 21,000.

Note—The Manager, Government of India Press, says that he intends to get rid of his rotary Presses. If in 1950 flat-beds only are used, the daily outturn will probably be less.

4. Accommodation.—For the entire work of packing and despatch, the press made available the whole of one room, and the part of another, on the premises of the press itself. It was fortunate that the press was adjacent to the office of the Census Superintendent. There was sufficient space to accommodate 100,000 pads, representing about 4 days outturn. Pads in excess of this number had to be stacked on the floor, thereby diminishing the room available for the despatching staff.

5. Duration of the operation.—Printing began in the second week of April, 1940, and lasted continuously up to the third week of October, 1940. Despatch work began on May 6th, and finished in the last week, of October, 1940. Later, supplementary indents, on a much smaller scale, were received from the Census Commissioner for India, and despatch work in this connection lasted until the middle of January, 1941.

6. Organisation.—(*i*) *Inception.*—The commencement of printing was earlier than had been foretold and quick start in despatch was obstructed by the fact that, as the result of a surgical operation, the Census Superintendent was confined to hospital. His head assistant had to come to the hospital daily for orders, and had to work single-handed in procuring, training, and controlling the staff.

(*ii*) *Staff.*—Space was limited, and therefore the staff was restricted. Making up consignments, as will be explained later, was a rather intricate process. When the work began, 100,000 pads had already been turned out, and the overflow of fresh pads was beginning to encroach upon the floor space. There was no room to expand the staff, and it always worked short-handed. It is to the credit of all that in spite of the initial handicaps, despatch kept pace with outturn, or only lagged slightly, and that it was finished almost at the same time as printing was concluded. This was done without putting any brake on the pace of the press. It is safe to say that consignees received their quotas with the utmost possible punctuality.

The staff, at full strength, consisted of :

(1) The head assistant

(2) The stenographer

(3) The reference clerk

(These three clerks were part of the census office staff. Their despatch work was carried through in addition to routine, and involved very heavy overtime).

(4) One despatch clerk on Rs. 50 p. m.

(5) One assistant despatch clerk on Rs. 30 p. m. (for four months only).

(These two clerks also acted as supervisors).

(6) Two markers on Rs. 20 p. m. each. (For three weeks only there were three markers).

(7) Eight coolies (maximum) on As. 0-9-0 per day and overtime.

Nos. 4—7 were all temporary.

7. Nature of despatch work.—The press worked on indents supplied by the Census Commissioner for India. These indents stated how many pads bearing a particular code number were to be printed.

The despatch work proceeded according to distribution lists received from the Census Commissioner for India. These lists indicated how many pads, comprising how many separate code-numbers, had to be sent to a given address.

The peculiar intricacy of despatch lay in the variety of pads which composed a single consignment. One consignment might consist of pads of several different codes ; and no code was confined to one consignment. Particularly careful supervision was exercised to prevent confusion.

The press completed the All-India indent for a particular code, before proceeding to the next. A number of consignments were therefore held up from time to time for lack of pads bearing a code number which had not yet been printed. These periodic problems of adjustment exacted careful consideration, and the sequence of consignments was so arranged as to favour, as far as possible, continuous and orderly progress.

8. Routine.—(*i*) *Gunny bags.*—For packing, gunny bags were used, accommodating 200 pads each. These were specially indented for. Receiving officers were at the beginning advised to return the gunny bags for repurchase by the Government of India Central Forms Store. The price offered for repurchase did not cover the freight charges of the used gunny bags, and, after correspondence with the Census Commissioner, the practice was discontinued. The only way to have realised a bare profit would have been to collect empty gunny bags at selected centres where they could be made into packages weighing not less than one maund,—the minimum weight accepted for transport by goods train. This method was suggested, but not attempted, as being beyond the reach of a temporary and ad hoc organisation.

A long period during despatch coincided with the monsoon, and it was feared that gunny bags would not sufficiently protect pads against the weather. These fears proved groundless. There were only one or two complaints that consignments had been damaged. In all, 18,000 bags were used, of which 200 were returned and used for supplementary indents.

(*ii*) *Packing.*—The press stacked pads in heaps of 25. The despatching staff checked a proportion of these heaps, both to verify the number of pads, and the code serial. Until they could be dealt with they were ranged on shelves, with labels of identification. The packers were coolies, who worked in pairs. One member of the pair was always literate, and checked the code numbers during packing. Supervision was exercised by the temporary clerks, under the head assistant of the census office.

(*iii*) *Addressing.*—Stencils, cut in metal, were used for those portions of the addresses which constantly recurred, *e.g.*, " Tahsildar ". For the remainder, the markers at first wrote it by hand. Where a consignment consisted of several bags, paper stencils were cut on the machines of the Government of India Press. Writing by hand upon gunny bags was laborious, and paper stencils wore out very quickly. Moreover, the Government of India Press was not always able to lend its stencil-cutting machine when required. Despatch fell behind the outturn of the press. At this stage the head assistant of the census office—Babu Sudhir Kumar Moitra—came to the rescue with an invention which saved the situation. He devised an alphabet of stencilled letters—cut in thin brass. Every letter-plate was bent back at its opposite edges, to form a slot, so that each letter could be joined to any other. A sufficient number of plates was made in the bazar at a cost of about Rs. 20. The markers were thus provided with a durable stencil, with which they could spell out any word. This form of stencil was used throughout the operation with perfect success. The head assistant deserved the greatest credit for this neat and ingenious device. The original stencil alphabet, still in good condition, is preserved with the census records.

(*iv*) *Booking.*—On the suggestion of the Press Manager pads were carried, under contract, in lorries to the various booking stations. The contractor was made responsible for securing the railway receipts—a necessary provision, as otherwise a clerk of the census office would have had to waste half a day at the booking office for every consignment that was sent. Railway receipts were sent by post to consignees.

(*v*) *Arrangements for payment.*—For certain destinations in Midnapore district, the freight was paid in cash. This concerned Bengal only. For all other destinations, the transport agencies agreed to issue credit notes. Their claims upon these notes were adjusted by book transfer, through the Accounting Officers of the several provinces concerned. The share of freight charges debitable to each province was calculated in the office of the Census Superintendent, Bengal, and communicated to the Accounting Officers and the several Census Superintendents. The working of this arrangement entailed a good deal of explanatory correspondence with the railway companies and provinces concerned.

9. Dimensions of the operation.—The punctual performance of this routine was a considerable operation. Some idea of its magnitude is conveyed by the following facts :

(*i*) No. of *pads* despatched (Each pad containing 100 slips)	.. ..	3,650,000
(*ii*) No. of gunny bags packed	..	18,200
(*iii*) No. of separate consignments	..	1,950
(*iv*) No. of destinations	.. ..	1,720
(*v*) No. of different code-numbers	..	3,768
Comprising (*a*) codes of one element		27 varieties
(*b*) codes of two elements		284 varieties
(*c*) codes of three elements		3457 varieties

By special arrangement, consignments destined for the N. W. F. P. had to include separately wrapped bundles, each bundle containing the slips required for individual villages. Each bundle was labelled with the code number of the villages. This arrangement added considerably to the intricacies of the task.

10. A special difficulty.—A special difficulty was occasioned by a breach of the B. N. Railway line lasting for three weeks during July and August. This breach held up consignments destined for Orissa, C. P., Bombay and Madras. The resulting accumulation of pads was one of the most vexatious hindrances encountered.

11. Success of the operation.—No serious mishap occurred. Consignments sped to their destinations with no more delay than was unavoidable. Supplementary indents were usually despatched by passenger train, the remainder by goods train. There were remarkably few complaints involving the work of the despatch department. Occasionally, in a consignment consisting of several thousands of pads, an excess or deficiency of two or three pads was reported. In three cases, by a definite error on the part of the despatchers, a considerable excess of one code number was sent to particular addresses, with the result that there was a shortage of this code-number in a consignment sent to another destination. When this was discovered, the mistake was traced in two of the cases, and the excess pads were transmitted to the proper address. In the third case,—involving 180 pads—no receiving officer would admit having received an excess. With the permission of the Census Commissioner for India the deficiency was made up by reprinting.

12. Irrelevant complaints.—Much time was wasted, and much unnecessary correspondence was occasioned by (*i*) avoidable errors ; and (*ii*) misdirected enquiries. A short list is given below of the principal instances :

(1) Mis-spelt addresses. Railway companies will not accept packages unless the station of destination is spelt precisely according to the name given in their time-tables. Time and again consignments were held up while the correct name of a station was being verified. It was a piece of carelessness on the part of the officers who supplied the addresses to give an incorrect version. The waste of time and the aggravated trouble caused to a harassed and overworked staff by this species of error were very considerable. In future, indenting officers should be requested to take particular care to specify addresses with complete accuracy. Most of these errors were occasioned by Bombay indents.

(2) Insufficient addresses. Railway stations whose names are homonyms with some other station require further particulars—usually the name of the province. These additional particulars were often omitted, and consignments were refused by the railway company on that account. The correction of the address took time, and sometimes a reference to the consignee was entailed.

(3) Wrong addresses. There were several cases where the station named as destination was not open to goods traffic. References had therefore to be made for a fresh address.

(4) Revised addresses. There was a number of cases where, after pads had been booked to the address noted in the

distribution list, they had to be redirected to new addresses on the instructions of the consignee.

(5) Small consignments. From Bombay, the indents covering a number of consignments were so small that the resulting packages were too light to go by goods train. These consignments had to be sent at passenger rates.

(6) Misdirected requests. Most consignees treated the Census Superintendent, Bengal, as an enquiry office and universal agent combined. Many receiving officers were unwary in accepting delivery of consignments which did not tally with the railway receipt. When they discovered the shortage, they wrote to the Census Superintendent expecting him to put it right. Usually their letters ended with the peremptory formula, " for necessary action ". There was no action which he could take. It was the responsibility of the railway company, not of the Census Superintendent, to ensure the transmittal intact of packages which the company, by granting a railway receipt, had acknowledged accepting for transport. Hundreds of letters were issued from the Census Superintendent's office pointing out this elementary principle. It was small consolation to hear afterwards, in 99% of cases, that " the missing package had been traced ". This formula, it seems, usually meant either that a clerk of the receiving officer had gone again to the station and found that the missing package was lying there all the time, or that the receiving officer had counted his consignment again, and found that it tallied after all.

(7) Failure to report excess. Although receiving officers were prompt to report every real or fancied shortage, they seldom troubled to draw attention to any excess. These latter cases usually arose out of the following circumstances. Consignments addressed to two receiving officers might have to be sent to the same railway station. One recipient might get there first and take delivery of his own consignment, and several packages appertaining to that of the other consignee. He would not report the excess. The second recipient would of course report his shortage. Detective work was then undertaken in the office of the Census Superintendent, Bengal, the error was elucidated, and the recipient at fault was requested to disgorge his surplus. Here again, if recipients would examine their railway receipts carefully, and accept delivery of no more than they were entitled to, avoidable business could be eschewed, to the advantage of all.

(8) *Insufficient verification. In examining consignments*, similar carelessness was displayed. Each recipient was furnished with a statement of the number of pads in his consignment, and their various codes. The verification of consignments was frequently so perfunctory that many complaints were received of missing code numbers, which later investigation proved to be not missing, but merely overlooked by the receiving officer. This result was so common, that as a matter of routine the Census Superintendent, Bengal, invariably asked the receiving officer to institute another check. The most egregious instance occurred in Bihar.

(9) Other errors. Another type of error was occasioned by cases where the Provincial Census Superintendents revised the quotas of receiving officers, without informing the Census Superintendent, Bengal, or giving him the opportunity to correct his distribution list. The recipient complained of the discrepancy to the Census Superintendent, Bengal, and thereby caused more roundabout correspondence.

A survey of the course of despatch suggests that the following points should be strongly impressed upon all concerned.

(1) They should carefully check the railway receipt with the consignment offered for delivery.

(2) If the consignment falls short of what is acknowledged in the railway receipt to have been accepted by the company, enquiries should be directed to the authority responsible for the shortage, *i.e.*, the railway company.

(3) If the consignment appears to exceed what is noted on the railway receipt, delivery should be taken only of the packages covered by the railway receipt. The surplus packages should be examined to see who is the real addressee. If the addressee is some other officer, that officer and also the railway company should be informed of the fact.

(4) All cases of surplus should be reported to the despatching office.

(5) The composition of consignments should be meticulously verified, and hasty conclusions should be avoided.

(6) For Provincial Superintendents it is sufficient to point out that if the revision of original quotas affects the distribution list, the central despatching authority must be punctually informed in order that he may adjust consignments.

(7) There should be a general warning against superficiality and carelessness.

13. Staff suggested for the future.—In future, if a Provincial Superintendent is made responsible for the central organisation of despatch, it would be expedient to keep his despatching office quite separate from his census office. If he throws a large part of the burden upon his census staff, there is the risk of shoddy work. It is suggested that the following despatching staff, which represents the minimum, should be recruited :

Head clerk (with knowledge of typing)	1
Despatch clerks	2
Markers	3
Packers	8—10
(or more if the outturn of the press is speeded up, or if the number of consignments is increased)	
Peon	1

14. Acknowledgment.—Mr. Aylmer, the Manager of the Government of India Press, preserved throughout a most helpful and accommodating attitude. Particular thanks are due to him. The press supervisor, Mr. Huq, deserves special mention for his care and thoroughness, and his readiness to provide all possible facilities.

Babu Sudhir Kumar Moitra, head assistant of the Census Superintendent, and Babu Binay Bhushan Sen Gupta, stenographer of the census office, performed services which claim a cordial tribute. They gave to the business of despatch the same diligent attention which characterised their work for census. The tax on their time and energy was no small one. For several months on end their duties in the despatch office alone occupied daily from two to four hours of hard and urgent work.

CHAPTER III—THE LOCATION CODE

In an appendix to this section will be found a statement showing the numbers applied to each district and State in the country.' This will show at a glance the principle at the base of the code. The phœnix system had its effect here as everywhere and against the terrific pressure of time and insistence of the printing authorities for delivery of material by March, 1940, I consider it a definite feat to have got the code started at all.

2. In the past it seemed to be taken for granted more or less that if the unfortunate enumerator had to write out district, village names, etc., a few score times it did not really matter even though, as in the polysyllabic south, these names may be of formidable dimensions. It seemed to me as far back as 1930 that some effort should be made to reduce the scriptory labour imposed on our unpaid census workers and I was determined to give effect to this. A further consideration entered that since we were dispensing with the schedules and enumerating directly on to the slips that would be sorted, every such slip should bear its full local indication on it. In other words every slip ought to be identifiable down to the block. This powerfully reinforced my desire to get rid of the writing in full of recurring local detail.

In the result the exact location of a particular enumerated individual was expressed in a series of not more than 5 small groups of figures of which in the majority of cases three were applied in print by the press. No group itself held more than two digits and the vast majority had only one. The terrific pressure of time, and the fact that in the past no record of charge or circle population had been kept, made indenting difficult and in order to keep the presses fed I had to start Bengal and Madras with only the district figure in print, while for the U. P. and Assam the district and tehsil figures were thus applied.

3. Originally it had been my intention to work out the whole system on a circle basis thereby providing for four figures being applied in print by the press, leaving only one to be applied by the enumerator. Even where the enumerator had to add the village name I arranged for this to be either another figure, since villages can be numbered within a circle, or a letter. And throughout I applied my conviction that where a man is intelligent enough to ask our census questions and record the answers given to them he is intelligent enough to understand and apply and appreciate a rational and intelligible contraction.

4. The principle was that the first figure in the code should represent the district or a unit of district size. The greater the uniformity of general dimensions, the greater the mass that would come under each head; *i.e.*, the longer the run the press would have and thence the cheaper and quicker the printing. My idea (and my instruction) was that where the smaller States were concerned they should be grouped together to constitute a major unit of district size, each of them being given a second-place number against this unit.

The Central India distribution will indicate what I had in mind. There some of the smaller States actually appeared as charges *i.e.* as third place numbers, not even second place. This represented their dimensions which were considerably less than an average tehsil. Application of these details had to be done by the individual superintendents and unfortunately not all of them appreciated this principle; some paid too much attention to an alleged objection of minor States to be given any thing lower than a "district" number to themselves. This objection had no reality in fact, as was evidenced by the ready acceptance by States elsewhere of the allocation to them of a second-place number. For convenience of reference the numbers were referred to at first as district/tehsil/charge/circle and it may have been that a State here and there objected to being allotted a so-called tehsil-number.

The attribution of separate first place numbers to the three U. P. States again merely prolonged the list and added unnecessary runs; these could easily have been given parallel numbers with other districts.

5. Under the extreme pressure against which all of us were working it was not possible, when I discovered cases like this, to have the indents recast; that would have been to risk delay in the presses in search of theoretical perfection. Consequently the details in the appendix are susceptible of improvement and I have indicated in Appendix II a tentative reallocation. The validity of this reallocation would of course depend on whether the proposals in paragraphs 6 and 7 below were taken further. The general principle however is common to all applications, *viz.*, to have units of as uniform a size as possible and to aim at long runs for the press. In Bombay and the Punjab, where a considerable number of States are involved, the numbers were duplicated into a district and a State series. Since the two were kept separate in all sorting operations there was no risk of confusion and from the press point of view one No. 15 is the same as another and can be run off at the same time. The United Provinces' large number of smallish districts acted as a disturbing element in the code, since nowhere else did the first-place numbers go above 30.

The principle behind appendix II is to have 30 as the maximum for the first-place number and to group districts and States by population within it, 3 million being taken as roughly the qualification for a first-place number. Districts over 3 million are given two first-place numbers. The enormous Mymensingh this time for example could have done with more than one district number and effect has

been given to this principle. The U. P., the main disturber of this year's code, is correspondingly that most affected in this revision but opportunity has been taken to correct anomalies in Bihar and C. P., to introduce slight modifications in Madras and Bengal and to recast the Rajputana system entirely.

6. I was glad to introduce one modification, and a most interesting experiment, in one direction after the main system had started. The ideal would be to get the village detail on to the slips in print from the very beginning. This means that the village must be represented by a number; and that the code number as a whole must fall in the general series of numbers which the press have to handle. Finally the N.-W.F.P. is a small province, and by taking the tehsils serially throughout the province, we achieved a first-place figure falling within the ordinary run of district code numbers. This left two places available for village numbers and since the number of villages in a tehsil was less than 400 it was possible to group them in terms of the code so that no item ran above 20. The principle adopted could be exemplified by the following example. Village 341 in tehsil 7 was represented by the code number 7-18-1. Actually if we started the second column from zero the number could have been given immediately as 7-17-1. Since however the presses were not using the figure zero in the second column we could not introduce it solely for the N.-W.F.P. We had to express this province's numbers in terms of the series which the press was already handling. In future discussions however we could take into contemplation starting from zero in the second place.

Clearly this could be applied anywhere provided villages are numbered. Village numbering is not practised in every province *e.g.*, Bihar, but there is no reason why even though a number is not necessary for ryotwari purposes it should not be given for general purposes of administration, and the census would then use it.

If the code unit was taken to be the division or group of districts the same system could be applied over the whole of India. It would yield in the first place in the code an average run of 30, *i.e.*, much the same as the district run this time. By using the second place for groups of 20 and the third place for the odd digits we could have the village number put easily into print. For British India alone there would be about 1,200 tehsils and adding 300 for the States we have 1,500 units, for each of which there will be a village 1-1, 1-2 etc., etc. Inevitably at the end there will be a few smaller runs, but for the great mass, the press could have long runs of something like 6 lakhs of slips under each code number, taking the average village population as 400.

7. The application of the village number in print by the press will mean fairly close indenting. But where village populations are on record for 1941 and reasonable vital statistics are maintained it should be possible to make good approximation to the likely village population. I have encouraged this time the printing and production of village statistics and these will be available over a much wider area this time than in the past. Consequently I see no reason why, provided the matter is taken up in time, the village number should not be expressed in print on every slip.

A certain provision of blank slips could be kept in each tehsil which would be ample for minor local excesses.

8. It is as easy for a press to print four figures as three; what they want is a reasonably long run under each head and the above system secures runs of well over half a million. It secures too a point of great importance, namely the impression of the village detail in print on the slip from the very beginning.

9. It has been suggested that charge and circle detail are in themselves desirable and that the village could easily be added by letter or number within the circle. While I would prefer the complete system described above, a code on the tehsil/charge/circle basis could certainly be devised that would also give considerable runs. It might be necessary here however to smooth circle numbers in much the same way as was done for the villages in the N.-W.F.P. this time in order to achieve greater uniformity and the bringing of the full tale of circles within as small a code range as possible in order to yield the biggest press runs. It would be necessary also to survey the allocation of charges, which are apt to run to different sizes in different provinces, and also to see that circles and charges were numbered in all provinces in a consistent fashion *i.e.*, preferably every charge would be numbered within the tehsil and every circle within the charge. If, as in some provinces, the charges are numbered over the district, or the circles over the tehsil and not the charge, the possibilities of variation and substantial departure from uniformity are obvious. And such departure means as it were a lump on the code and subsequent difficulties and extra expense in the press.

10. I forced through the inception of the code system this time and particularly should like to see it given fuller and better application in 1951. I am convinced that if this is done convenience and economy would both be secured. But it needs early attention, investigation and possibly experiment, and if everything is once again left to 1950 then it will be impossible to apply the improvements I have just discussed.

Actually I see no reason why the code system once determined should be not used for all purposes *i.e.*, returns from a particular tehsil would carry this code number under the scheme, whatever the department of government it related to. This would accustom everyone to the use of these figures and reduce scriptory labour everywhere.

11. And finally, looking ahead to the possibilities of greater use of machines, the code system would lend itself admirably to such use; with local detail already expressed in figures the coding is as it were readymade and could be punched on to a card without further ado.

12. It is in any case desirable that census charges *and circles should have a permanent structure and* I have dealt with this elsewhere. The point has an important bearing on the code system however, since if charge and circle are identical with distinct and permanent administrative units future census officers would have this matter all prepared, the code system readymade and indenting for slips easy. This time indent was made difficult by the absence of any record of charge/circle populations. I have arranged for these to be taken out this time and consequently if the code system of 10 years hence reposes on the charge and circle, population data will be immediately available on which to base indents.

13. Originally I had myself contemplated having only two numbers, the district and tehsil. Superintendents were apprehensive about the capacity of enumerators to add numbers and hence the attempt to introduce further numbers. Actually however more than one now agree that the third number could be dispensed with and Mr. Elwin in Madras considers the single district number all that is necessary. Undoubtedly with a single district number much greater flexibility is secured, and so long as village, circle, etc., populations are not reasonably maintained indents on a circle basis are bound to have a large element of approximation. What is essential is that the whole question should be carefully considered in good time and that my successor should not, as I had, have to improvise against terrific pressure.

Actually a very flexible system which would give long runs could be based on a double number, district and tehsil. In East India where the tahsil system does not obtain the sub-division can be taken instead. This would give runs in each second figure of the order of 5 millions and a flexibility range of a quarter of a million. It would still be necessary in this case to apply the rationalisation indicated in Appendix II.

14. A quite different departure would be to base the first number not on the district but on the division and then to number the tehsils serially within a division. This would tend to even up the number of sub-units and thereby to even out the distribution of slip numbers. In Madras where no administrative divisions exist the natural division could be taken. Unless this were taken below the tehsil it would give only the same length of run as the two-number system suggested above with the higher figures in the second place in the code instead of the first. It could however be used to get readily down to the charge or even down to the circle in a three-number code, thus division, tehsil and circle. This would mean numbering of circles within a tehsil, in any case a very useful procedure.

15. In conclusion, however, I repeat that one cardinal point is the quality of the maintained figures. If these are good then my N.-W. F. P. innovation could be practised wherever villages are numbered, and the convenience of this is obvious. It defeats the careless enumerator who neglects to copy his village detail on to every slip. It is absolutely foolproof as regards village identification. It does need a good approximation to pre-census village populations but it affords far the best, most thorough and most logical system. Incidentally, by cutting out the circle and the charge and reposing itself on the real living unit of the country, the village, it attaches itself to a feature much more easily estimated than the circle or the charge.

Consequently therefore I would press for the application of this and it only needs a certain amount of pre-consideration to secure the necessary ground-data.

The system is not impracticable. It has been carried out with notable success in one province this time without any previous experience and against a considerable amount of diffidence on the part of provincial authorities who however like Balaam remained to bless. It seems to me therefore only a matter of a certain amount of between-census trouble to take this system much further and I strongly recommend that this should be done.

16. Otherwise the two-number system on the lines of Appendix II is the simplest and most flexible. Based as it is on a substantial unit like the tehsil it affords long runs and reasonable possibilities of slip transference.

Actually however if the village number system cannot be generally applied I would advocate a three-number printing system based on the district, tehsil/sub-division and pargana/thana, *i.e.*, actual existing administrative areas. Into this three-number system could be expressed the three numbers of the N.-W. F. P. and thus could be combined the original system *plus* the N.-W. F. P. development in one printing operation.

Another possible course would be, if it were felt that the N. W.-F. P. system could be extended into several other provinces, to take these together as a separate indenting unit, and to base the others on the two-number system.

17. And finally, once again, what is wanted is thought and experiment and both in good time. There are enormous possibilities of rationalisation here as well as elsewhere in the census but rationalisation needs for its full effect time and again time.

APPEN-

In the list below is given the application of the Code system to the provinces of British India and Central India for which superintendents were appointed by British India. State names are the same code numbers were adopted; since the British districts

Code No	Madras	Bombay	Bengal	United Provinces	Punjab	Bihar
1	2	3	4	5	6	7
1	Vizagapatam	Bombay municipality *Kolhapur*	Burdwan	Pilibhit	Hissar *Loharu*	Patna
2	Godavari East	Ahmedabad	Birbhum	Saharanpur	Rohtak *Dujana*	Gaya
2-1	..	*Akalkot*	..	..	..	..
2-2	..	*Ithor*	..	..	..	..
2-3	..	*Aundh*	..	..	..	..
2-4	..	..	..	..	..	..
2-5-1 to 7	..	..	..	..	..	..
2-5-8 to 12 ..	..	..	..	..	..	..
2-5-13 to 15 ..	..	..	..	..	..	..
2-5-16	..	..	..	..	..	..
2-5-17 to 18 ..	..	..	..	..	..	..
3	Godavari West	Kaira	Bankura	Muzaffarnagar	Gurgaon *Palaudi*	Shahabad
3-1	..	*Jamkhandi*	..	..	..	..
3-2	..	*Janjira*	..	..	..	..
3-3	..	*Jath*	..	..	..	..
3-1-1 to 5 ..	..	..	..	..	..	..
3-2-1 to 5 ..	..	..	..	..	..	..
3-3-1 to 11 ..	..	..	..	..	..	..
3-4-1 to 4 ..	..	..	..	..	..	..
3-5-1 to 4 ..	..	..	..	..	..	..
3-6-1 to 5 ..	..	..	..	..	..	..
3-7-1 to 3 ..	..	..	..	..	..	..
3-7-4 to 7 ..	..	..	..	..	..	..
3-7-8 ..	..	..	..	..	..	..
3-8-1 to 2 ..	..	..	..	..	..	..
3-9-1 to 9 & 3-9-11 to 20	..	..	..	..	..	..
3-8-3 to 6 ..	..	..	..	..	..	..
3-8-7 to 10 ..	..	..	..	..	..	..
3-8-11 ..	..	..	..	..	..	..
3-9-10 ..	..	..	..	..	..	..
4	Kistna	Broach & Panch Mahals	Midnapore	Meerut	Karnal *Kalsia*	Saran
4-1	..	*Kurundwad Senior*	..	..	..	..
4-2	..	*Kurundwad Junior*	..	..	..	..
5	Guntur	Surat	Hooghly	Bulandshahr	Ambala *Sirmoor*	Champaran
5-1	..	*Mudhol*	..	..	..	..
5-2	..	*Miraj Senior*	..	..	..	..
5-3	..	*Miraj Junior*	..	..	..	..
5-4	..	..	..	..	..	..
5-5	..	..	..	..	..	..
5-6	..	..	..	..	..	..
5-7-1 to 5 ..	..	..	..	..	..	..
5-7-6 to 8 ..	..	..	..	..	..	..
5-7-9	..	..	..	..	..	..
5-7-10	..	..	..	..	..	..
5-7-11	..	..	..	..	..	..
5-7-12	..	..	..	..	..	..

DIX I

and the States associated with them for census purposes; and also for the two areas Rajputana *in italics*. In Bombay and the Punjab, where the States were numerous, parallel systems using and States remained separate throughout there was no risk of confusion.

Central Provinces and Berar	Assam	N.-W. F. P.	Orissa	Sind	Baluchistan	Rajputana and Ajmer-Merwara	Central India Agency
8	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Saugor	Cachar	Abbottabad	Cuttack	Karachi City	Quetta-Pishin	Ajmer-Merwara	*Indore*
Jubbulpore	Sylhet	Mansehra	Balasore	Karachi Dist.	Loralai	Mount Abu	
..	..	..	..	..	..	..	} *Bhopal*
..	..	..	..	..	..	..	} *Narsingarh*
..	..	..	..	..	..	..	*Rajgarh*
..	..	..	..	..	..	..	*Dewas S.B.*
..	..	..	..	..	..	..	*Dewas J.B.*
..	..	..	..	..	..	..	*Khilchipur*
..	..	..	..	..	..	..	*Kurwai*
..	..	..	..	..	..	..	*Muhammadgarh & Pathari*
Mandla	Khasi & Jaintia hills	Haripur	Puri	Hyderabad Municipal area	Zhob	..	..
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..	..	..	..	..	..	..	*Orchha*
..	..	..	..	..	..	..	*Datia*
..	..	..	..	..	..	..	*Panna*
..	..	..	..	..	..	..	*Charkhari*
..	..	..	..	..	..	..	*Bijawar*
..	..	..	..	..	..	..	*Chhatarpur*
..	..	..	..	..	..	..	*Samthar*
..	..	..	..	..	..	..	*Ajaigarh*
..	..	..	..	..	..	..	*Baoni*
..	..	..	..	..	..	..	*Bundelkhand Minor States*
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	*Nagod*
..	..	..	..	..	..	..	*Maihar*
..	..	..	..	..	..	..	*Khaniadhana*
..	..	..	..	..	..	..	*Sarila*
Hoshangabad *Makrai*	*Khasi States*	Peshawar	Sambalpur	Hyderabad District	Chagai	*Jaipur*	*Rewa*
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
Nimar	Naga Hills	Charsadda	Ganjam	Sukkur	Sibi	*Marwar*	..
..	..	..	..	..	..	..	*Jaora*
..	..	..	..	..	..	..	*Ratlam*
..	..	..	..	..	..	..	*Alirajpur*
..	..	..	..	..	..	..	*Barwani*
..	..	..	..	..	..	..	*Dhar*
..	..	..	..	..	..	..	*Jhabua*
..	..	..	..	..	..	..	*Sailana*
..	..	..	..	..	..	..	*Sitamau*
..	..	..	..	..	..	..	*Kharwa*
..	..	..	..	..	..	..	*Piploda*
..	..	..	..	..	..	..	*Jobat*
..	..	..	..	..	..	..	*Alirajpur*

APPENDIX

Code No	Madras	Bombay	Bengal	United Provinces	Punjab	Bihar
1	2	3	4	5	6	7
6	Nellore	Thana	Howrah	Aligarh	Simla *Bilaspur*	Muzaffarpur
6-1	..	*Phaltan*	..	..	..	..
6-2	..	*Ramdurg*	..	..	..	..
6-3	..	*Sangli*	..	..	..	..
6-4	..	*Wadi*	..	..	..	..
7	Cuddapah	Bombay suburban	24-Parganas	Muttra	Kangra *Mandi*	Darbhanga
7-1	..	*Savanur*	..	..	..	..
7-2	..	*Savantwadi*	..	..	..	..
8	Kurnool *Banganapalle*	Ahmednagar	Calcutta	Agra	Hoshiarpur *Suket*	Monghyr
8-1	..	*Bhavnagar*	..	..	..	..
8-2	..	*Dhrangadhra*	..	..	..	..
8-3	..	*Dhrol*	..	..	..	..
8-4	..	..	..	..	..	..
8-5	..	..	..	..	..	..
8-6	..	..	..	..	..	..
9	Bellary *Sandur*	East Khandesh	Nadia	Mainpuri	Jullundur *Kapurthala*	Bhagalpur
9-1	..	*Gondal*	..	..	..	..
9-2	..	*Idar*	..	..	..	..
9-3	..	*Jafrabad*	..	..	..	..
9-4	..	..	..	..	..	..
9-5	..	..	..	..	..	..
9-6	..	..	..	..	..	..
9-7	..	..	..	..	..	..
9-8	..	..	..	..	..	..
9-9	..	..	..	..	..	..
10	Anantapur	West Khandesh	Murshidabad	Etah	Ludhiana *Malerkotla*	Purnea
10-1	..	*Porbundar*	..	..	..	..
10-2	..	*Radhanpur*	..	..	..	..
10-3	..	*Palitana*	..	..	..	..
11	Madras	Nasik	Jessore	Bareilly	Ferozepore *Faridkot*	Santal Parganas
11-1	..	*Jamnagar*	..	..	..	..
11-2	..	*Limbdi*	..	..	..	..
11-3	..	*Vijayanagar*	..	..	..	..
11-4	..	..	..	..	..	..
11-5	..	..	..	..	..	..
12	Chingleput	Poona	Khulna	Bijnor	Lahore *Chamba*	Hazaribagh
12-1	..	*Morvi*	..	..	..	..
12-2	..	*Rajkot*	..	..	..	..
12-3	..	*Wadhwan*	..	..	..	..
13	Chittoor	Satara	Rajshahi	Budaun	Amritsar *Jind*	Ranchi
13-1	..	*Wankaner*		..		..
13-2	..	*Cutch*	..	..	..	..
14	North Arcot	Sholapur *Sabar-Kanta*	Dinajpur	Moradabad	Gurdaspur *Patiala*	Palamau
14-1	..	*Sadra*	..	..	..	..
14-2	..	*Banas*	..	..	..	..
15	Salem	Belgaum	Jalpaiguri *Cooch Behar*	Shahjahanpur ..	Sialkot *Nabha*	Manbhum ..
15-1	..	*Eastern Kathiawar*	..	..	..	..
15-2	..	*Western Kathiawar*	..	..	..	..

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Central Provinces and Berar	Assam	N.-W. F. P.	Orissa	Sind	Baluchistan	Rajputana and Ajmer-Merwara	Central India Agency
8	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Betul	Lushai Hills	Nowshera	Koraput	Larkana	Bolan	*Bundi*	..
..	..	..	..	..	..	..	..
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..	..	..	..	..	..	..	..
Chhindwara	Goalpara	Mardan	*Mayurbhanj*	Nawabshah	*Kalat*	*Bikaner*	..
..	..	..	..	..	..	..	..
..	..	..	.. ..	..	..	..	..
Wardha	Kamrup	Swabi	..	Thar Parkar	*Kharan*	*Kotah*	..
..	..	..	*Athgarh*	..	..	..	..
..	..	..	*Talchar*	..	..	..	..
..	..	..	*Nilgiri*	..	..	..	..
..	..	..	*Keonjhar*	..	..	..	..
..	..	..	*Pal Lahara*	..	..	..	..
..	..	..	*Athmallik*	..	..	..	..
Nagpur	Darrang	Kohat		Dadu	*Las Bela*	*Karauli*	..
..	..	..	*Dhenkanal*	..	..	..	..
..	..	..	*Hindol*	..	..	..	..
..	..	..	*Narsinghpur*	..	..	..	..
..	..	..	*Baramba*	..	..	..	..
..	..	..	*Tilgiria*	..	..	..	..
..	..	..	*Khandpara*	..	..	..	..
..	..	..	*Nayagarh*	..	..	..	..
..	..	..	*Ranpur*	..	..	..	..
..	..	..	*Daspalla*	..	..	..	..
Chanda	Nowgong	Hangu		Upper Sind F.T.	..	*Kishengarh*	..
..	..	..	*Patna*	..	..	..	..
..	..	..	*Kalahandi*	..	..	..	..
..	..	..	..	..	..	..	..
Bhandara	Sibsagar	Teri	..	*Khairpur*	..	*Bharatpur*	..
..	..	..	*Baud*	..	..	..	..
..	..	..	*Bamra*	..	..	..	..
..	..	..	*Rairakhol*	..	..	..	..
..	..	..	*Sonpur*	..	..	..	..
..	..	..	*Bonai*	..	..	..	..
Balaghat	Lakhimpur	Bannu	..	..	..	*Jaisalmer*	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
Raipur	Garo Hills	Laki	..	..	..	*Alwar*	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
Bilaspur *Sakti*	Sadiya F.T.	Dera Ismail Khan	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
Drug *Chhuikhadan Kawardha*	Balipara F. T.	Kulachi	..	..	..	*Dholpur*	..
		..	..	..	..	..	..
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APPENDIX

Code No.	Madras	Bombay	Bengal	United Provinces	Punjab	Bihar
1	2	3	4	5	6	7
16	Coimbatore	Bijapur	Darjeeling *Sikkim*	Dehra Dun	Gujranwala *Bahawalpur*	Singhbhum ..
16-1	..	*Bhadarwa*	..	..	..	..
16-2	..	*Jambughoda*	..	..	..	..
17	..	Dharwar	Rangpur	Farrukhabad	Sheikhupura *Rashahr*	.. ..
17-1	..	*Jawhar*	..	..		*Seraikela*
17-2	..	*Lunawada*	..	..	..	*Kharsawan*
17-3	..	*Rajpipla*	..	..	..	..
18	Tanjore	Karwar	Bogra	Etawah	Gujrat *Nalagarh*	.. ..
18-1	..	*Balasinor*	..	..	..	*Changabhakhar*
18-2	..	*Baria*	..	..	..	*Korea*
18-3	..	*Bansda*	..	..	..	*Surguja*
18-4	..	..	..	..	..	*Udaipur*
18-5	..	..	..	..	..	*Jashpur*
19	Trichinopoly *Pudukota*	Kolaba ..	Pabna ..	Cawnpore ..	Shahpur *Baghal*	*Gangpur* ..
19-1	..	*Cambay*	..	..	..	..
19-1-1	..	..	..	..	..	..
19-1-2	..	..	..	..	..	..
19-1-3	..	..	..	..	..	..
19-1-4	..	..	..	..	..	..
19-1-5	..	..	..	..	..	..
19-2	..	*Chhota Udepur*	..	..	..	..
19-3	..	*Dharampur*	..	..	..	..
20	Madura	Ratnagiri	Malda	Fatehpur	Jhelum *Keonthal*	.. ..
20-1	..	*Sachin*	..	..	..	..
20-2	..	*Sant*	..	..	..	..
21	Ramnad	Ahmedabad Municipality *Junagadh*	Dacca	Allahabad	Rawalpindi *Jubbal*	.. ..
22	Tinnevelly	Surat Municipality	Mymensingh	Jhansi	Attock *Baghat*	.. ..
22-1	..	*Kadana*	..	..	..	..
22-2	..	*Mandwa*	..	..	..	..
23	The Nilgiris	Poona Municipality	Faridpur	Jalaun	Mianwali *Kumharsain*	.. ..
23-1	..	*Senjeli*	..	..	..	..
23-2	..	*Surgana*	..	..	..	..
24	Malabar	Sholapur Municipality	Bakarganj	Hamirpur	Montgomery *Bhajji*	.. ..
24-1	..	*Umeta*	..	..	..	..
24-2	..	*Vajirin*	..	..	..	..
25	South Kanara Coorg	Hubli Municipality	Tippera *Tripura*	Banda	Lyallpur *Muhlog*	.. ..
25-1	..	*Dangs*	..	..	..	..
25-2	..	*Panch Mewas*	..	..	..	..
25-3	..	*Sankheda Mewas*	..	..	..	..
26	..		Noakhali	Benares	Jhang *Balsan*	.. ..

I—*contd.*

Central Provinces and Berar	Assam	N.-W. F. P.	Orissa	Sind	Baluchistan	Rajputana and Ajmer-Merwara	Central India Agency
8	*9*	*10*	*11*	*12*	*13*	*14*	*15*
Amraoti	*Manipur*	Tonk	..	..	..	*Sirohi*	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
Akola	..	Hazara	..	..	..	*Dungarpur*	..
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Buldana	..	Mansehra	..	..	..	*Partabgarh*	..
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Yeotmal	..	..	..	..	..	*Banswara*	..
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..	..	Khyber	..	..	..	..	..
..	..	Malakand	..	..	..	..	..
..	..	Kurram	..	..	..	..	..
..	..	North-Waziristan	..	..	..	..	..
..	..	South-Waziristan	..	..	..	..	..
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..	..	..	..	..	..	..	..
Bastar	..	..	..	..	..	*Palanpur*	..
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..	..	..	..	..	..	..	..
Kanker	..	..	..	..	..	*Jhalawar*	..
Nandgaon	..	..	..	..	..	*Danta*	..
..	..	..	..		..	..	..
..	..	..	..		..	..	..
Khairagarh	..	..	..	..	..	*Shahpura*	..
..	..	..	..	..	..	..	..
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Raigarh	..	..	..	..	..	*Kushalgarh*	..
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Sarangarh	..	..	..	..	..	*Lawa*	..
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APPENDIX

Code No.	Madras	Bombay	Bengal	United Provinces	Punjab	Bihar
1	2	3	4	5	6	7
27	..	..	Chittagong	Mirzapur	Multan	..
			Chittagong Hill Tracts	..	..	..
				..	..	..
27-1	..	..	..	..	*Kuthar*	..
27-2	..	..	..	..	*Kunihar*	..
27-3	..	..	..	..	*Mangal*	..
27-4	..	..	..	..	*Bija*	..
27-5	..	..	..	..	*Darkoti*	..
27-6	..	..	..	..	*Sangri*	..
28	..	..	..	Jaunpur	Muzaffargarh	..
					Dhami	..
29	..	..	..	Ghazipur	Dera Ghazi Khan	..
					Tharoch	..
30	..	..	..	Ballia	Delhi	..
31	..	..	..	Gorakhpur	..	..
32	..	..	..	Basti	..	..
33	..	..	..	Azamgarh	..	..
34	..	..	..	Naini Tal	..	..
35	..	..	..	Almora	..	..
36	..	..	..	Garhwal	..	..
37	..	..	..	Lucknow	..	..
38	..	..	..	Unao	..	..
39	..	..	..	Rae Baroli	..	..
40	..	..	..	Sitapur	..	..
41	..	..	..	Hardoi	..	..
42	..	..	..	Kheri	..	..
43	..	..	..	Fyzabad	..	..
44	..	..	..	Gonda	..	..
45	..	..	..	Bahraich	..	..
46	..	..	..	Sultanpur	..	..
47	..	..	..	Partabgarh	..	..
48	..	..	..	Bara Banki	..	..
49	..	..	..	*Rampur*	..	..
50	..	..	..	*Tehri-Garhwal*	..	..
51	..	..	..	*Benares*	..	..

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Central Provinces and Berar	Assam	N.-W. F. P.	Orissa	Sind	Baluchistan	Rajputana and Ajmer-Merwara	Central India Agency
8	*9*	*10*	*11*	*12*	*13*	*14*	*15*
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APPEN

Code No	Madras	Bombay	Bengal	United Provinces	Punjab	Bihar	Central Provinces and Berar
1	2	3	4	5	6	7	8
1	Vizagapatam	Bombay Municipality *Kolhapur*	Burdwan	Dehra Dun Saharanpur	Hissar *Loharu*	Patna	Saugor
2	Do.	Ahmedabad *Akalkot* *Bhor* *Aundh*	Birbhum Bankura	Muzaffarnagar	Rohtak *Dujana*	Gaya	Jubbulpore .. ..
3	East Godavari	Kaira *Jamkhandi* *Janjira* *Jath*	Midnapore	Meerut	Gurgaon *Pataudi*	Shahabad	Mandla .. .. ..
4	West Godavari	Broach & Panch Mahals— *Kurundwad Senior* *Kurundwad Junior*	Midnapore ..	Bulandshahr Aligarh ..	Karnal *Kalsia* ..	Saran	Hoshangabad *Makrai* ..
5	Kistna	Surat *Mudhol* *Miraj Senior* *Miraj Junior*	Hooghly	Muttra Agra	Ambala *Sirmoor*	Champaran	Nimar .. .. ..
6	Guntur	Thana *Phaltan* *Ramdurg* *Sangli* *Wadi*	Howrah	Mainpuri Etah	Simla *Bilaspur*	Muzaffarpur	Betul .. ..
7	Nellore	Bombay suburban *Savanur* *Savantwadi*	24-Parganas	Bareilly Bijnor ..	Kangra *Mandi* ..	Muzaffarpur	Chhindwara .. ..
8	Cuddapah	Ahmednagar *Bhavnagar* *Dhrangadhra* *Dhrol*	24-Parganas	Badaun Moradabad	Hoshiarpur *Suket*	Darbhanga	Wardah .. .. ..
9	Kurnool *Banganapalle*	East Khandesh *Gondal* *Idar* *Jafrabad*	Calcutta	Shahjahanpur Pilibhit	Jullundur *Kapurthala*	Darbhanga	Nagpur .. .. ..
10	Bellary *Sandur*	West Khandesh *Porbundar* *Radhanpur* *Palitana*	Nadia	Farrukhabad Etawah	Ludhiana *Malerkotla*	Monghyr	Chanda .. .. ..
11	Anantapur	Nasik *Jamnagar* *Limbdi* *Vijayanagar*	Murshidabad	Cawnpore Fatehpur	Ferozepore *Faridkot*	Bhagalpur	Bhandara .. .. ..

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Assam	N.-W. F. P.	Orissa	Sind	Baluchistan	Rajputana and Ajmer-Merwara	Central India Agency
9	10	11	12	13	14	15
Cachar	Abbottabad	Cuttack	Karachi City	Quetta-Pishin	Ajmer-Merwara	*Indore*
..	..	..	..	..	Abu	..
..	..	..	..	..	*Bikaner*	..
..	..	..	..	..	*Sirohi*	..
Sylhet	Mansehra	Balasore	Karachi Dist.	Loralai	*Bharatpur*	*Bhopal*
..	..	..	..	..	*Bundi*	*Narsingarh*
..	..	..	..	..	*Dholpur*	*Rajgarh*
..	..	..	..	..	*Jhalawar*	*Dewas S. B.*
..	..	..	..	..	*Karauli*	*Dewas J. B.*
..	..	..	..	..	*Kotah*	*Khilchipur*
..	..	..	..	..	..	*Kurwai*
..	..	..	..	..	..	*Muhammadgarh & Pathari*
Khasi & Jaintia hills—	Haripur	Puri	Hyderabad Municipal area	Zhob	*Jaipur*	*Orchha*
..	..	..	..	..	..	*Datia*
..	..	..	..	..	..	*Panna*
..	..	..	..	..	..	*Charkhari*
..	..	..	..	..	..	*Bijawar*
..	..	..	..	..	..	*Chhatarpur*
..	..	..	..	..	..	*Samthar*
..	..	..	..	..	..	*Ajaigarh*
..	..	..	..	..	..	*Baoni*
..	..	..	..	..	..	*Bundelkhand Minor States*
..	..	..	..	..	..	*Nagod*
..	..	..	..	..	..	*Maihar*
Khasi States	Peshawar	Sambalpur	Hyderabad District	Chagai	*Jaipur*	*Khaniadhana*
..	..	..	..	..	..	*Sarila*
						Rewa
Naga Hills	Charsadda	Ganjam	Sukkur	Sibi	*Alwar*	*Jaora*
..	..	..	..	..	*Kishengarh*	*Ratlam*
..	..	..	..	..	*Lawa*	*Alirajpur*
..	..	..	..	..	*Shahpura*	*Barwani*
..	..	..	..	..	*Tonk*	*Dhar*
..	..	..	..	..	..	*Jhabua*
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..	..	..	..	..	..	*Sitamau*
..	..	..	..	..	..	*Kharua*
..	..	..	..	..	..	*Piploda*
..	..	..	..	..	..	*Jobat*
..	..	..	..	..	..	*Alirajpur*
Lushai Hills	Nowshera	Koraput	Larkana	Bolan	*Banswara*	..
..	..	..	..	..	*Dungarpur*	..
..	..	..	..	..	*Khushalgarh*	..
..	..	..	..	..	*Partabgarh*	..
..	..	..	..	..	*Mewar*	..
Goalpara	Mardan	*Mayurbhanj*	Nawabshah	*Kalat*	*Marwar*	..
Kamrup	Swabi	*Athgarh*	Thar Parkar	*Kharan*	*Danta*	..
..	..	*Talcher*	..	..		..
..	..	*Nilgiri*	..	..	*Jaisalmer*	..
..	..	*Keonjhar*	..	..	*Palanpur*	..
..	..	*Pal Lahara*	..	..	..	..
..	..	*Athmallik*	..	..	..	..
Darrang	Kohat	*Dhenkanal*	Dadu	*Las Bela*	..	..
..	..	*Hindol*	..	..	..	..
..	..	*Narsinghpur*	..	..	..	..
..	..	*Baramba*	..	..	..	..
..	..	*Tigiria*	..	..	..	..
..	..	*Khandpara*	..	..	..	..
..	..	*Nayagarh*	..	..	..	..
..	..	*Rampur*	..	..	..	..
..	..	*Daspalla*	..	..	..	..
Nowgong	Hangu	*Patna*	Upper Sind	..	..	..
..	..	*Kalahandi*	F. T.	..	..	..
Sibsagar	Teri	*Baud*	*Khairpur*	..	..	..
..	..	*Bamra*	..	..	..	..
..	..	*Rairakhol*	..	..	..	..
..	..	*Sonpur*	..	..	..	..
..	..	*Bonai*	..	..	..	..

APPENDIX

Code No	Madras	Bombay	Bengal	United Provinces	Punjab	Bihar	Central Provinces and Berar
	2	3	4	5	6	7	8
12 ..	Madras	Poona	Jessore	Allahabad	Lahore	Purnea	Balaghat
		Morvi	..	Banda	*Chamba*	..	..
		Rajkot	..	..	..	..	..
		Wadhwan	..	..	..	..	..
13	Chingleput	Satara	Khulna	Hamirpur	Amritsar	Santal	Raipur
		Wankaner	..	Jhansi	*Jind*	Parganas	*Narangarh*
		Cutch	..	Jalaun	..	..	..
14	Chittoor	Sholapur	Rajshahi	Benares	Gurdaspur	Hazaribagh	Bilaspur
		Sabar-kanta	..	*Benares*	*Patiala*	..	*Sakti*
		Sadra	..	*State*	..	..	*Raigarh*
		Banas	..	..	..	..	..
15	North Arcot	Belgaum	Dinajpur	Mirzapur	Sialkot	Ranchi	Drug—
		Eastern Kathiawar	..	Jaunpur	*Nabha*	..	*Chhuikhadan*
		Western Kathiawar	..	..	..	..	*Kawardha*
							Nandgaon
							Khairagarh
16	Salem	Bijapur	Jalpaiguri	Ghazipur	Gujranwala	Palamau	Amraoti
		Bhadarva	Darjeeling	Ballia	*Bahalwapur*	..	..
		Jambughoda	*Cooch Bihar*	..	..	..	..
			Sikkim				
17	Coimbatore	Dharwar	Rangpur	Gorakhpur	Sheikhupura	Manbhum	Akola
		Jawhar	..	..	*Bashahr*	..	..
		Lunawada	..	..	..	..	..
		Rajpipla	..	..	..	..	..
18 ..	South Arcot	Karwar	Bogra	Gorakhpur	Gujrat	Singhbhum	Buldana
		Balasinor	..	..	*Nalagarh*	..	..
		Baria	..	..	..	..	..
		Bansda	..	..	..	..	..
19	Tanjore	Kolaba	Pabna	Basti	Shahpur	*Gangpur*	Yeotmal
		Cambay	Malda	..	*Baghal*	*Seraikela*	..
		Chhota Udepur	..	..	..	*Kharsawan*	..
		Dharampur	..	..	..	..	..
20	Trichinopoly	Ratnagiri	Dacca	Azamgarh	Jhelum	*Changbhakhar*	*Bastar*
	Pudukota	*Sachin*	..	Naini Tal	*Keonthal*	*Korea*	*Kanker*
		Sant	..	*Rampur*	..	*Surguja*	..
						Udaipur	..
						Jashpur	..
21	Madura	Ahmedabad	Dacca	Almora	Rawalpindi	..	..
		Municipality	..	Garhwal	*Jubbal*	..	..
		Junagadh	..	*Tehri-Garhwal*	..	..	..
22	Ramnad	Surat Municipality	Mymensingh	Lucknow	Attock	..	..
		Kadana	..	Unao	*Baghat*	..	..
		Mandwa	..	..	..	..	..
23	Tinnevelly	Poona Municipality	Mymensingh	Rae Bareli	Mianwali	..	..
		Sanjeli	..	Sitapur	*Kumharsain*	..	..
		Surgana					
24	The Nilgiris	Sholapur Municipality	Faridpur	Hardoi	Montgomery	..	..
		Umeta	..	Kheri	*Bhajji*	..	..
		Vajirin	..	..	..	..	..
25	Malabar	Hubli Municipality	Bakarganj	Fyzabad	Lyallpur	..	..
		Dangs	..	..	*Mahlog*	..	..
		Pandu Mewas	..	..	..	..	..
		Sankheda	..	..	..	..	..
		Mewas	..	..	..	..	..
26	Malabar	..	Bakarganj	Gonda	Jhang	..	..
					Balsan	..	..
27	South Kanara	..	Tippera	Bahraich	Multan	..	..
			Tripura	Sultanpur	*Kathar*	..	..
					Kunihar	..	..
					Mangnl	..	..
					Bija	..	..
					Darkoti	..	..
					Sangri	..	..
28	..	..	Tippera	Partabgarh	Muzaffargarh	..	..
					Dhami	..	..
29	..	..	Noakhali	Bara Banki	Dera Ghazi Khan	..	..
					Tharoch	..	..
30	..	..	Chittagong	..	Delhi	..	..
			Chittagong Hill tracts		..	..	..

II—*contd*

Assam	N.-W. F. P.	Orissa	Sind	Baluchistan	Rajputana and Ajmer-Merwara	Central India Agency
9	*10*	*11*	*12*	*13*	*14*	*15*
Lakhimpur	Bannu	..	..	..	..	..
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Garo Hills	Laki	..	..	..	..	..
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Sadiya F. T.	Dera Ismail Khan	..	..	..	..	..
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Balipara F. T.	Kulachi	..	..	..	..	..
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Manipur	Tank	..	..	..	..	..
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..	Malakand	..	..	..	..	..
..	Kurram	..	..	..	..	..
..	North-Waziristan	..	..	..	..	..
..	South-Waziristan	..	..	..	..	..
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CHAPTER IV—MACHINES

I—GENERAL

The possibility of using machines in an Indian census requires for proper appreciation to be approached from a fresh viewpoint. In the past consideration has been based on the use of machines for the entire operations once every ten years. Regularly, the finding on expense has been adverse; to bring in for one ten-yearly operation enough machines to cope with the details for 390 million people must inevitably run far beyond the expense of the old hand-sorting system; the difference is accentuated by the fact that the enumeration system introduced this year dispenses with the slip-copying stage which represents a saving of approximately 5½ lakhs of rupees. A certain approximation in these figures follows from the fact that in past years no process-costing was taken out *i.e.*, no specific figure was given, except in one or two provinces, for the slip-copying stage. A further complication is added by the different qualities of paper used and the potent influence of war-time costs. The general dimensions however are not in doubt.

Actually, it is doubtful whether any single manufacturer of machines, or even the two main companies operating in India together, could have provided the enormous number of machines that would be required; here again emphasis is added by the fact that the between-census years in India are dead so far as preparations for the next census are concerned.

2. The correct attitude to my mind is to approach the whole question from the point of view of using whatever machines exist and spacing the enquiries. There are in various departments of the Government of India and in various parts of the country tabulation machines run regularly for the production of recurring statistics. The first objective should be to see whether use can be made of these machines. Leaving out of account the exceptional conditions of war-time, these machines are not always operating; busy periods do not extend throughout a month or even a week. I do not say that every machine has some free or slack time or that the amount is the same in every case; what I do say is that the working hours of these machines should be investigated and put on record.

Looking ahead, as one should always do, it is certain that there will be many more machines in use in Governemnt of India departments ten years hence than now and the more machines there are the more opportunities present themselves for using them to a census end.

This investigation would show when a particular machine or series of machines offered some slack time during which they could be employed on outside work, *e.g.*, for my present purpose, on census tabulation. These machines are generally located in cities or large towns and a beginning could at least be made with tabulation on them during spare time, weekends, Sundays, etc., of census figures for the cities housing the machines. I strongly recommend a full enquiry into this topic, primarily with a view to the next census but also to help to bring about fuller realisation and use of the capacities of these machines.

3. The tabulating companies and the departments of the Government of India using machines have to alter their outlook to some extent in order to give a readier admission to the concept that machines should not be regarded as purely departmental. There is considerable scope for bringing such machines into a single or at any rate a much smaller number of compartments, and centralising their use. Departments would have the first call on so many machines but the free time of machines would remain at the disposal of the officer in charge of their operation.

With such an officer the Census Commissioner could arrive at a clear estimate of possibilities and plan his undertaking accordingly. At present the reserve time for each machine is tied up with the department where they are located and is with difficulty, if at all, available to other departments of the Government of India which, while they may not have any work requiring the regular use of such machines, may quite possibly have from time to time enquiries, tabulations, etc., which lend themselves to machine handling. In most departments now there is one section which concentrates on typing and similar common efforts; it is a logical step from this to bringing into a common section other machine units possessing a general rather than a limited value.

Generally speaking, efficiency and economy would alike be secured if this technical branch of operation were concentrated in a single machine unit for the whole Government of India or at least for each group of offices in a particular city. The situation resembles in some ways that of electricity production, which has to cope with the peak load and yet may have that peak load effective only for one hour out of the 24 and sometimes not at all for months on end. The economies resulting from spreading the load over the 24 hours are a fundamental feature of all electricity supply organisations. It is the same with these machines. The more they are concentrated the greater will be the power to see that every machine is used to the full; and with such use it follows that provision of machines can be made on an average instead of on a peak basis.

4. Along with this should go a constant study of the possibilities of bringing other statistical efforts into the scope of machine handling, *e.g.*, specimen surveys conducted by research bodies, and even the settlements in ryotwari provinces, where masses of figures have to be handled.

Implicit in this is a close association with the Statistical Department or statistical officers of the

Governments; these officers with the machines at hand, would be able to plan their enquiries and the treatment of the results in accordance with the type of machine and amount of the machine time available.

5. A further element enters; to get the fullest value out of these machines and to secure the utmost economy, the use of them by the various agencies should be spaced out and not concentrated all at one time. The bearing of this on the census is obvious. Some of its enquiries could be carried out between the census peak years. This is linked with the general question of rationalisation of census effort on which I have written at length elsewhere.

6. I have been able on this occasion, not without difficulty, to make a beginning by getting details for Delhi done on machines. Delhi is a small self-contained area for which separate figures have to be published. It is the headquarters of the Census Commissioner and therefore work could be done under his personal supervision. The machines of one of the main companies were in regular use by various departments. I began my enquiries into this matter before ever I took over as Census Commissioner (and indeed, into a great many other matters bearing on the census in addition to my already considerable duties as Joint Secretary in the Department of E. H. and L.). The idea seemed novel to all those to whom it was put but the two companies themselves realised the merits of the proposal and also the extreme unlikelihood that the Indian census could ever be mechanised on any other lines within a reasonable future.

I began my enquiries with the Military Accounts branch who were good enough to go into certain details on my behalf but were perhaps not unnaturally not particularly enthusiastic. I found a better reception from the Central Board of Revenue and I am indebted to Mr. Sheehy, who was prompt to declare his readiness to help and to Mr. Chettur with whom the actual details were worked out and the innovation started. I must mention also the cordial cooperation of the machine tabulating companies in my enquiry. The machines in use in Delhi are those of the British Tabulating Machine Company (Hollerith) and consequently it was on their machines that the Delhi experiment has been carried out. I imagine there is no reason however why the scheme could not be carried out on machines of the other Company (Powers Samas) where their machines are in use by a government department, and my correspondence with them will be on record in such an eventuality. Messrs. Chastell and Hall of the British Tabulating Machine Company, once they had appreciated the principle of the departure and its importance, gave me the most cordial cooperation.

Here as in many other directions the war intervened as an obstacle. But for its pressure I might have been able to use the machines of more than one department and thus spread experience.

7. Another influence of the war was a general increased pressure in all offices. This made it more difficult to secure consideration for experiments in methods which presumed for their achievement the collaboration of a variety of officers. Here again enters the fatal pressure against which the census is done in this country. Such changes of methods as this I have been expounding ought in any rational system to be conducted almost as it were at leisure and not against the exigencies of a large-scale, high-pressure operation. In between 1932 and 1939, had there been any agency or authority concerned with or interested in such matters, the experiment could have been worked out and tested on a small scale in ample time to allow of the result being ready by the time the main census operations came on.

In conclusion therefore I most earnestly advocate the examination at leisure of this point and all others bearing on possibilities of improved methods in connection with the census. They are not likely to be pursued with energy unless some officer is in charge of them and unless their execution is laid down. Consequently, in my opinion, the Government of India should definitely take up the examination of this possibility and entrust it preferably to an officer connected with one of the statistical branches or failing that to an officer of the Home Department itself. The great object is to keep experiment going in the proper scientific spirit, which knows that it is from experiment that knowledge comes.

II—DELHI MECHANICAL TABULATION

A—GENERAL PRINCIPLES

The basic principle of this was to use only machines and their ordinary equipment in regular use by offices of the Government of India in Delhi. Thus no special census fittings, adders etc., were required. The ordinary machines with their ordinary card, carried the census record.

2. My own first consideration of this idea goes back to the last census when as Madras Superintendent I formed the idea that the census record could be handled on the tabulating machines run by the M. and S. M. Railway Company, given the proper preparation etc. The time was not suitable however for the reception of a new idea and in any case, to work out a system like this is a matter of months if not longer, and time is precisely the commodity of which any census officer has least to spare.

3. I took up discussion of this after my appointment as Census Commissioner and before my departure on leave in 1939, and while on leave had certain discussions and interviews with representatives of the two main companies in London. During that leave also I saw the complicated batteries of census machines in Washington and Ottawa and had my impressions confirmed that to handle the all-India census throughout on machines would mean either spreading out the work over several years or hiring such batteries as would be difficult to accommodate and would prove extremely costly—if indeed machines in such quantity could be obtained at all. On my return from leave the war had broken out and any such possibility vanished at once,

4. The steps are simple enough to describe. First determine a code number in which to express the various census answers, have these code numbers punched on to a card, and send the cards through the machine. Within this simplicity however there enters a vast amount of detail.

5. From the first there was the element of cost. Since I did not contemplate special machines and proposed to use those of the C. B. R., it meant that the 80 column card of the C. B. R. had to take the census detail. Clearly economy counselled more than one person per card if possible. Actually I was able to accommodate three persons in a single card and this included provision for the fertility questions for women and unemployment for men. Full details will be found in the file of papers dealing with this subject but a full picture here in one place would be useful for ready consultation.

6. In census coding (discussed at some length in section B) come up repeatedly such points as mother tongue and birthplace. If we are to go on the principle of one code number per birth-place then we must have at least three columns for each feature. If one thinks of the continents and the number of different countries in them and of the variety within India itself and remembers that Delhi is a capital city one can see the range of birthplace and mother tongue that may be expected. But 95 per cent of the birthplaces of Delhi fall within Delhi itself or the two adjacent provinces of the Punjab and U. P., while the addition of a few more would take the percentage up to 98 or 99. Thus the bulk of the entries could be accommodated within one column. The variety of birthplaces falling within the small residue is however so great that to minimise the amount of hand-sorting I allotted two columns to birthplaces ; admission to these columns was in order of representation *i.e.*, number of persons returned as born in the various places. The remaining oddments, birthplaces ranging from China to Peru, were taken out by simple hand sort at the time of coding.

For mother tongue however, in which the variety was not so great as for birthplaces, we were able to confine the coded items to one column.

And hence in part the feat of getting three persons into one card.

The experience this time with Delhi indicates a definite scope for extending the hand-sorting element to minor communities. The coders can put aside separately all slips for minor communities (a list being given to them beforehand). When coding for a locality is finished these slips can be sorted and the minor community detail established. If the coders were given a small pigeon hole set they could sort the slips by community as they turn up in the course of coding ; thus more time would be saved.

Machine tabulation is suited to and meant for long runs ; to use it to strike totals of petty items is really a waste of machine's and operator's time. The card must contain all the details, which means that it has to be punched for every answer ; they are indistinguishable except by sex, an essential point of the whole machine system which does its separation through differently placed holes. But for the minor detail which is so marked a feature of the censuses particularly when confined to the conditions of a city, one should be on the look out for every opportunity of economising time and effort.

7. I roneo'd off the code numbers applicable to the answers against the various census questions. Several of the answers in any case were practically in code form; thus a √ meant yes and a X meant no. Similarly for civil condition there were only four symbols, of which two were those already mentioned. The means of livelihood code was ready-made in the shape of the list of occupations and industries determined during 1940. Originally therefore I thought that the punchers themselves from the census slips plus our indications, list of occupations etc., would be able to punch straight from the slips. This would have cut out an entire branch of the work, i. e. the coding performed in my office. Under a more spirited direction I still think this might have been

possible. The work however was novel and the direction of the punching section of the C. B. R. diffident and timid. Consequently I decided to carry out the coding in my own office and a staff was employed according to the periods given in the appendix III. Payment was by outturn invariably. The code number was written on the slip against the relevant question and precise instructions were drafted for the punchers which in fact told them in what column to punch what number.

This meant that the puncher's work was laid on as it were; everything was on the slip itself. They had merely to read and punch. Nevertheless the returns were disappointing and I attribute something of this to the diffidence and lack of grip referred to above. The men were not census men, but the essence of the scheme was that the census should be treated as part of their job and for the two to run together; this was certainly the attitude in which Mr. Chettur and myself approached it. The punchers were assisted by all issue of slips etc., being controlled by a member of my own staff and the slips were supplied ready tagged together by blocks thus facilitating consultation and verification.

8. From the outset I decided that verification must be 100 per cent. Later on when experience has grown it may be possible to do with a less then 100 per cent check but for an entirely new operation one could take no chances. In any case I imagine that 100 per cent verification of matters like answers to a census questionnaire would always be advisable. The tricky part about census answers is that one may have strings of identical answers and then a sudden change; this is notably so in matters like birthplace, mother-tongue etc. These points of sudden change are apt to be overlooked in the pressure of regional punching or sorting, yet no systematic check could really guarantee that they would as it were be revisited.

A point that should receive attention is verifier's mistakes. The scheme should be such as to permit of tracing back such mistakes to the verifier who committed them. Such deduction was always possible so far as punchers were concerned, since every puncher punches his own identifying number on a card.

Identification of verifiers could be secured by alloting a particular location to a particular verifier and seeing that all punched cards of these areas were verified by that particular man. This might involve here and there some delay but with a properly running system it should be possible to work it without inconvenience. It is important, when sorting machines throw up a verifier's error, to be able to trace it to the verifier at once.

Connected with this of course is the desirability of having sorting going on alongside punching and verifying from the earliest possible moment. Indeed this is an essential element in a scheme of this kind and was present in my original plans. It was defeated by C. B. R. congestions and the general conditions already referred to, which produced the effect that sorting did not start at all till months after punching had begun. Thus one important role of sorting and tabulating machines was to a large extent nullified, for by the time they threw up a discordant card which showed a verifier's error, it was impossible to trace the error back to the particular verifier. Yet in a properly balanced scheme this should be automatic.

9. The C. B. R. staff are on monthly wages. I was determined however from the first that the census operations must be on outturn and this was agreed to. The outturns first suggested were lowered at the instance of the officer in charge of the machine section but I refused to go lower than 480 per rupee. Actually it took 3-4 weeks for the punchers to reach this performance. It is to be remembered that this was half-time or over-time work and to that extent ordinary outturns could hardly be expected but for a work of this kind payment should invariably be based in part at least on outturn and part of my men's difficulty in working up speed was that they had never been accustomed to do so and had had no particular incentive.

It is true that in a permanent office where work may vary very considerably between different periods of the year or different periods of the same month, a pure outturn basis might introduce an excessive element of variation into the men's remuneration. But this difficulty could quite easily be met by basing the pay of permanent punchers on two components, (1) a regular monthly attribution say Rs. 15 or even 20, plus (2) the actual payment for performance. Where purely temporary effort like a census is concerned the entire payment should be based on outturn, giving however the first week or possibly two weeks at a standard rate in order to encourage the men to learn the job thoroughly before starting on a pure piece work basis. If between-census continuity were achieved and certain proposals for rationalising machine operations made in the section I of this note (paragraphs 3 to 5) were adopted census punching would of course be carried out by a permanent staff.

10. The fact that I was operating on the spare time of men already employed by another government department imposed necessarily certain restrictions on me. I had to relate my outturn pay rates to some extent to the men's monthly remuneration. One standing rule from the first was: an error discovered by a verifier was taken off the puncher's outturn and added to the verifier's. Thus there was no possibility of a combination between the two to share the verifier's reward.

11. One problem in this line of work will always be wastage. Here again, operating through employees of another office in an entirely new departure, I had to go carefully. It is desirable to give men in a work like this a period at the beginning in which fines or deductions are not made and outturns are not applied.

Thus they are able to devote themselves to learning their new job and have no inducement to over-hasty performance in order to swell their earnings. For haste applied to inadequate understanding is a certain and powerful source of error. After this period is over, however, outturn rates must be applied, and were in this Delhi operation. For a further period wastage deduction can be postponed till the men can be considered reasonably set. Thereafter a wastage rate should be applied. The cards are expensive and a deduction for wastage operates as the necessary corrective to careless work.

In this new venture I proceeded gently and did not apply a wastage rate until the operations were fairly far advanced. When however a period had been reached when all the men working had a substantial experience behind them I applied a fine of one pie per card wasted. One pie was approximately the cost of a card. In the first week this was applied to all wastage above 10 per cent ; in the following week, to all above 9 per cent and in the succeeding week, to all above 8 per cent.

With one's own staff or with wholetime paid operators the wastage fine could be applied above 5 per cent. Actually, I would regard for the type of sorting done this year, an outturn of 100 per hour and a maximum wastage rate of 5 per cent as the standard performance which, after the men have on the lines indicated above been able to get as it were run in, should be the basis of payment and of reduction calculations.

12. The wastage rate remained high and some of this must be put down to the divided authority ; for it has to be remembered that I was not using my own men. Difficulties of this sort however are to some extent inherent in the method itself and from this Delhi experiment a good deal has been learnt that will smooth the way for future applications.

13. An important point to remember is that while the machine companies know their machines they do not know census problems and the leading part in the casting of the card etc., must be played by the Census Commissioner himself. I imagine this applies anywhere ; after all the machine companies are experts in their machines and can say what operations can be performed, but the question of how best to adapt the machine capacities to a particular zone of facts and their interpretation is essentially for those concerned with the collection of these facts and their subsequent handling. The machine companies should in fact be looked upon rather as persons who give their car for hire and are told where to go by the hirer. While everyone concerned did their best to help, the census card this time is essentially the product of the Census Commissioner's office.

Consequently it is important in any future consideration of census operations that the Census Commissioner take the lead invariably. He must know what he wants.

14. At the suggestion of the B. T. M. Company a summary card was introduced. This theoretically is excellent. It provides for periodical summing of masses of cards and at the end the adding of these summary cards is a much simpler process than running 3 lakhs of cards through the machine for the various totals. The summary card however, which has to be punched from the point of view of tables as they are to appear on the printed page, needs very careful planning and here notably entered the aspect of the Census Commissioner's lead already mentioned. The fertility detail gave a striking illustration of the difficulties and limitations of a summary card. To punch the fertility detail on the original card was simple ; a matter merely of punching in the appropriate columns certain recorded figures. To express this matter in the summary card however required an elaborate series of punchings and on the whole I should recommend that in future before the summary card is adopted a careful enquiry be made whether the saving of effort is really worth the extra complexity and cost—although the last named is not considerable. It might be possible to make good use of the summary card in the simpler mass effects such as birthplace, mother tongue, community, leaving for other treatment more complicated tabular productions.

15. Mechanical tabulation is in some ways a factory process ; we have a number of men operating machines and paid by outturn. In all such activities the foreman or whoever corresponds to him is of great importance, for the qualities of drive and hitting up and keeping up outturns are not possessed by every one. Yet they are of great importance in a census tabulation. The quality of the person actually in charge of the machine operators is therefore of particular importance, for in good hands the same men in the same time without appreciable extra pressure or fatigue can produce a markedly superior outturn with consequent benefit to the census in speedier appearance of figures and reduction of overheads.

This is another argument for centralising government machines ; for then, with large batteries brought together the foreman aspect could be given particular attention and really suitable men attracted. Under the fragmentation system, with *i.e.*, a variety of offices, all with their little mechanical branch, this aspect is apt to be inadequately provided for.

With the concentrated system again maintenance would be better and probably cheaper. For it would be possible to have a whole-time competent staff instead of various broken up establishments having to share the services of visiting mechanics. Or in the alternative, where every establishment has its own maintenance men this means that more of these men are required with consequently an adverse effect on the expense position.

16. Sorting will always be the weak point of a mechanical census so far as time is concerned. For all the impressive outturns of a machine there remains

the hard fact that it can rattle out broadly only one thing at a time whereas a hand sorter can sort for an entire table at once. In most mechanical establishments the sorting machines are more heavily worked than the punches indicating a lack of balance in the set-up. The Delhi census operation suffered from the pressure on the C. B. R. sorting machines and originally with this bottle neck in mind my intention was to use also the sorting machines in other departments. War demands however had so completely congested these that no assistance was possible. Consequently I took on a B. T. M. Company's machine for which of course ordinary rates had to be paid.

One column was saved by distinguishing between male and female cards. Differential cost was kept to a minimum since the distinction took the form of merely a blue cross-line. Wherever possible gang-punching was used, although in a census not many answers lend themselves to this, the one considerable field for it being really location. If in future it were possible to apply further distinction during the enumeration stage, *e.g.*, for community, a further simplifying element would enter. This however is another and rather difficult problem into which several elements enter.

17. For convenience I give as appendices to this note the instructions to the coders who worked in my office and to the punchers.

18. At first this Delhi project fell under the Government of India's ban on full tabulation. I was able however by persistence, to secure its exemption. It was suggested at one stage that though the value of the experiment was undeniable it could quite as well be carried out at a future census; to which I rejoined that this missed the whole point of carrying it out now, which was to provide timely experience for the benefit of my successor. In the result Rs. 7,000 were sanctioned.

19. The final cost worked out at Rs. 8,780. Given better times, more drive behind the actual punchers, and greater familiarity with what is involved, the outturns could I think be improved. Even as it is however the fact that a complete card record for the capital city's 9 lakhs odd has been obtained at a time of war prices for this sum is itself a notable feat. It works out at (*c*) Rs. 10 per 1,000 or (to adopt a more convenient unit) Rs. 1,000 per lakh.

20. Any subsequent census mechanical tabulation will I hope be carried out under easier conditions and I should recommend then starting sorting at the earliest possible moment and operating every available spare hour of any machine. This means a good deal of planning beforehand, and one of the difficulties of the fragmented system is that it introduces so many independent authorities. With a concentrated machine department the officer at the head would be able to control and allot the spare-time of all machines. In any case, now that the ground has been broken, I suggest that whatever agency keeps on census reflections during between-census years should in touch with the companies supplying tabulating machines used in government offices, work out the most suitable methods and liaison, and as soon as the questionnaire and tables are determined, direct these methods immediately to the actual expression of the census questions in their tabular form so that every detail of the scheme, allocation of parts etc., is ready and distributed before the actual enumeration comes off. I repeat, this is not a matter of half an hour now and then, but of months of discussion and trial.

21. To sum up:—

(*i*) full liaison with all concerned;

(*ii*) begin preparation long beforehand to allow time for this liaison and the discussions and possible experiments it implies;

(*iii*) the system must get sorting started as soon as enough cards are punched to give half a day's work to the sorting machines. This requires careful working out but is a cardinal point.

(*iv*) Census work must not be left purely to overtime; preferably one or two full days work each week should be given. This will ensure that we get the men fresh for the new type of work and not always weary after a full day. It was the exception, and very rare exception, for the census this time to be given any normal day time work.

(*v*) Coding, punching and sorting should be done in the same place and simultaneously. This will facilitate speedy distribution of slips and cards and will save contingent expenditure.

(*vi*) payment by outturn for all punchers and verifiers;

(*vii*) puncher's mistakes deducted from puncher's outturn and added to verifier's;

(*viii*) wastage rate to be applied;

(*ix*) initial period free from outturn and wastage rate to enable punchers and verifiers to master their operations;

(*x*) minor items to be put aside in coding and hand-sorted.

(*xi*) importance of good direction by officers in charge of machine sections.

22. I suggest that more use might be made of Hollerith cards in connection with anthropological observations. It would be simple to give a code number to observations carried out in a regular series and then to arrange these to fit the card used by any government machine in the same city or area. By this means observations could be reduced into a common form and run through a machine when required to produce different groupings, etc. The Zoological Survey could not carry its own machine section but it could certainly put its anthropological material into card form. The point is that any one can handle the cards and it is not necessary for everyone to have a sorting machine.

B—CODING

Coding is at the base of all mechanical tabulation. The very word " mechanical " itself implies a process more or less automatic. Consequently the detailed instructions must be foolproof and perhaps one could declare the cardinal rule to be: leave nothing for the puncher to guess. Punching of course is much more fundamental than sorting. It is the punching which creates the material which is later sorted and used for the various administrative purposes.

24. Following out the cardinal principle that it is the person with the original data and desiring the final tabulation who must declare the objective, coding was carried out in my own office. Originally the intention was to code only the more complicated items, leaving those which were already in the form of numbers etc., or a symbol such as the √ =yes, to be taken direct from the slips by the puncher. The C. B. R. however wished every item to be applied by our coders. This of course increased work considerably and the outturns originally contemplated for coders had to be scaled down.

25. Coder's pay was on an outturn basis and a provision of this kind seems essential if proper economy is to be secured. It should be combined of course with other provisions directed to securing a reasonable quota.

The final arrangement adopted was for coders to be paid Rs. 20 per month. Along with this pay went a minimum outturn of 500 slips per day. 1½ annas bonus was paid for every 100 slips per day above this minimum quota and 1½ annas fine applied for every 100 slips short. One pie was deducted for every mistake. Experience showed that a coder who did 1,000 slips per day without mistake could make Rs. 30 per month.

Only Sundays were observed as closed holidays; on other days leave was granted without pay. These provisions helped considerably to keep absence to a minimum.

26. In such operations, particularly when they represent an entirely new field of effort, it is better to begin with a limited staff, train them thoroughly, and take on more men in successive batches which will allow of proper assimilation of the new element. We started with 2 coders, increased the number to 8 and the maximum employed at a time was 17. It was not always easy to get men of the capacity and qualities desired, for war-time conditions produced a heavy demand in government offices which absorbed most of the better material. Our coding took just over five months in all and with accelerated recruitment could have been done in less time. But, since the punching governed as it were the coding, and punching capacity was definitely limited, there was no great object in rushing the coding.

In mechanical tabulation all the operations fit into and in a way condition each other. Thus the punchers can operate only on coded material and the sorters on punched material. The punching outturn depends on the number of coded slips and also on the number of punches available. Similarly with sorting the punched cards. Consequently rapid finishing of coding will not in itself accelerate punching unless there is a sufficient number of punches.

27. An interesting observation was the improvement in outturn when more men were employed. Here enter the effects of payment by outturn and a natural element of competition between men; and a good system will always try to make the best of these two features.

28. Rural slips were definitely easier than urban ones for understandable reasons. The most difficult items to code are means of livelihood and industry, where the code numbers run over 200. Now in rural areas the means of livelihood are mostly agricultural and there is practically no industry. Further elements of simplification are that mother tongue, birthplace etc., are largely uniform. Hence there is much less variety to be covered and higher speeds are possible.

Consequently I began the coding on rural slips for women. It is always good policy when men are beginning a new job to start them as easily as possible and we made full use of this principle. By the time we came on to the male urban slips they had as it were cut their teeth on the easier material and were better able to cope with the more refractory stuff.

29. The minimum check prescribed was 20 per cent in all cases, with a higher proportion in the case of less efficient men. Experience showed that to apply this percentage when the number of coders exceeds half a dozen is difficult for one supervisor and in future I would be inclined to develop the office on the following lines: train a staff of 6 or 7 reliable men up to a high standard of coding competence under one supervisor. Take the best of the coders as an assistant supervisor and take on 3 or 4 coders who would be distributed for training purposes first under him, then working on their own. In this way coders' competence would be developed and full supervision maintained.

Actually the number of mistakes detected during our experiment was less than 1 per cent of the total number of slips coded *i.e.*, less than a 20th of 1 per cent of the total number of items.

30. Coding mistakes fall into two broad classes. The first is actual omission either of single items or of a whole slip. The second is application of the wrong code number. Most of the mistakes we discovered were of the first kind. Although the paper of our slips was of a sufficient strength to stand up to handling and separate easily, it was possible for coders working at pressure to pass 2 slips into one. With an inferior quality of paper this type of error would be more frequent. When a whole slip was omitted in this way each item was counted as a mistake for purposes of fine. The other class, which alone strictly speaking could be called wrong coding, turned up mostly in the case of means of livelihood and industry.

although cases occurred elsewhere. There were occasional mistakes even in community and in all this coding one tendency has to be guarded against *i.e.*, the carry-over inertia, if one might use a mathematical phrase. When a man has been dealing with a number of slips in which a single item repeated itself without change he is apt, working at speed, to miss the first change in the item hitherto following a single sequence.

31. The coding was impressed on the outside margin of a slip in blue pencil. The question of the quality of paper mentioned already, enters forcibly here; for I imagine that speed in both coding and punching would be definitely affected if a too thin or light quality of paper were used.

32. As I have explained, it was necessary, to meet the wishes of the Central Board of Revenue, whose men were to do our punching, for our coders to work on every item. Clearly it would be a great advantage if at the enumeration stage enumerators could apply the actual code numbers used. This could certainly be done in the case of items where only a few numbers are involved and indeed I had this in prospect but dropped the idea in deference to hesitations on the part of Census Superintendents. These hesitations I think should now be definitely overruled and where civil condition, sex, literacy and dependency are concerned the enumerator should be instructed to write 1, 2, 3, etc., according to the category returned. In fact, this could be taken into every field except means of livelihood and industry. In mother tongue for example the ten most numerous in India could be given numbers *e.g.*, going alphabetically, Bengali, Behari, Gujarathi, Hindustani, Kanarese, Malayalam, Tamil, Telugu, etc. Similarly for birthplace (1) could be district of enumeration, (2) could be elsewhere in the province, (3) could be adjoining province or State, (4) could be province or State elsewhere in India and so on. The great thing is to get consideration devoted to these topics at an early stage. Everything bearing on mechanical tabulation needs thought, working out, trial and error and the sooner this is begun the better.

33. A minor point of detail bears on the equipment supplied. Each coder was given a floor desk of the kind used by shroffs. These cost Rs. 4 each and the coders found it most convenient to work thus and definitely preferable to a table and chair. Incidentally it enabled us to make much better use of the rather limited accommodation facilities.

34. Instructions to the coders are given in appendix I to this section.

APPENDIX I

Instructions to Coders

Each enumeration slip represents the details for one individual. Across the top runs a series of numbers; these represent the location, or place where the slip came from. Below, against the various numbers 1, 2, 3 etc., appear the answers to the census questions.

2. The general principle of your coding is that the code No is written on the edge of the sheet outside the answer being coded. In nearly all cases this means the left-hand edge but, as for example in questions 5, 6 and 21, the answer will be written on the right-hand edge.

3. The code Nos must be written in blue chalk and in the manner indicated below.

4. Where no code No has been allotted covering a particular answer recorded in some slip, bring the matter to the notice of the supervisor and act according to his instructions.

In certain cases however to avoid waste of space on minor details, code Nos are being allotted only to the more common items which can be brought within one column. The remainder, very few in number, will be hand sorted.

These items are birthplace and mother tongue. When you come across any slip in which the answer against birthplace and/or mother tongue does not fall under the code Nos allotted put it aside. When you have completed coding the batch of slips, take the slips you put aside and sort them for mother tongue and birthplace entering the details in the form below :—

Location	*Sex*	*Birthplace*	*Mother tongue*
(No at the top of the slip already referred to)		No of returns	No of returns

Having done this restore your slips to the rest of the batch.

5. *Questions 3 & 4 (Communities).*—The following are the code number allotted to the various communities :—

Community	*Code No*
Chamar	00
Chuhra	01
Julaha	02
Nai	03
Teli	04
Kurmi	05
Chirumar	06
Rahgar	07
Darzi	08
Chhipi	09
Chhunba	10
Dhanak	11
Sansi	12
Bawaria	13
Kumhar	14
Lohar	15
Khadi	16
Kahar	17
Jogi	18
Dhobi	19
Saqqa	20
Other Hindus	21
Ad Dharmi	22
Harijan	23
Muslims	32
Indian Christians	43
Sikhs	56
Jains	65
Parsees	66
Buddhists	67
Jews	68
Anglo-Indians	74
Other Christians	75
Europeans born in England and Wales	85
Do. Scotland	86
Do. Northern Ireland	87
Do. Eire	88
Do. other British territory	89
Others	95

The coding for community should be with reference to the answer recorded against question 3. The code number should be written on the left side of the slip against question 3.

For Hindus and Muslims however the community names i.e., "Hindus" or "Muslims" might not have been recorded against question 3 in many cases but only the names of the castes or tribes as the case may be. In such cases if the return against question 4 is "Hindu" or "Muslim" write the code numbers for these communities against question 3. Where none of the communities mentioned above are given against question 3 or 4 *e.g.*, Nanakpanthis against questions 3 and 4, bring the matter to the notice of the supervisor and act according to his instructions.

For Europeans the coding should be done with reference to the answers to question 3 and also the birthplace recorded against question 17. "Other British territory" includes a British dominion or dependency.

6. *Question 5 (Civil condition).*—The following are the code numbers :—

Civil condition	*Code No*
Unmarried (O inside the triangle marked 5)	3
Married (√ Do.)	4
Widowed (X Do.)	5
Divorced (D Do.)	6

Write these code numbers in the slip on the space on the *right*-hand side of the triangle marked 5.

7. *Question 6 (Age).*—In some cases the age will have been recorded in years and months. Write the age in such cases in whole years. Disregard mohths where entered. The age in whole years should be written in the space to the *right* of the rectangle marked 6.

8. *Question 8 (Age of mother at birth of first child).*—If the age of the mother is expressed in years and months it should be written in whole years following the instructions under the general age question above.

9. *Question 9 (Dependency).*—

Dependency	*Code No*
Independent (X in Q. 9)	1
Partly dependent (P D do.)	2
Wholly dependent (√ do.)	3

Write the code numbers on the left-hand side of the slip against question 9.

10. *Question 10 (Means of livelihood of the person on whom dependent).*—In the means of livelihood scheme group numbers are given to the various means of livelihood. Write the appropriate group number in the left-hand side of the slip against the question. Where the answer to the question is "X" write "O" as the code number.

11. *Questions 12 and 13 (Unemployment).*—The following are the code numbers :—

Unemployment	*Code No*
Not in search of employment (X in question 13)	1
In search of employment for one year or more	2
In search of employment for less than one year	3

Write the code numbers in the left hand side of the slip against question 13.

12. *Question 14 (Means of livelihood).*—The Code No in this case is the number given to each group in the printed means of livelihood scheme of which a copy has been supplied to you. Write the group No applicable on the left-hand side against the first line of question 14 in the slip.

Where the answer is a X or for any other reason is to be disregarded (*e.g.*, for house-keeping by a woman shown as wholly dependent) write the code No "O" in the margin.

In some cases, a person may return more than one means of livelihood. Allot it also the appropriate group No from the occupational scheme, writing it in the left-hand margin below the first number.

Industry (a).—The answers to census question 16 have to be coded in accordance with the list of industries of which a printed copy also has been supplied. Where the answer in the slip is a X or for other reason *e.g.*, Government service returned against this question is to be disregarded, write the code figure "O".

This Code No should be written on the *left-hand* edge against question 16.

Industry (b).—Returns to this question have to be classified also according to certain categories illustrated below :—

Class of worker	*Code No*
Managers	1
Supervising and technical	2
Clerical	3
Doctors, compounders, schoolmasters	4
Operatives—Child (less than 15)	5
Do. Youth (15–16)	6
Do. Adult (17 & over)	7

The other answers in the slip will give you the information necessary for determining these Code Nos. For example the answer to question 6 will tell you whether the person should be described as child, youth or adult, and the answer to question 14 will tell you whether he should be classed as a "Manager" etc.

The Code No for this aspect should be written on the *right-hand* edge against question 16 on the slip.

13. *Question 17.*—The following are the code numbers for various birthplaces :—

Birthplace	*Code No*
Delhi	00
Punjab	01
U. P.	02
Punjab States	03
U. P. States (Rampur and Benares)	04
Ajmer-Merwara	05
Baluchistan	06
Bengal	07
Bihar	08
Orissa	09
Bombay	10
C. P.	11
Madras	12
N.-W. F. P.	13
Central India	14
Gwalior	15
Hyderabad	16
Kashmir	17
Mysore	18
Rajputana	19
Afghanistan	20
Nepal	21
England and Wales	22
Scotland	23

Write the code number on the left-hand side of the slip against the question. As already instructed keep those slips that have not returned any of the birthplaces mentioned above separately for sorting out the birthplaces by hand.

14. *Question 18 (mother tongue).*—The following are the code numbers allotted for the languages mentioned below returned as mother tongue :—

Mother tongue	*Code No*
Hindustani	0
Urdu	1
Hindi	2
Punjabi	3
Bengali	4
Rajasthani	5
Western Pahari	6
Pashto	7
Gujarati	8
Marathi	9
Tamil	10
English	11

Write the code number on the left-hand side of the slip against the question. Keep separate for handsorting slips that have not returned any of the mother tongues mentioned above.

15. *Question 19 (Subsidiary language).*—The following are the code numbers for the subsidiary languages returned. If more than one language has been returned as subsidiary language write one number on the left-hand side and one on the right-hand side.

Language	*Code No*
Hindustani	1
Urdu	2
Hindi	3
Punjabi	4
Western Pahari	5
Rajasthani	6

16. *Question 20 (Literacy) and question 22 (Literacy in English).*—The following are the code numbers allotted :—

Literacy	*Code No*
Illiterate (X in Q. 20)	1
Partially literate (P in Q. 20)	2
Literate in English (√ in Q. 22) and Urdu in Q. 20	3
Literate in English (√ in Q. 22) and Hindi in Q. 20	4
Literate in English (√ in Q. 22) and other languages in Q. 20	5

Literacy	*Code No*
Not literate in English (X in Q. 22) and Urdu in Q. 20	6
Not literate in English (X in Q. 22) and Hindi in Q. 20	7
Not literate in English (X in Q. 22) and other languages in Q. 20	8

In coding for literacy therefore keep your eye on the answers to questions 20 and 22. Write the code number on the left-hand side of the slip against question No. 20. Do not write anything against question 22.

17. *Question No. 21 (Standard of education).*—The following code numbers are allotted to various degrees and diplomas mentioned against the question. The code numbers should be written only in the case of *male* slips. If there are any diplomas which do not come under the categories mentioned below take the orders of your supervisor as to the code number to be allotted. Write the code number on the right-hand side of the slip in the space to the right of the rectangle marked 21.

Degree or diploma	*Code No*
Middle School	01
Matriculates or S. L. C.	02
Intermediate in Arts or Science	03
Graduate Do.	04
Post-graduate Do.	05
Teaching	06
Engineering	07
Agriculture	08
Veterinary	09
Commerce	10
Legal	11
Medical	12
Others (*e.g.*, Oriental)	13
British	14
American	15
Continental	16
Other foreign	17

APPENDIX II

Instructions to Punchers

PUNCH THE FIGURES GIVEN

MALE CARD

Col in your Card

2 in the **right** hand side of the triangle marked 5.
3–4 in the left hand margin against line 3.
5–6 in the **right** hand margin beside the rectangle marked 6.
7 against (*a*) in line 11.
8 against (*b*) in line 11.
9 in the left hand margin against line 9.
10 in the left hand margin against line 13.
11–13 in the left hand margin against line 10. } if a '0' skip
14–16 in the left hand margin against line 14. } the field.
17 in the **right** hand margin against line 16.
18–20 in the left hand margin against line 16. } if a '0' skip the field.
21–22 in the left hand margin against line 17.
23 in the left hand margin against line 18.
24 in the left hand margin against line 19.
25 in the left hand margin against line 20.
26–27 in the **right** hand margin beside the space marked 21.
.. ..
28 in the **right** hand side of the triangle marked 5.
29–30 in the left hand margin against line 3.
31–32 in the **right** hand margin besides the rectangle marked 6.
33 against (*a*) in line 11.
34 against (*b*) in line 11.
35 in the left hand margin against line 9.
36 in the left hand margin against line 13.
37–39 in the left hand margin against line 10. } if a '0' skip
40–42 in the left hand margin against line 14. } the field.
43 in the **right** hand margin against line 16.
44–46 in the left hand margin against line 16. } if a '0' skip the field.
47–48 in the left hand margin against line 17.
49 in the left hand margin against line 18.
50 in the left hand margin against line 19.
51 in the left hand margin against line 20.
52 53 in the **right** hand margin besides the space marked 21.
.. ..
54 in the **right** hand side of the triangle marked 5.
55–56 in the left hand margin against line 3.
57–58 in the **right** hand margin beside the rectangle marked 6.
59 against (*a*) in line 11.
60 against (*b*) in line 11.
61 in the left hand margin against line 9.
62 in the left hand margin against line 13.
63–65 in the left hand margin against line 10. } if a '0' skip
66–68 in the left hand margin against line 14. } the field.
69 in the **right** hand margin against line 16.
70–72 in the left hand margin against line 16. } if a '0' skip the field.
73–74 in the left hand margin against line 17.
75 in the left hand margin against line 18.
76 in the left hand margin against line 19.
77 in the left hand margin against line 20.
78–79 in the **right** hand margin beside the space marked 21.

FEMALE CARD

Col in your Card

2 in the *right* hand side of the triangle marked 5.
3–4 in the left hand margin against line 3.
5–6 in the *right* hand margin beside the rectangle marked 6.
7–8 in the left hand margin against line 8.
9 in the left hand margin against line 9.
10 in the left hand margin against line 13.
11–13 in the left hand margin against line 10; } if a '0' skip
14–16 in the left hand margin against line 14; } the field.
17 in the *right* hand margin against line 16.
18–20 in the left hand margin against line 16; } if a '0' skip the field.
21–22 in the left hand margin against line 17.
23 in the left hand margin against line 18.
24 in the left hand margin against line 19.
25 in the left hand margin against line 20.
26 in the left hand margin against line 7.
27 in the *right* hand margin against line 7.
28 in the *right* hand side of the triangle marked 5.
29–30 in the left hand margin against line 3.
31–32 in the *right* hand margin beside the rectangle marked 6.
33–34 in the left hand margin against line 8.
35 in the left hand margin against line 9.
36 in the left hand margin against line 13.
37–39 in the left hand margin against line 10; } if a '0' skip
40–42 in the left hand margin against line 14; } the field.
43 in the *right* hand margin against line 16.
44–46 in the left hand margin against line 16; } if a '0' skip the field.
47–48 in the left hand margin against line 17.
49 in the left hand margin against line 18.
50 in the left hand margin against line 19.
51 in the left hand margin against line 20.
52 in the left hand margin against line 7.
53 in the *right* hand margin against line 7.
54 in the *right* hand side of the triangle marked 5.
55–56 in the left hand margin against line 3.
57–58 in the *right* hand margin beside the rectangle marked 6.
59–60 in the left hand margin against line 8.
61 in the left hand margin against line 9.
62 in the left hand margin against line 13.
63–65 in the left hand margin against line 10; } if a '0' skip
66–68 in the left hand margin against line 14; } the field.
69 in the *right* hand margin against line 16.
70–72 in the left hand margin against line 16; } if a '0' skip the field.
73–74 in the left hand margin against line 17.
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77 in the left hand margin against line 20.
78 in the left hand margin against line 7.
79 in the *right* hand margain against line 7.

APPENDIX III

Period of employment of coding staff

Number of coders	From	To	Name of orders	From	To
2	11-3-1941	31-8-1941	1	8-4-1941	10-5-1941
1	1-4-1941	10-4-1941	1	8-4-1941	22-7-1941
1	1-4-1941	27-5-1941	1	8-4-1941	4-8-1941
1	1-4-1941	20-6-1941	5	8-4-1941	31-8-1941
3	1-4-1941	31-8-1941	1	20-5-1941	28-5-1941
1	8-4-1941	8-5-1941			

EXTRACTS FROM PROVINCIAL CENSUS ADMINISTRATION REPORTS

MADRAS

For clarity and precision of instruction are essential up to a point, but there is a point beyond which they are of no avail in face of the subordinate official's private notions of how best things should be done—and he probably does them better that way, too.

The work of a Charge Superintendent being largely administrative, I accordingly decided to reduce their number as much as possible and to give formal recognition to what had in fact been the case in the past, namely that the Tahsildar must be the pivot of the whole structure.

It is by no means always that a suitable resident official can be found for appointment as Charge Superintendent of a census town.

If, by the time the next census comes round Executive Officers have been installed for Panchayat Boards, the problem will be solved.

The Tahsildar was also made the channel for the distribution of all instructions and forms to all the charges in his Taluk, including both Municipalities and towns, and had general administrative functions extending over the whole area with the exception of Municipalities. The innovation was, I think, an unqualified success and it was only in one or two cases that any complaint was made that areas were too vast for treatment as single charges, though in some special tracts of country special additional Charge Superintendents were found necessary.

A consequence of this general increase in the size of the block was that it made it possible to reverse the usual order of procedure and to form census divisions first before drawing up the House Lists.

In Madras City alone divisions were formed only after the house lists had been drawn up. This was, I think, chiefly due to blind adherence to past procedure.

The fact that towns, if they are not Municipalities, are invariably panchayat areas makes it unnecessary for practical purposes to distinguish them into their village components, a step which incidentally tends to destroy the urban appearance of their statistics.

It is for the civil authorities to take the initiative in the formation of census divisions in consultation with the officers nominated for census liaison work by the railways, and secondly that, where a special railway division is formed, the railway authorities will be responsible for the enumeration of all the persons residing in that area and not merely for their own employees.

Unfortunately, however, the Director of Public Health's district forecasts proved far from accurate, more particularly in the southern districts where an unexpectedly rapid rise in population resulted from recent restrictions on migration. His figures were actually in defect in no fewer than 14 out of the 25 districts, his Presidency total falling short of the actual provisional total by 462,500.

The system of identifying each and every slip with the locality in which it was used by the inscription on it of a series of Code Numbers worked very successfully. In this Presidency a Code Number was allotted to each census division in the series, namely District, Taluk, Charge, Circle, and Block, five in all. But in actual fact the allotment of Code Numbers *to Taluks was unnecessary as the vast reduction in the number* of Charges meant that there were usually not more than 4 or 5 Charges to a Taluk and Taluks could well have been identified by the Code Numbers of the Charges contained in them, these Charge Numbers running in series for the district as a whole.

It would also simplify matters if supplies were in the first instance made to district headquarters rather than Taluk: from district headquarters they could be distributed to all Charge headquarters direct.

A certain Municipality suggested that, in order to achieve accuracy in the enumeration of purdah women, school-mistresses should be deputed to accompany male enumerators in areas where purdah families were numerous. This difficulty over the correct accounting of purdah women is real enough and was brought to my attention by Hindu officials in more than one place, and I think that the suggestion made by this Muncipality was a sound one and worthy of general adoption at a future census.

My recommendations for the conduct of a future census are, therefore, in brief these:

I. That the two stages of the census, house listing and enumeration, should be telescoped into one.

II. That only such of the simplest information as is absolutely essential from the practical point of view should be collected on an universal basis, while the more detailed and complicated studies should be made on a regional sample basis.

III. That each Province and State should hold its census at the time of year best suited to its own conditions and that statistics should be produced with reference to the particular period of enumeration as a whole but not to any given moment of time.

What really counts in determining the accuracy of house listing is the amount of check bestowed upon it by the Supervisory staff.

It is generally agreed that the first half of September would be the most suitable period for a census in this Presidency. If, as suggested, the census is to be conducted as a single operation, then it will not be necessary for the Superintendent to make more than a single tour of all the districts, though this tour should be as comprehensive as possible, embracing as many Charge headquarters (including census towns) as he can manage to reach with a view to establishing personal contact with as much of the supervisory staff as practicable. If the questionnaire for use in the general areas has been sufficiently simplified, then the Superintendent will not need to spend much time in lecturing to enumerators except in those areas which have been selected as sample areas where he should personally address all the special enumerators. I think he could make a thorough tour of the Presidency in this way in the space of four months, beginning with the West Coast in May. But it is essential that all his instructions should have been completely issued before he begins to tour, for he will have no time for drafting work while on tour and the enumeration staff must have the instructions in their hands before he comes to talk to them. In order to allow time for printing and distribution the instructions should therefore, have been completely drafted and translated by the middle of March. Prior to that, while drafting has been in hand, the formation of census divisions, selection of sample areas, earmarking of staff, recommendation of places to be *treated as towns and of areas to be declared as Special Tracts* must all be well advanced and, as the jamabandi season will

inevitably interfere with such work in Taluk Offices, should have been put in hand some time before the jamabandi season begins, preferably at the beginning of January. The Superintendent should, therefore, join his appointment at the beginning of the month of December. All this is on the assumption that both the method of selecting the sample areas and all details in regard to the questionnares will have been previously settled by the Census Commissioner in advance and that the Provincial Superintendent will find instructions awaiting him on these points when he takes charge of his appointment. In that case no preliminary conference of Provincial Superintendents would be necessary, but difficulties arising out of the local application of the general instructions issued by the Census Commissioner could be discussed with him individually in the course of his tours.

Experience disclosed a general tendency on the part of the district enumertion staff to prefer claims for travelling allowance at full rates and certify them as actual expenses. This tendency obviously needs to be curbed and it is in this respect that the scrutiny of district officers should be of the greatest assistance. It was further observed that some of the claimants sought to make money by excessive touring, especially in areas wherein enhanced rates of daily allowance are admissible. This tendency should also be checked by limiting the period of touring to a reasonable maximum with reference to local conditions.

It would conduce to economy if at the next Census Government themselves take steps to prevail on all Zamindars to meet from their funds the travelling allowance of their officials on census duty within their estates.

Circle lists which cost over Rs. 25,000 in 1931 were not printed this time and this contributed to the reduction in expenditure.

As regards simplication it will be helpful if at the next census each of the States can be asked to deposit in advance at the outset a lump sum on the basis of the 1941 census actuals covering all details of recovery applicable at the time and making due allowance for the estimated increase in population.

BENGAL

I regard the preparation of a census mauza register in its present form as quite unnecessary ; and no instructions should issue until it is decided what form the register should take. In any case, columns 6 to 10 are no longer wanted. No object is served by recording in advance the names and addresses of persons *qualified* to act as supervisors and enumerators. In these days, it is known that in every village there exist qualified persons. There is no need to note their names until they have actually been selected, and allotted to their blocks and circles ; that is to say, until formal letters of appointment are ready to issue. By this time, every district census officer will be in possession of his charge register, which itself provides the necessary columns. In this census, columns 6 to 10 of the census mauza register were not used, and all districts census officers rightly regarded them as a useless encumbrance. It is time to prune excrescences on procedure which have accumulated from a date when public administration was less developed than it is now.

My considered recommendations, however, go beyond this. The form in which village tables have been prepared at this census will enable my successor to dispense with an elaborate census mauza register altogether.

It will be found that any measure likely to familiarise the local census agency with the code system repays the effort a hundred fold.

Blocks were provisionally delimited before the house-list. The enumerator was assigned to his block at once, and made to do the house-numbering of block himself. If the house-list revealed a block of excessive size, the block was split into two, and an extra enumerator was assigned. I do not consider that there will be any advantage, in this province at least, from deferring the formation of blocks until after the house-list has been prepared. It is true blocks formed on the basis of the house list will be less liable to subsequent alteration, but the method entails serious administrative drawbacks. It is desirable to familiarise the enumerator with his block and its code-number at the earliest possible stage.

It is found by experience that no enumerator takes his work seriously, until he knows what his block is and has been definitely assigned to it. Prior to this stage the enumerator is indifferent.

In non-municipal towns which are administrative headquarters, it is advisable to appoint an official charge superintendent.

The manual by itself will not fully prime the enumerator in his duties, and is best regarded as an adjunct to oral instruction. Training began as soon as the enumerator was free of the houselist ; and continued till the eve of enumeration. It had the most salutary effect in preparing enumertors. Training is most important, and should never be treated as perfunctory routine.

Training should be periodic. At each centre there should be a succession of classes, at frequent and advertised intervals. If the enumerator misses one class, he may attend the next. We were successful in getting most enumerators to attend at least three classes.

Attendance must be enforced. Attendance registers were kept, and absentees promptly received notes from the district census officer calling on them to show cause for their absence. Thereafter, the improvement in attendance was most marked.

In 1950, the village tables may perhaps offer a fair basis for a charge indent,—in which case code numbers can be printed down to the charge.

The legacy of restricted sorting is imperfect experience. In what follows an account will be given of what was done, and as far as possible suggestions will be made for the future. But an operation which is but a shadow offers a poor test for a useful discourse.

Intelligence is a desideratum in a supervisor, but he must have other qualities too— notably diligence, and a sense of responsibility, with firmness and tact in controlling his squad. He must have a keen eye for clerical errors of every kind. The average standard of supervisors at this census was perhaps adequate, but no more. In 1951 I think the post should be made more attractive.

During protracted operations the time comes when the boredom of monotonous repetition puts the brake on increasing facility. A good deputy superintendent will devise remedies to counteract this effect, and keep his sorters fresh in mind and body. In Bogra, sorters were encouraged to form football teams, and a series of matches was organised. Something of this sort is required to prevent staleness.

When the stored slips come to be sold, it will be wise to compare Calcutta with mofussil rates, to calculate freight charges, and then decide whether they shall be sold locally or in Calcutta.

The development in the form of the Village Tables represents real progress in a line which diverges from the programme normally pursued at the cost of the Central Government. It

is suggested that similar possibilities should be explored well in advance on the occasion of the next census. As soon as it is definitely known what are the limits of the Imperial programme, the Local Government should be asked to indicate in what directions, if any, they desire additional information for which they are willing to pay. This supplementary programme must be settled before the census moves from enumeration into its second stage.

UNITED PROVINCES

The census of India is sometimes held out as a magnificent example of voluntary service. When the enumeration has been done, one can sit and look back at the achievement in a complaisant mood, but with the experience of numerous instances of irresponsibility still fresh in the mind it is difficult to pay homage to the voluntary aspect. The fact was that everywhere people have to be goaded into doing the census work. To me there does not appear to be any need for maintaining the pretence that the work is done on a voluntary basis. Why should not the law compel every citizen to help in the enumeration? This question may well be considered when the preparations for the next census are taken in hand.

Census Maps. I made an attempt to provide each census official with a map of the area for which he was responsible. Experience has shown that these maps were hardly ever consulted and I would advise that on the next occasion their preparation may be discontinued.

Arrangements with District Boards.- In respect of the district boards, I moved the Provincial Government to request them to meet the expenditure over the travelling allowance of their employees engaged on census duties. This was an innovation and the majority of district boards refused to take over this responsibility on the ground that the journeys undertaken in connection with purely census duties must be paid for from the Central funds. Nevertheless the fact that some boards did agree to meet the expenditure is satisfactory from the point of view of the recognition of the principle, which is sound though not legally established, that local administrations must assume full responsibility for census enumeration.

The provision of a ready machinery to check up on each complaint to a great extent allayed the fears, and ensured reliable enumeration. If I were to assess the effect of communalism on the enumeration, I would say that, in an objective sense, it led to greater accuracy due to increased vigilance, though the manner in which the watchdogs barked and snapped at each other was trying to the nerves.

PUNJAB

There is an aggregation of over two dozen states and feudatories in the Simla Hills States Agency. Some of these are very small, and there is not the same uniformity of conditions as in the larger Indian states. In their case, in order to secure accuracy, the Honourable the Resident agreed to my conducting correspondence on census matters through the Political Agent, Simla. But this arrangement lasted for hardly a month, as the Political Agent expressed his inability to deal with the census correspondence without two additional clerks for the purpose. The personnel of the provincial census office did not exceed four clerks at any time during the year, and since I could ill-afford to accede to his request for two additional hands, I started direct correspondence with the states in his Agency too. This entailed on my staff a much increased burden of correspondence and despatching work, for with some of the smaller states they had to deal with the large amount of correspondence not in English but in Urdu. But it was very gratifying to note that the conduct of direct correspondence by me with the states did not at all entail diminution of accuracy and promptitude which are of so fundamental importance in a work of this nature. I think my successor could also safely resort to direct correspondence with them on matters relating to the census like the rest of the Indian States.

But should the smaller Indian States choose to correspond in Urdu again at the following census, it should be considered whether the cost of any staff appointed for the purpose might not be distributed among the states concerned in proportion to population. Ordinarily, of course, we do not ask states to contribute to the cost of the superintendent himself or his central staff, but where a particular addition to the staff is entirely attributable to the particular circumstances of the states, this point is one for consideration.

Where there are sub-divisions the Sub-Divisional officers should be given definite census functions at future census, since they have generally more authority on the census staff in their sub-divisions than the Revenue Assistant. I no doubt desired their appointment as census officers in their sub-divisions and the majority of them accepted the extra burden with equanimity and secured the efficiency of the arrangements in their jurisdictions.

In areas where a census has previously been taken, the previous arrangements in this respect serve as a pretty accurate model for the arrangements that will be necessary in any subsequent census. Any hamlets that might be left out of the Charge and Circle Registers might just as easily be left out of the General village Register. The latter varies little in actual form from the Charge and Circle Registers and its preparation should be abandoned. If this Register were dispensed with, Charge Superintendents could easily construct their own Charge Registers instead of getting them ready made from the local census authorities in the form of extracts from the General Village/Town Register. I think this would tend to bring the Charge Superintendents to grips with the work earlier than the existing system under which it is possible for them to receive ready made Charge Registers without having taken any active part in their preparation, and at the same time reduce the amount of writing, etc., imposed on the local officers who carry out so much of our enumeration preparations, and economise time and expense.

One of the principal advantages of the non-simultaneous method was that it permitted the formation of larger blocks than hitherto. The increase in the size of the block placed no strain on the enumerator. If a block contains 125 to 150 houses, it would correspond with an averge *mauza* and would facilitate the formation of census divisions. At the same time it would eliminate the necessity of preparation of maps. The reduction in the number of blocks would mean a corresponding reduction in the number of enumerators, and this would assist a more selective recruitment. A larger block will also economise enumeration slips, which are bound in pads of a hundred each.

If given a longer time, say, nine days 4 days on either side of the central census date he could devote more time to the census work with greater equanimity and do the counting of his entire circle single-handed during this period.

To entrust the enumeration work exclusively to patwaris would not only raise the standard of accuracy which is so important, rather fundamental, but would also save the census officers the time and labour involved in the most difficult

and tiresome task of training the enumerating staff. They do not need the census instructions to be dinned into their ears: a little training imparted to them would be sufficient to pose them well in their duty. The system of revenue administration prevailing in this province is so all-embracing that no special difficulties are likely to be met with in arranging for the enumeration of the rural population, which appears to have attained a high degree of accuracy, through patwaris alone.

Another point that I would like to stress is that a fresh column showing the total number of persons of each family should be provided in the block list. This will enable the enumerator to check the population of each house at the time of enumeration with the figures in the block list.

I think there are great possibilities of decentralising in the first main sort, *i.e.*, having the slips for a tahsil sorted in the tahsil itself by tahsil-men. Till such time as India has a machine system it is important to make the fullest use of local knowledge and interest. Patwaris are doubtless better men in every way than the type of temporary hands available, and, most important of all, local sorting means a more accurate record, for mistakes and omissions are detected and made good on the spot. Elsewhere in this report I have suggested the extension of the enumeration period and if the suggestion is adopted and in rural areas patwaris are called upon to do the enumeration of their entire ilaqa wherever this can be possible the preparation of the census returns by them would render the first main sort easier and raise still higher the standard of accuracy. Sorting is not a routine matter and relatively unimportant. The preliminary sorting and the figures compiled from it form the foundation on which the whole of the subsequent operations are built and it is essential that no loophole of any kind is left for mistakes. For doing the first main sort patwaris and field qanungos are in my opinion by far the best agency, and I would suggest that the preliminary sorting for rural areas be done in future at tahsil headquarters through patwaris, field qanungos being directed to supervise the work of the patwaris in their respective *ilaqas*. The sorting for the tables other than the community table is of a technical nature, and needs not only technical and statistical knowledge but the closest and most unremitting supervision and can by no means be allowed to be done at tahsil headquarters. It requires a long time and the revenue staff cannot be kept engaged with this task indefinitely. All that they should be required to do is to do the first main sort and this will not occupy them for more than a couple of days or so.

BIHAR

At the 1941 census, there was a Provincial but not an Imperial Code—the place of the latter being taken by a General Scheme for the Census (issued in two parts), the Minutes of the Census Conference and the scripts of three broadcast talks. There can be little doubt that much was gained by this. It enabled a 'philosophy of the census' to be expressed. It conveyed an attitude. It acted as a stimulus. At the same time it left the working out of details to Provincial Census Superintendents—a function which has always been theirs and for which an all-India formula is neither desirable nor possible.

For constant reference, a Code is more useful than a Circular. It is less easily lost. It is read more easily. And what is of even greater importance, it carries more prestige. A Circular looks like a letter and is treated like one. A Code looks like an act of the legislature and commands respect.

It was necessary that the Codes and the Circulars should look like Government Circulars. To have issued them in the fantastic type available at various other presses would have been to destroy their effect. The Code would not have been the Code if it had not looked like it. To use the Government Press was therefore to obtain better results with less trouble.

A point which was pressed with some vehemence in the last month of the operations was the right of Muhammadans to fill up the pads in Urdu. This had been preceded earlier in the census by a demand that the forms should also be printed in Urdu. Neither of these demands was conceded but Urdu entries were permitted in the last few days of the census in the few areas where a refusal might have provoked unduly violent reactions. As the issue will almost certainly rise again in 1950, I summarise below the considerations which weighed against the grant of the demands in 1940.

An important factor in the first place was the fact that at no previous censuses in Bihar had Urdu been used and there were no references in any administrative reports to suggest that the Muhammadan community in Bihar had been in any way prejudiced. To have adopted Urdu would therefore have been to have departed from all previous precedents.

Secondly, Urdu as a language is not used to any appreciable extent in any official work in Bihar. It is true that it has been adopted as an optional court language but the only practical implication has been that petitions may now be filed in Urdu, if a party so wishes. No evidence is recorded in Urdu in Bihar. No vernacular registers are maintained Urdu, and no record of rights has been prepared in Urdu Similarly, the majority of Magistrates and clerks do not know Urdu. The fact, therefore, that Urdu petitions were accepted in Bihar courts did not give Urdu any indefeasible claim to be used in an administrative undertaking of Government.

So far as practicability was concerned, the crucial point was that the Muhammadan population of Bihar is not concentrated in any one area and is not a large minority. In the 1931 census, it formed only 12·8 per cent of the total population and possibly for this reason, the Bihar Government have hitherto not made the knowledge of Urdu script compulsory for gazetted officers in any areas of the province. This was of importance for the census since it meant that Urdu was not known to the majority of the officers who were to do the work of census instruction and supervision and who were responsible for the substantial accuracy of the returns. If in these circumstances, Urdu entries had been permitted, there would have been no satisfactory means of checking the correctness of Urdu entries, and to this, all other communities might have taken serious and reasonable exceptions.

It was also common knowledge that throughout the greater part of the province many Muhammadans knew and used Nagri or Kaithi script while many Muhammadans also knew Roman. It was therefore considered that a refusal of Urdu would not prevent Muhammadans from co-operating in the census or penalise them in any way as it was thought that sufficient Muhammadans would be forthcoming who knew both scripts. This anticipation was in fact justified.

Fourthly, it was considered that if Urdu was adopted as a script for census forms and pads, there would be no logical ground for refusing the same status to Santali, Munda, Uraon, Kharia and Ho. If the tribal languages had also come padding in to press their claims, there would have been no visible end to the possible confusion.

Finally, a fundamental consideration was the extreme financial stringency under which the present census operated. To have printed forms in Urdu would have been to incur a

new type of expenditure. Similarly, to accept Urdu entries was to expose the compilation offices to new and additional expense. Apart from Muhammadans, the number of Urdu-knowing persons in the province is small and it would therefore not have been possible to ensure that all sorters knew Urdu. Had Urdu entries been accepted, therefore, it might have been necessary to engage a special supplementary Urdu-knowing staff to sort Urdu entries as and when they occured. These items of additional expenses did not seem justified.

Possibly between now and the next census, Urdu and the tribal languages may have been accorded a wider usage in the province in which case many bf these considerations will lose their force. Until, however, a knowledge of Urdu script is made compulsory for all gazetted officers, and all clerks, the practical difficulties will remain ; and they are great.

Nothing can cramp a District Census Officer more than a heavy file of criminal cases.

Next to the District Census Officer in the census hierarchy is the Mufassil Sub-divisional Officer ; but within his own subdivision he is obviously of crucial importance. The Code makes clear that it is on the Mufassil Sub-divisional Officer that the primary responsibility for the census in his Sub-division rests, and the extent to which census arrangements in a Sub-division proceed smoothly hinges directly on the extent to which the Subdivisional Officer interests himself in the census *from the start.*

The latter phrase is important for many Sub-divisional Officers did excellent work towards the end of the census but neglected it at the beginning. If they had not neglected the early stages, much of their excellent work later would have been unnecessary.

With a view to bringing home their responsibility to all Mufassil Sub-divisional Officers, I moved the Chief Secretary for issuing a letter stating that Government in the Political and Appointment Department attached importance to census work and calling for special confidential merits report on the census work of officers (file R-VII-1/40). This letter had a bracing and salutary effect—the more so as it was issued from the Political and Appointment Department rather than from the Revenue Department. I would strongly recommend similar action in 1950.

Although almost all Superintendents of Police treated the census with mercy, at least two did not and of these one even selected the enumeration period itself as the proper time for a general post. I would recommend that as a routine precaution a formal order ruling out the possibility of any such fantastic action should be obtained not later than October 1950 and the longer the period of stability, the better.

In the Chota Nagpur Division and the Santal Parganas, efforts were made to recruit aboriginal Supervisors and Enumerators in at least the proportion borne by aboriginals to the rest of the population. The experiment was surprisingly successful and in fact some of the best charges in the whole Province were Raidih and Chainpur thanas in Ranchi District in which the enumerators were cent per cent aboriginals. The probable explanation is that aboriginals as a class were more inclined to regard the work as a privilege rather than as an irksome duty, and minded less the long hours of training and check. But whatever the reason the results were impressive and it would be worthwhile to specially prescribe a similar arrangement in 1950.

This absence of sabotage should not however be allowed to disguise the dull resentment which census work everywhere provoked nor to obscure the real grievances of enumerators as a class. These grievances were as follows. It was complained, firstly that in being compelled to undertake enumeration work, they were virtually being made to do 'forced labour', a method which is both illegal and obsolete ; secondly, that the processes of house-listing, training, enumeration and checking represented breaks in their ordinary work and involved an arduous expenditure of time and energy ; thirdly, that although much time and labour had to be put into the work, they received no pay and no concessions and fourthly, that besides having to give their time and labour free, they had also to provide rough paper, pencils, pen and ink and also the tar or ochre with which house-numbering is done. A brief certificate at the end of the census, it was felt, was an insufficient reward for all this work and did nothing to remove the feeling that the census was a tax and an irritation, an imposed and unpopular duty. These grievances did not wreck the 1941 census but they were always unpleasantly near the surface and unless action is taken to remove them there is every risk that the dull resentment of 1940 may change to general defiance in 1950.

So long as no attempt is made to maintain the census frame work, it will be obvious that Registers of this kind are absolutely necessary and that they are in fact the only means through which each census can build up a framework. If, however, the census framework is made permanent, they will cease to have any function and can be dropped.

Although the Code states that the Charge Register is not only a complete register of Census Divisions and Agency but is also designed to show at a glance the progress of the work it is the former rather than the latter function which it mainly serves. Very few Charge Superintendents filled in columns 11 to 17 and when they did little reliance could be put on their entries. As the columns merely involve a waste of space, I would therefore recommend that in 1950 they should be omitted and a much smaller register drafted.

If it is not possible to replace the house-list by the Chaukidari Register (See para. 134) the booklet form in which the House-list was issued could be used again with advantage. The enumerators found it neat and easy to handle and it was a great improvement on the former large and billowy sheet which used to sail away across the fields.

Unlike the 1930 census, house-numbering in 1940 was done after the house-lists were prepared. This has several notable advantages of which perhaps the most important is that it gains two months' time. It will always be impracticable in Bihar to do house-numbering before the Diwali Festival which comes towards the end of October, since if it is done before then most of the numbers will be sedulously obliterated. If the house-lists are not prepared before house-numbering it means therefore that they cannot be prepared until November. Apart from the fact that this is getting dangerously near to the enumeration period, this date is far too late from another and more important point of view. The house-lists, besides providing the enumerator with a key to his block, furnish an approximate estimate of its population. This is needed for completing the indents of enumeration pads and September is by no means too early a date for getting this done.

The most fundamental novelty in the census forms was the pad. This consisted of a pad of a hundred slips and was a substitute for the wide and wavering schedule on which the enumeration entries were formerly made. It proved an almost unqualified success and should certainly be retained in 1950.

Thus although the location on Question 2 (sex) in the bottom right hand corner was intended to facilitate sorting and

to some extent possibly did so, many enumerators found it muddling. And as a general principle, it would be better if the natural order of the numbers is kept and all violent leaps are avoided. The same criticism to some extent applied to questions 5, 6, 21 and 22 which were ranged down the right hand side in the form of triangles, dotted lines and rectangles. Although it did not lead to any serious muddle, a simpler and plainer presentation would have been better. In the event too, the use of ticks, crosses and symbols so drastically economised the space that much of the completed slips was bare. In 1950, it could perhaps be seen whether the slip could not be drafted horizontally with three parallel columns, the number of the questions following one after another.

Since the system was novel in 1940 and there was no telling whether it would not prove too much for the enumerator the code number of each charge was printed on each slip and each enumerator had then to add two numbers. As the fear that enumerators as a whole would be unable to cope with the system was not justified, I would strongly recommend that in 1950 the Code numbers to be printed on the slips should be limited to the District and the Sub-division and the remaining three numbers should be left to the enumerators.

There is, however, one proviso. The fact that the enumerators worked the system well was due almost entirely to the fact that each house-list and enumerator's parwana was issued with the block code number already written in. In addition, painfully clear instructions were given in the Enumerator's Manual of Instructions. The result was that no enumerator had to work a code number out for himself. He was given a number and had merely to copy it. An equally simplified method would be a wise precaution in 1950.

The questions are in some ways the most important and at the same time the least satisfactory elements in a census. Rather more than half have a one-way simplicity and give no trouble. Others stimulate the passions while a third group however skilfully drafted, seem fated to produce level upon level of ambiguity. This ambiguity can sometimes be checked by instructions ; but it can never be entirely eliminated. And once the instructions have been issued, the best thing seems to be to say no more—leaving it to the common sense of the enumerators and the officers who give the training to devise the most workable interpretations.

One of the factors which made training hard was the use of symbols for certain of the answers. Once these symbols had been grasped they doubtless saved a great deal of time and energy, but the process of instilling them took time. The tick mark, for example, is an alien sign with no currency in the villages, and even clerks of the central office made grotesque efforts at copying it. It was only when it was identified with the Kaithi sign for nine that its oddity vanished and enumerators saw that it was merely meant to be a short and quick way of saying ' yes '. Similarly the cross mark was baffling until it was interpreted as a multiplication sign. Instruction on how to *translate* the symbols into village signs could usefully have been given in the Code.

Almost all District Census Officers and Sub-divisional Officers began with the method of the lecture. But this was quite useless, for an hour's harangue produced no results and in fact the only method that did result in training was to set the enumerators on to sample enumerations in the officer's own presence. It was only after an enumerator had gone through the agony of filling up the first slip and had his errors explained that he began to grow a technique.

The best alternative would be to make all census touring a charge on the Provincial Government; and if this is considered unfair on the ground that a part of the cost of census touring has hitherto been met by the Central Government, to compensate the Provincial Government with a subvention from the Central Government. This subvention might be fixed at the level of the 1931 actuals. If this is done, the position of both parties would be unaffected and touring could then proceed efficiently and without the aid of fiction.

A similar arrangement could usefully be made for ' Contingencies '—the Provincial Government agreeing to meet all District contingencies and receiving in return a lump sum subvention.

In the early stages it was thought that question 8 with its reference to the age of a woman at the birth of her first child might possibly provoke resentment and cause certain families to adopt the attitude of the wilfully dumb. But if there were some who answered with a fascinated horror, they were very few and the majority replied with interest rather than embarrassment.

A development in which community interest showed itself was the deposit of costs for caste tabulations. In 1941, provision for tabulating a caste was made only if the caste deposited the cost of its own tabulation. It is true that only nine castes availed themselves of this offer but the fact that any did so is an indication that the census is not without value in the eyes of the public. And if nine could deposit costs in 1941, more may well do so in 1950.

If pay is not given, it is possible that certain concessions might be offered. But here the salient difficulty is that the enumerators would merely be temporary and the post would therefore carry no status. The question of possible concessions is examined below but if a short view is taken, it seems that short of legalising compulsion the 1950 census in Bihar will be possible only if enumerators are paid and this will cost between five and thirty lakhs.

The root cause of census defects is the fact that the census is a temporary make-shift organisation. A framework is hurriedly run up. Certain departments are pressed into service and a great deal of ' forced labour ' is then extorted from the public. It is not surprising that this ricketty and medieval machine should work with friction, and that it should now be on the point of breaking up. If here is to be any radical improvement it can only come through the census being made to some degree permanent, to some degree a part of the ordinary annual administration of the province.

The outlook for the next census

1—INTRODUCTORY

It will be obvious from the foregoing commentary that present census methods in Bihar are far from good. In 1940 they took a great deal of time and energy and only just succeeded in working. From this energy, a census resulted and nothing more. In 1950 it is very doubtful if they will work unless compulsion is applied ; and both for this reason and for getting a better return for the energy spent, a survey of possible improvements is desirable.

2. The main defects of the 1941 census were as follows :—

(*a*) In the initial stage of charting the ground, the police proved an extremely unsatisfactory agency. Almost all Sub Inspectors appeared overworked and gave neither time nor interest to the work. Entries of house numbers in the Census-Mauza Registers for rural areas were never more than approximate while in certain cases they were wildly wrong. The names of persons proposed for appointment were frequently unsuitable. The verification of the list of bastis was perfunctory, and a process which

if done with reasonable efficiency might have been completed in a month dragged on for three. Although the use of the police therefore represented an integration of the census with an existing system, it was good neither for the police nor for the census; and if it is at all possible to eliminate the police from the earlier stages it will be a gain for both.

(*b*) In the next stage of making the census framework, little difficulty was experienced in forming the circles and blocks but a great deal of time was involved. In view of the fact that a similar framework had been prepared in 1930, but had been allowed to lapse this was unnecessarily wasteful.

(*c*) The mobilization of the conscript army proved a nuisance and an anxiety. The majority of enumerators did not accept appointment willingly and did their utmost to avoid selection. Petitions of appeal were common while many enumerators had to be cajoled or bullied before commencing work. In certain subdivisions, the prosecution of certain individuals for refusing to work as enumerators even proved necessary. If the census is to continue, it seems clear that the basis on which enumerators and supervisors are appointed urgently needs revision.

(*d*) House-listing and house-numbering call for little comment save that the former practice of requiring enumerators to supply their own tar and ochre for house-numbering was again resorted to. This also is an irritation of the census which contributes to the general unwillingness of enumerators and which requires attention.

(*e*) The training of enumerators and supervisors proved a strain both to trainers and trainees. On the side of officers, it involved full-time work for three months by District Census Officers and heavy part-time work by Subdivisional Officers. On the side of the enumerators also, it involved four to five visits to the police-station and many more visits to the supervisors. All these journeys represented interruptions in a routine of normal works for which the enumerators were paid nothing. With the all-round development of subdivisional work which is to be expected in the next years, it is important that the strain on officers should be reduced; while if the training of one census can be conserved for another, that will be an obvious gain.

(*f*) The strain of the training period also overlapped into the period of enumeration since officers had to tour continually to ensure correct entries, while for all enumerators it was a period of hard work. Many enumerators made all their entries on rough paper and then fair-copied them. All enumerators had to spend many hours in catching the members of their blocks, and in addition there was the arduous labour of filling in entries for persons who in many cases totalled more than 500. The strain of this work is unavoidable and even if the census were re-organised, it would still exist. It would however be cheerfully borne were it not for the fact that Government concedes nothing in return. Without a gesture by Government, the 1950 census may prove impossibly difficult.

2—A SHORT VIEW

3. On a short view, the test of any change is that it should be the least necessary for enabling the system to continue working. It should be essentially a "patch repair" and any big reorganisation is precluded. If the census is looked at from this angle it will be obvious that the problem of the enumerator is the only one which is urgent. If this is solved, the other defects would remain but the 1951 census could still be run on its present basis. If it is not solved, the 1951 census might even have to be abandoned.

4. *The enumerator problem.* The crux of the enumerator problem is that it no longer seems possible to recruit unpaid voluntary workers on the scale necessary for enumeration. The Census Act did not give any powers for compulsion and it is unlikely that the 1949 Act will give them. But in Bihar at least, all local officers had to act as if the powers were there. Unless this fiction had been firmly adopted, there might have been no census.

5. *The literate chaukidar.*—If a clause legalising compulsion is not put into the next Act, the following alternatives will have to be explored—in the first place, the possibility of dispensing with the public as enumerators and relying entirely on Government servants. In 1940 this could not have been done but if all chaukidars became literate, enumeration might be possible using only chaukidars as enumerators. The following points need however to be borne in mind. The percentage of literate chaukidars is not at present more than five. Accordingly the speed at which chaukidars are being made literate would have to be greatly quickened if chaukidars were to be the enumerators of the future. Secondly there are at present no statistics showing the extent to which literate chaukidars are keeping their literacy and there is perhaps some force in the fear that while all chaukidars might be literate on paper by 1950 the extent of their actual literacy might not be enough for the census. Thirdly, the wide scale use of chaukidars as enumerators would almost certainly lead to a demand for special census pay. The least that could be offered would be one month's extra pay and this would involve Government in an extra expenditure of roughly six lakhs. Possibly some of this might be claimed from the Government of India but since enumeration is carried out on the assumption that apart from the Superintendent and his office, no claim for the pay of any census staff will lie with the Government of India, it is doubtful whether such a claim would be admitted. The province might therefore be forced into either non cooperating with the All-India census, spending a sum of six lakhs or compelling chaukidars to work free. If the last alternative were adopted, efficiency might go to the winds and the inevitable discontent might have wide repercussions. Finally, it should be stressed that while the literate chaukidar might conceivably fill the breach, his employment is at best a counsel of despair. His status in the village is lowly and there is no other function for which his enumeration work would equip him. To find a solution in the literate chaukidar is therefore to cut out all possibility of wider benefits.

6. *Paid enumerators.*—If the first alternative of the literate chaukidar is considered as either impracticable or undesirable the second alternative is to recruit members of the public and offer them either pay or concessions. My impression based on the 1940 census is that enumerators would not normally agree to work for less than a lump sum of twenty rupees while supervisors would need fifty rupees. This would mean an expenditure of twenty-five lakhs in the census year. As compared with a literate chaukidar an enumerator recruited from the public is likely to be more intelligent; but unless the census staff is permanently linked to other duties, there is otherwise no advantage. The cost to Government would certainly be much greater.

7. If pay is not given, it is possible that certain concessions might be offered. But here the salient difficulty is that the

enumerators would merely be temporary and the post would therefore carry no status. The question of possible concessions is examined below but if a short view is taken, it seems that short of legalising compulsion the 1950 census in Bihar will be possible only if enumerators are paid and this will cost between five and thirty lakhs.

3—A LONGER VIEW

8. To solve the problem of enumerators would be to enable the census to continue on its present methods. But the defects of those methods would remain and on a longer view it is worth while examining whether any re-organisation is feasible which might result in a better return for the energy spent.

9. The root cause of census defects is the fact that the census is a temporary make-shift organisation. A framework is hurriedly run up. Certain departments are pressed into service and a great deal of 'forced labour' is then extorted from the public. It is not surprising that this ricketty and medieval machine should work with friction, and that it should now be on the point of breaking up. If there is to be any radical improvement it can only come through the census being made to some degree permanent, to some degree a part of the ordinary annual administration of the province.

10. *A permanent organisation.*—For making the census permanent, at least two lines of action are necessary, the creation of a permanent census framework and the appointment of permanent enumerators. In a letter No. 97-C, dated the 12th February 1941, to the Bihar Government (file SX-1/40) I made certain tentative proposals for securing *those two objectives and in what follows I shall briefly discuss* how far they appear practicable.

A—Permanent census framework

11. The creation of a permanent census framework could be achieved through :—

(*a*) the fusion of the census registers with chaukidari registers, so that a 'skeleton' census organisation would exist every year and there would no longer be the present waste of energy involved in making merely temporary registers ;

(*b*) the incorporation of census blocks and circles in the chaukidari system so that the census did not have to start each time from a blank ;

(*c*) the adoption of the census definition of a house (every mess is a house) in place of the chaukidari definition (every house holder is a house) so that new house lists would not be needed in the census year.

12. For securing this, extra columns showing the number of persons ordinarily eating in the mess would have to be put into the chaukidari registers ; while in writing up the registers, each mess in a 'house' would have to be given a separate serial number but bracketted with the other messes. Chaukidari tax would then be assessed on the senior mess as at present while the remaining messes would be exempt.

13. *Bihar.*—There is no obvious difficulty in making these changes, but much would depend on the extent to which the new columns were filled in promptly and efficiently. At present in Bihar the chaukidari assessment list is prepared by one man, the tahsildar punch, and in certain though not all, subdivisions great delays accompany its preparation. There is a risk that these would increase if the punch had to fill in every 'mess' as well as every 'house'. And if he had to fill in messes which were not to be assessed as well as those which were, he might tend to skip the unassessed messes and the resulting lists would be inaccurate and valueless. On the other hand, if the work of preparing the list for a block were done by each enumerator, the writing work of the tahsildar punch would be lightened and delays might be fewer. The business of collecting the lists from a dozen enumerators might however cause delays.

14. *Chota Nagpur.*—In the case of Chota Nagpur there is also no difficulty in modifying the registers but unlike Bihar where the assessment is annual, assessment in Chota Nagpur is five yearly. To introduce an annual assessment would require legislation and it would also mean a great increase in existing work. A way out might possibly be found through a three yearly preparation of the list which would certainly be an improvement on the existing system and would at the same time render possible the collection of useful statistics. But this also would need legislation. Other possible criticisms are that the chaukidari tahsildars would be unable to rely on the enumerators for accurate preparation of the lists and that realisation of chaukidari taxes might be hampered. There is little force in these criticisms, *for slack work could be immediately visited with suspension of* the privileges while the fact that a special touring officer is available for inspection and supervision would make for efficiency.

15. *Effects.*—Without a series of local experiments it is difficult to predict how far these fears are real ; but if the system could in fact be brought into operation, the changes would have the following important effects. In the first place the Census (Mauza) Register for rural areas, and the House-list would be eliminated. As the preparation of these forms occupies the first nine months of a census operation, their eliminattion would enable the census to start six months later, thus saving not only part of the cost of the Provincial Census Office but also the time and labour of gazetted officers and clerks in District and Subdivisional Offices. It would also obviate any recourse to the police for the preliminary period, and thus ease the strain on an already over-worked agency. Finally, it would greatly simplify the indents for enumeration pads since the house population of each block would have been entered in the chaukidari register before the indent was needed. The effects are important and whether enumerators are made permanent or not, there seems at least a case for experiment.

B—Permanent enumerators and supervisors

16. To make enumerators and supervisors permanent would have the advantage of conserving the experience of one census for the next. If however the enumerators were regarded not merely as enumerators but as village officers, a much more important objective would also be secured the creation of a permanent link between the administration and the villages. At present the only link is the village chaukidar and he is obviously of little use for matters in which literacy and intelligence are required. Equally the chaukidar's menial status in the village disqualifies him from fulfilling any important functions. For these the permanent enumerator would be fitted and the post might well prove increasingly useful.

17. *Duties.*—Duties of enumerators.—If enumerators are made permanent and the census framework is also put on a permanent basis, each enumerator might have the following duties :—

(*a*) preparation in triplicate of the annual chaukidari list for his block (the tax column to be filled in by the panchayet in Bihar and by the Chaukidari Department in Chota Nagpur). One copy of the list to remain with the enumerator, one copy with the panchayat or tahsildar, and one copy with the Collectorate or Subdivisional Office ;

(*b*) enumeration work at the decennial census;

(*c*) the maintenance of the vital statistics of his block;

(*d*) such miscellaneous work as Government might from time to time prescribe.

18. *Advantages and practicability.*—So far as (*a*) is concerned, this would present no difficulty particularly if a fairly quick transition were made to the new system. The house lists of the present census would provide a draft for the new registers.

So far as (*b*) is concerned, it will be obvious that census work by a permanent enumerator will be of much better quality than that done by a 'conscript' for he will have a permanent knowledge of his block and a permanent interest in it.

So far as (*c*) is concerned, this would represent a fundamental change which would have to be considered carefully on its merits. At present, the duty of ascertaining and reporting births and deaths rests with the village chaukidar but the figures based on these reports are notoriously unreliable. If the duty of ascertaining births and deaths were shifted to the permanent enumerator and he were given a small register in which to record them, a higher level of accuracy might result and it might also be possible to include additional 'fertility' questions such as the age of the mother. This would lead to a great improvement in provincial statistics. Since, however, it is difficult to predict how well the system would work, for the first five years, reporting by chaukidars at the police stations might continue while simultaneously registers were maintained in the villages by the enumerators. They might then be summoned to the police stations twice a year with their registers for inspection and filling of a six-monthly return. At this visit their work could be scrutinised both from the point of view of vital statistics and of chaukidari. For this purpose a six-monthly visit to every police station might be made a current duty of each Chaukidari Officer.

(*d*) This category is necessarily vague but at the same time it is potentially of the greatest importance. The permanent enumerator could be used for settling petty criminal cases. He could report on crop conditions, He could be supplied with copies of Dehat and could be used for disseminating information. He could conduct any future 'cattle census'. He would in fact be an agent of Government in the village the equivalent of the 'village officer' who forms the basis of administration in Madras and the Punjab.

19. *Finance.*—Whether such a post is possible, however, depends on whether it can be financed and it will be obvious that in Bihar the only way in which this could be done would be through privileges or concessions. Payment in cash would be impracticable since even if only twenty rupees a year were paid to each enumerator and fifty rupees a year to each supervisor, the annual cost to the province would be twenty five lakhs. Actually it is doubtful whether this would be enough and the annual sum needed might well be a crore. Such an astronomical figure is obviously out of the question.

20. On the other hand if remuneration is done through privileges, these might possibly be fitted into existing concessions or made without extra cost to Government. They would have a certain cash value but would not be open to criticism by cash standards; and what might therefore be inacceptable if offered as cash might well be acceptable if offered as a privilege. A combination of two such privileges might create a sense of status in return for which the duties outlined above would not seem excessive.

21. *Concessions.*—Of the concessions which Government might offer the following two seem prima facie feasible and taken together might well prove adequate.

(1) remision of chaukidari tax and (2) free education for one child each year upto M. V. or M. E. standard in schools controlled by District Boards. In the case of Supervisors (1) remission of chaukidari tax and (2) free education for one child each year upto Matriculation Standard in Schools aided or maintained by Government.

22. *Remission of Chaukidari tax.*—So far as remission of chaukidari tax is concerned, this need involve no extra cost to Governmentt as the amounts in question are small and could be raised by distribution over the rest of the union. There is no reason why this need generate any sense of severe extra taxation. In the case of Chota Nagpur, the twenty per cent extra charge which is levied over and above the pay of the chaukidars has always been excessive and the concessions could come from the excess.

23. *Free education.*—So far as educational privileges go, the question is more intricate and without local experiments it is difficult to say whether extra cost to Government would or would not accrue. In a D. O. letter to Mr. C. K. Rāman, I.C.S., Deputy Secretary to Government, Education Department (File Sx-1/40) I made a survey of the position and came to the provisional conclusion that the privileges could be fitted into the existing system of free studentships without extra cost and without unduly swamping free places with enumerators' children. This, however, involved the assumption that not all enumerators would or could avail of the concession each year. If this assumption is wrong and all enumerators did in fact avail of the concession, free places in primary schools could still meet the demand but at the cost of other sections of the community. Free places in middle schools, however, would not be enough and would have to be increased. With the present supply of schools, however, the latter contingency is unlikely and the probability is that in any one year not more than half the enumerators would avail of the privilege. This the existing system could carry.

C.—A SUMMING UP

24. It will be obvious that before action could be taken on these lines, a detailed examination of conditions in each division would be necessary. And before action could be taken in a division, experiments in selected districts would be advisable without the results of such experiments it is impossible to predict and it might well happen that practical experience would show that the province was not ripe for any major changes. But without, at least some action, the future of the census is precarious. And the future is worth a risk.

CENTRAL PROVINCES

I laid down as the principle that all forms, booklets, circulars of instructions, etc., should be transmitted direct to the Tahsildars and not through the medium of the district office as in the past save where the subject matter required that it should be sent to the district office. This resulted in an enormous saving of despatching and copying work in the district offices and also a saving in freight and packing and, above all time.

The "general village register" as prescribed by me is the form in which proposals are submitted by patwaris and revenue inspectors.

At the last census many chapters of the Codes were translated into Hindi and Marathi. I got a few chapters translated but decided not to print them as the language could not be made sufficiently simple for charge superintendents and others, and contained a lot of matter which was of use mostly to higher officers. I drew up a special set of instructions in the simplest possible form for charge superintendents, supervisors and enumerators, and these were translated into Hindi and Marathi with a great deal of saving on translation and printing; the translations of the Codes would have been practically useless.

An important principle which was insisted on by me at this census is that the census should be regarded as a co-operative effort of all departments and as far as possible 'departmentalism' should be eliminated. It was therefore laid down that the Tahsildar should frame proposals for all areas in his charge including "forest" villages; in the latter case the proposals were to be formulated in consultation with forest officers and submitted through the Divisional Forest Officer. The Talsildar will be the one man in the tahsil to whom forms, etc., will be supplied by the Superintendent and he will be responsible for distribution to all units in his tahsil. Consequently all statements, demands for forms, etc., should go through him.

This fiction of supervisors doing the house-numbering must now be put an end to and the responsibility must be laid fairly and squarely on the shoulders of municipal and notified area committees and it must be their responsibility to write out the house lists also; if this responsibility is definitely brought home to them as I am trying to do they will perhaps maintain numbering permanently on the census system and also house lists. I have taken up the question of municipal committees maintaining house-numbering permanently with the Provincial Government. For the rural areas it must definitely be laid down that patwaris assisted by patels or mukaddams and kotwars should do the house-numbering and house lists.

Indents for additional pads were wild and forwarded by district officers without the least scrutiny; in one case the additional number demanded was enough by itself for nearly two tahsils and in almost all cases greatly in excess of actual needs.

At the census conference there was considerable discussion about imposing circle numbers in print on the slips. Experience shows that this would have been a serious nuisance if it had been done.

In order to prevent wastage of slips I am of opinion that pads should be made either entirely of 50 slips each or fifty per cent, of hundreds and the rest of fifties. The wastage will be small in that case and breakage of pads prevented.

On the whole I am not in favour of distributing loose slips.

I printed about 50,000 loose slips locally for practice (the form was printed on both sides for economy) but this was inadequate. The difficulty has however been overcome and at the next census the pads will not be considered frightening but some slips for practice will be necessary.

Sub-divisional Officers on the whole took hardly any *interest*.

Supervisors and charge superintendents drawn from pleaders, municipal members, etc., proved mostly useless except in a few cases and there is no way of dealing with them without unpleasantness or the use of the Census Act (Section 5) and the best solution seems to be to appoint municipal and Government servants where it is found that the President and members are not sufficiently interested. Wherever possible and particularly in urban areas a small reserve enumerators should serve broad local areas and not particular blocks so as to enable employment in any of several blocks.

Actually in Nagpur City many enumerators finished their work altogether on the first day in spite of having started late on account of rain and this was the case in many other places as well, for the average block did not contain more than about 200 persons. The strain was thus not real in spite of the reduction of the period of enumeration but my personal conduct of classes in all parts of the province brought to light the true reason for this and the farce which was being "dished out" as "simultaneous enumeration" in the past in many areas.

All this shows beyond doubt that the enumeration of the past was to an appreciable extent enumeration conducted over a period of several weeks before the census (mostly by patwaris) without a final check; the shortening of the period of enumeration has in fact 'called the bluff'. In thinking of the enumeration of 1951 therefore the practicability of any given plan of action must be given more attention than any other aspect.

Old Dhamangaon in the Amraoti district with a population of 1,400 was made into a single block to test the practicability of the new system of enumeration. The District Census Officer reports that the enumerator in charge did the work successfully from 1st to 10th March at the rate of 140 persons a day.

"Canvassing" during enumeration for political and communal ends may vitiate the whole census and is as undesirable as canvassing at elections. It needs to be considered whether provision should be made in the next Census Act against this. In any case this census has shown quite clearly that if left to provincial governments as a provincial subject there is great danger of the census being made use of to serve political and communal purposes and I am therefore, emphatically of the opinion that the census should not be made a provincial subject. In order to eliminate the possibility of pressure being brought to bear on the Census Superintendent it may be necessary to lay down that any suggestions to him should go through the Census Commissioner for India.

House-numbering is the most important as well as perhaps the most difficult part of the census.

In view of the amazing conditions in which people build or make houses for themselves it is often necessary to go completely round a house to make sure that no tatta house has been put up against one of the walls; huts are often put up miles from inhabited sites and shifted quite often. Under existing practical conditions, with houses likely to spring up in the most irregular manner and in extremely unlikely places I think that an accuracy of more than one in ten thousand cannot be attained and ordinarily the error will be several times this.

At the 1931 census also supervisors had to write out the schedule in a large number of places and though hopes that on account of the increase in literacy better enumerators would be found this time were not justified there is not much ground for pessimism. On the other hand chances are that the enumeration slip, having lost its strangeness, will be welcomed as a labour-saving device.

Some of the district reports suggests elaboration of the instructions with detailed explanations and examples. Such a course would in my opinion be disastrous; the greatest inertia was shown by officials and non-officials alike in reading even the small booklet issued and the evil day was being constantly put off; any increase in the volume of the instructions would greatly stress this tendency and instead of clarification the result would be that the booklet would not be read. No practicable amplification can eliminate the need for discussion at a meeting and this is the place for clarification of doubts and difficulties. It is for this reason that I did not issue any sample entries and I do not think they are really necessary. The motto to bear in mind while drafting census

instructions is that the more one writes the less are his words likely to be read. Supplementary instructions seldom go as far as the enumerator and should be avoided as much as possible.

On the whole, I think that four circle register forms may be used for each circle and circle lists discontinued.

Census maps are not necessary usually in settled rural areas and it should be left to the discretion of the Depty Commissioner to get maps prepared for only such charges and circles as he thinks fit; a map should of course be kept at tahsil and district headquarters. Maps are helpful in urban areas as a rule.

As Jubbulpore and Nagpur are the places where tabulation offices are likely to be opened the best way of solving the enumerator problem is to advertise for sorters and supervisors in January, the condition of appointment being that they should come for training and work as honorary enumerators. In the tabulation office here I have numerous candidates willing to work as apprentices without pay for many days before appointment in prospective vacancies and if similar conditions prevail there will be more people available than necessary.

I suggest that columns should be added there which are required to be filled in only in respect of the head member of the family; such columns would be number of rooms in the house, whether the house is rented or owned, etc. I am of opinion that a great deal of interesting and useful information is lost in the absence of a column in the enumeration slip to show the relationship of each person enumerated to the head member of the family; such a column would supply the family aspect completely.

Organisation for a census starts with a special Act, a special department, special circulars and codes; neither in the central government system nor in the provincial system does it find any permanent place except perhaps on the shelf of unused records. Consequently it is treated as a special effort when it comes and as soon as enumeration is complete all except those directly concerned with analysis of the results heave a sigh of relief and congratulate themselves that this unremunerated addition to their work is over. The provincial system has always been and is always likely to be used for the fundamental stage of enumeration but no provincial code or manual contains any reference to the important part provincial officers have to play in it. It is possible for an Assistant Commissioner or Tahsildar appointed in the census year or shortly after, to put in nine to ten years service without knowing anything about census organisation or the part he will be required one day to play in it. Being accustomed to find his duties and responsibilities prescribed in manuals and codes and not finding anything about the census in them he can hardly be blamed if he regards it something outside his legitimate duties; quickly he realises that the field work is mostly the responsibiliy of the revenue inspectors and patwaris, and leaves them and the forms clerk in the tahsils to do the job. Nor is he disturbed much in this state of affairs by the attention of superior inspecting officers; here again the lack of a place for the census in the manuals is responsible. This, then, is the most important reason for the many difficulties experienced in organising the census and any attempt at domestication of the phoenix must begin with the recognition and permanent fusion of the stage of enumeration into the provincial system. I have mentioned before the General Book Circular on census which I have suggested to the provincial government; like most new measures its course was not unopposed but happily the chances of its acceptance seem to be good.

N. W. F. P.

I came to census work after two years in a sub-division where I had been impressed both with the amount of work at the bottom end of the administrative scale, and with the steady stream of unnecessary paper which poured down from above. I therefore, decided that no telegram, no reminder, no amendment slip, no request for information which I could myself find out, and no unnecessary form to be filled in, should issue from the Census Office.

The keynote of enumeration proceedings should be simplicity—simple to draw up, simple to understand, and simple to carry out. Accordingly, I rewrote the provincial booklet of instructions keeping out of it everything that was not needed to secure the one and only aim of enumeration, namely that every person in the province should be enumerated, and that no one should be enumerated twice.

It is impossible to devise without quite fantastic expenditure a fool-proof system of checking which will not rely on the same kind of human material as the enumerator himself. The enumerator must be told and trusted to do his best as a citizen carrying out a public duty, and then left to do it. This was the policy followed in the North-West Frontier Province and except in some cases in towns where interested persons tried to give false returns, it was a success.

In the past some of the grades have coincided with existing revenue-official grades, and the others have been formed with artificial divisions. I decided to use the revenue department organisation throughout (in any case, as remarked elsewhere in this report, the census has to be carried out largely through the revenue department). Apart from anything else, such complete integration meant that I could draw up the census instructions without having to refer the question of census divisions to overworked district officials—thereby saving a great deal of correspondence.

Instead of the Chairman of the Cantonment Board being made Charge Superintendent of the Cantonment, the person appointed should be the Cantonment Executive Officer. The Chairman is the Brigadier who, in war-time at least, has got no time to spend on the census. "The Census?" said one Chairman on this occasion to a clerk who ventured to bring up a file, "take the damned thing away".

As an average standard it was assumed that an enumerator could enumerate about 50 houses per day. Experience showed that a good enumerator could do double this number.

In the North-West Frontier Province we went one step further, and decided to use the three numbers as a code to designate the revenue number of the village in which a slip was used. This added enormously to the usefulness of the numbers, and caused no extra work or expense—on the contrary, it saved the enumerator from having to write any village detail on his slips or pads, and provided a fool-proof index for the subsequent compilation of the village register.

I would here remark for the future that if this system is followed next time, towns should be given a number or set of numbers distinct from those designating the revenue village in which the town is situated. This will obviate any possible confusion later in compiling the results.

A conclusive argument in favour of this system was the fact that the whole indent for the Province was framed in the Census Superintendent's office, without the need for any correspondence at all with district officers.

After giving the particulars of her eleven children a woman proceeded to explain to the enumerator that she was about to have a twelfth and was much incensed when told that it could not figure in this Census.

Frequently doubts as to the exact boundary between urban and rural areas came to light and could be settled on the spot. Bannu was particularly bad in this respect. A small section of what was really part of Bannu Cantonment (and was treated as part of it for some purposes) was called Civil Lines and for certain purposes was included in Bannu Municipality. Bannu District Jail appeared to be in neither muncipality nor cantonment, a most anomalous position as it adjoins both. The position of the Railway Station was likewise doubtful. I strongly recommend that the question of these boundaries should, in the interests of all concerned, be finally decided by the Provincial Government; the case has been pending for years.

A factor which gave an unaccustomed edge to touring in some areas was the insecurity of the roads in the southern districts of the Province. Abduction, and the shooting up of cars or busses were unfortunately frequent in the winter of 1940-41 in the districts of Bannu and Dera Ismail Khan. As I regarded it as no part of a Census Superintendent's duties to be either abducted or shot at, I took such precautions as were possible, either by travelling with a convoy or with an escort, or going by train, where there was a likelihood of unfortunate incidents occurring. My Head Clerk took the precaution of disguising himself (not very successfully) as a Pathan, and flatly declined to travel along one road at all.

A few words are required about the European population. They exist almost entirely in Cantonments in this Province, but constitute a small problems of their own. They should be the easiest community to enumerate, but experience has shown (and is confirmed by this Census) that they are not. An attempt should be made to get some European officers (or their wives) to act as enumerators.

It is a lamentable fact that allegations of falsifying returns occurred only in towns and concerned largely educated and even professional people.

All enumerators were instructed to record the answers given by the person concerned, and not to enter into discussion of religious sects. In fact no complaints at all were received against enumerators, who did their difficult and thankless job very well.

A householder in Peshawar Cantonment gave ten people as living in his upstairs room, and on a warning by the enumerator that he would bring a Sub-Inspector of Police to search the room at 10 p.m. he promptly admitted that in fact only his wife and himself occupied the room. As an example of appalling overcrowding, an instance came to light (in Peshawar) of ten people living in one room 10′ × 12′.

By assiduous peddling a sale for blank pads and slips, and for the small slips used in the Powindah and Trans-border census was obtained at a rate higher than they cost to produce in Calcutta.

I should like to leave it as my definite opinion that it will not be worth while to tabulate the language results for the North-West Frontier Province. Propaganda in favour of returning Urdu and Hindi was widespread throughout the province, and such scrutiny of the answers as has been made shows that false returns have been freely made; and the results of the sorting of the sample slips bear out this inaccuracy.

If the census remains on a voluntary basis, then also the questionnaire must be greatly simplified, as it cannot be expected that enumerators will give up so much of their time to the training and hard work involved to fit them for their duties. Apart from anything else the revenue staff, the backbone of the census, have not got and are not likely in 1951 to have the time to spend on long training. If the census is to be on a basis of paid enumerators then a larger questionnaire could be drawn up, but the whole structure of census organisation would have to be altered. The prohibitive cost of such an organisation makes it unnecessary to do more then mention it. If the questionnaire is greatly simplified it would be possible to carry it out almost entirely (in rural areas) by servants of Government and local bodies; and the small honorarium which I recommend could be made at no excessive cost.

It can safely be asserted that a number of the tables prepared in past censuses have never been used by Provincial Governments or by any one else. It is therefore a waste of time and money to prepare them. And since the time which the enumerator can, or is likely to be able to, spare and the money which Government is likely to be able to provide are both extremely limited, it would be advisable to avoid the slightest waste of either. Only those questions should be asked and those tables prepared which are likely to be useful during the following decade. Art for art's sake or even for the art connoisseur's sake should have no place in the scheme of the census.

My conclusion is that a maximum of 12 easily-understood questions should be asked. They would be the following :—

1. Name.
2. Sex.
3. Civil Condition.
4. Religion.
5. Age.
6. Means of Livelihood.
7. Do you work for money wages ?
8. What language do you speak in your family circle ?
9. Where were you born ?
10. Can you read and write ?
11. Educational standard.
12. Can you read and write English ?

All patwaris should be given an allowance of Rs. 2 per month for the six months preceding the census date. They have to incur expenses on travelling, paper and ink, registers and postage, etc., of which it is impossible to keep accurate accounts. They have moreover, to do a lot of extra hard work. It is not to the credit of the census that it exacts forced labour from a poorly paid class of Government servants; to call their work " voluntary " is a misuse of language.

I would recommend that census finance (since it is a central concern) should be dealt with only by the Census Superintendent and the Census Commissioner. To bring in the Provincial Government is only to add an unnecessary complication to the machinery; and to create that anathema of politics, power without responsibility.

I recommend that in future the Education Department be integrated into the census machinery in the same way (though not of course to the same extent) as the Revenue Department. That would mean that the Education Department could supply lists of its masters and the letters of appointment as enumerators could be issued to these masters through the Education Department. This would secure a more harmonious working co-operation, without disturbing the ultimate responsibility of the Revenue Department officers.

There is no hard and fast division between the civil and military parts of Cantonments; many officers in fact reside in

the so-called civil part, and non-military persons (*i.e.*, persons not subject to military law) live in the so-called military part of the Cantonment. Thus the division of the Cantonments into two parts is artificial, and leads to considerable practical difficulties. I would recommend that in future the Cantonment should be treated as one, the census of the military units being of course arranged through the military organisation, but no attempt being made to have the two populations kept distinct.

I personally feel satisfied that the village map was both much easier to prepare and just as useful as the village house lists of the past. Opinions which I have received, however, differ on this point. Old fashioned patwaris prefer the old fashioned system. I recommend that before deciding next time on village map or house lists, the Census Superintendent should discuss the matter fully with a small meeting of Kanungos and patwaris, as they are the persons affected by the decision. This could be done in Peshawar Tehsil.

ORISSA

My office was opened on the 7th March 1940. Its establishment consisted of three clerks and two peons. This proved to be entirely adequate to the work and I found no necessity to increase its strength at any time during the operations.

Ninety per cent of our enumerators are non-officials and have studied no further than the middle vernacular stage. They are not, like patwaris and other minor revenue officials who work as enumerators in other parts of India, accustomed to the frequent filling up of forms, or reading and assimilating printed instructions.

Accepting the premise that willing co-operation can still be expected from the people of Orissa, I am convinced that better results will be obtained if less is asked for of them.

It may perhaps be said that there is no harm in asking for as much information as we can get, and accepting so much of it as appears, from internal and external evidence, to be reliable. But I do not agree with this view, as my experience is that when an enumerator does not understand some of the instructions this has a depressing influence upon him and discourages him from doing his best in answering the questions which he does understand.

The innovation of doing enumeration direct on to *billets individuels*, which were subsequently used for sorting, was a distinct success, but the experience of this Census points the way to certain modifications in the system which will make it still more satisfactory in the future. In any case a return to the old system of enumeration on to schedules followed by the laborious process of slip-copying is not to be thought of.

The pads were found to be very handy and convenient, and the paper was just of the *right consistency* for enumeration purposes. It also stood up very well to the constant handling received at the sorting stage.

There is always a fall in population in these districts between October and February owing to the emigration of workers to industrial Bengal after the cultivation season is over, and this fact may perhaps usefully be borne in mind at future Censuses, if a rough census is again made at the time of preparing the house-lists.

The best way of reducing wastage is to reduce the number of blocks to the minimum.

As usual in Bihar and Orissa the operations started with the preparation of the Census (Village) Register. I seriously doubt whether this Register is necessary, and I believe that it can be abolished and the operations started with the preparation of charge registers based on the charge registers of the previous Census and the Village Statistics arranged by circles which have been supplied to the district officers.

There are however, very great advantages to be gained by *making a preliminary count of the population during the* preparation of the house-list. This count may be of males and females only, and it is unnecessary to distinguish between adults and children. In the first place the count thus made provides a useful indication of the number of forms that are likely to be required in each charge. Secondly the total thus ascertained is a very valuable check on the totals obtained at the final enumeration, and where there is any doubt about the final figure obtained a reference to the house-list population is very helpful. Thirdly, the house-list enumeration throws *a light on the constitution of the province's population which* supplements that given by the actual Census. It revealed for instance that the " floating population " in Orissa generally forms a minute percentage of the total population. In fact apart from the considerable elements that are to be found in the three largest towns of the province the floating population is almost non-existent. The house-list also throws light on the movements of the population that occur between the months of October and February.

Another difficulty in Ganjam was caused by the District Board's habit of constantly transferring its employees all over the district. In the end I had to ask the Collector to request the Board to have a moratorium on transfers till the end of the Census.

I am doubtful whether a Census Code is a real necessity in Orissa. Charge superintendents cannot be expected to master such detailed instructions as are given in a code, and a shorter manual is more useful for them. Detailed instructions need only be given to district, subdivisional, etc., officers, and these can perhaps be better conveyed in the form of circular letters rather than in a formally worded series of instructions.

I intentionally kept the manuals for charge superintendents, supervisors and enumerators as brief as possible, in the view that the longer the booklets the less likelihood there would be of their being read.

And if I had the Census to do again I would rather shorten than lengthen the manuals.

The charge superintendents are given just as much printed instructions as they are considered likely to assimilate, and they are likely simply to be confused if information which was not intended for them is thrown at them indiscriminately from the district headquarters.

Undoubtedly the recognition given to the volunteer staff is inadequate. The payment of a cash remuneration is doubtless out of the question. But it should not be impossible to provide each enumerator at public expense with a pen, ink, pencil and rubber and note-book. At 8 annas per head this would come to a total Rs. 20,000 extra on the Census budget in Orissa, a large sum as Census budgets go. But in my opinion this is a charge which the State cannot expect its subjects to continue to bear from Census to Census.

Some time in advance of the next Census the question of opening a joint Abstraction Office for all the Orissa States might be considered, as offices dealing with less than a million slips each are not likely to be economical.

As regards travelling allowance the Orissa Government passed the following orders which may with advantage be applied again on the next occasion.

" With reference to your letter No. 1512 dated the 24th October 1940, I am directed to convey the approval of the

Government to the following arrangements proposed by you in connection with the travelling allowance to be paid to officers employed in the Census of 1941 :

(1) *Government officials.*—Travelling allowance of Government officials for journeys undertaken solely and exclusively for census work will be treated as census expenditure under rule 4 of the Auditor General's rules. No allowance of any kind will be granted for journeys within a radius of five miles from headquarters. In pursuance of the well-known principle that the census is a piece of public service undertaken in the interests of all communities and that both officials and non-officials alike should give their help free wherever possible, travelling allowance will not be paid according to the full rates of the Travelling Allowance Rules but will be limited to what will be considered as reasonable out-of-pocket expenses. In the case of touring officials in receipt of fixed monthly travelling allowance census travelling allowance will be paid only for those portions of their journeys on census duty that lie outside their sphere of ordinary work,

(2) *Servants of local boards.*—Travelling allowance of the servants of local bodies deputed to census duty will be debited to the funds of these bodies.

(3) *Others.*—In the case of others the amount actually expended will be paid from census funds up to a maximum of 14 annas a day for supervisors and Rs. 1-10-0 a day for charge superintendents.

SIND

The Census Office is ordinarily in existence for three years : it is desirable that the Head Clerk should serve continuously : and it is therefore necessary to make the post attractive to an ambitious man.

It also became possible to dispense almost entirely with the services of private persons as Enumerators in the Rural areas : a desirable step, since the new form of Enumeration slip needed well educated and trained men to deal with it adequately.

The effect of the adoption of the new system, so far as employment of personnel is concerned, was to produce the enumeration of Forty-five lakhs of persons, by three thousand seven hundred enumerators, giving an average of about 1200 persons to an enumerator. The number of houses in the province being *over eight lakhs*, each enumerator had on the average to visit 230 and the average size of his block was about 14 square miles. While the number of blocks was thus reduced to less than 1/5 of in 1931, the number of circles was about 2/5 of the 1931 figure. In 1941, the average number of blocks in a circle was six, as against 12 in 1931.

The problem presented by whole-sale changes of residence at the end of the month, in Karachi, should not in future be allowed to assume the importance which was given to it on this occasion. The House Lists admittedly could not be expected to be adjusted throughout in accordance with these changes.

The public were on the whole passive, neither helping nor hindering the enumerators ; and malafide attempts to vitiate the Census were rare. Communal rivalry in its worst forms hardly assumed serious proportions at all.

Enumerators tended to complain, especially in the early stages, that the Census work on this occasion was unduly difficult and laborious. The House Lists were much more elaborate than the old Block Lists, and the new enumeration slips appeared very formidable at the outset. But I think most conscientious enumerators were prepared to admit, after they had gained familiarity with the slips, that they were easier to deal with than the old General Schedules.

Though demonstration on a blackboard (I had one with lines and number painted on it, a facsimile of the enumeration slip) is effective, I think it necessary in addition to make enumerators fill up not less than thirty to fifty slips in practice, before beginning their real enumeration. But these essays would of course have to be inspected, corrected and further instructions given, by a supervisor.

There can be no doubt that the slip system has proved a success and will be adopted for the future. The next point is whether the form and order of questionnaire on it needs modification. There has been a pathetic appeal in some quarters to have the questions printed in full on it ; a sure indication of slack Charge Superintendents. The main objection was to the " excessive " number of questions, " many of which did not apply to 999 persons out of 1000 " this is of course the inevitable corollray of standardization.

It will be appreciated that the important phenomenon of seasonal migration could not be revealed by the replies to Question 17-Birthplace : as many persons born in Baluchistan have long been permanently settled in Sind, and form part of the regular population of the Province, which the seasonal immigrants do not. The extent to which their people are permanently settling in Sind is naturally a question of great moment in Baluchistan. These remarks apply, mutandis, to Cutch, Marwar, etc. A question of this nature certainly should figure in the census enquiry in Sind : but it would be more conveniently placed earlier in the list.

The strain experienced in 1941 in getting enumeration in Karachi City performed by part time agency drawn from practically every Government Office, and a number of Educational Institutions, leaves no doubt that this make-shift system must hereafter be abandoned. As it was, a certain number of full time stipendiary enumerators had to be appointed, and their functioning is a guide for the future.

It appears that these men found no difficulty in performing the provisional enumeration of 150 people per day. Assuming a period of 20 working days for this part of the work, it would seem safe to prescribe as the average, blocks to contain 2500 persons. Assuming also that the population of Karachi City in 1951 will be about 5 lakhs, 200 enumerators would be required to cover the area. These men would be needed to function for a period of three months and their pay might be Rs. 40 inclusive of all allowances. The expenditure on actual enumeration would thus amount to Rs. 24,000.

BOMBAY

I also venture to suggest that in view of the considerable saving resulting from the decision to reduce the number of enumerators, the Provincial Superintendent be given for instructional purposes, the aid of six assistants of the rank of Head Karkun for a period of four months. The cost woud would be in te vicinity of Rs. 200 per month for each Head Karkun including travelling allowance but the expenditure would be well worth while. It is quite impossible for the Superintendent to do more than make contact with all Charge Superintendents and a handful of Supervisors and Enumerators, whereas what is clearly necessary is the creation of a body of trained instructors, who can penetrate into each and every area and by word of mouth and example explain to and impress upon each Enumerator the objectives of the

census, the means which must be employed to achieve these objectives and the methods of conduct which must be studiously avoided. Unless this course is adopted, our attempts to improve our age statistics, our desire to collect accurate fertility data and our efforts to prepare useful occupational tables, must remain frustrated.

If in 1951, the scheme of operation employed in 1941 is accepted and the Circle areas left unaltered, and there is no reason whatever why this should not be so, the only entry to be made *by hand* will be the block details and I am of the opinion that no attempt should be made to print this last detail, as any such action will involve great wastage of slips or great labour in altering the printed detail, in case the slips assigned for one area need to be diverted to another.

It is desirable to obtain from the press about 2,000 pads without any printed code number. These pads can then be sent to any areas which have underestimated their requirements.

In no case should the Superintendent allow himself to be stampeded into accepting the estimates or requirements framed by the local officers. If he does so, he will find that he has printed slips very appreciably in excess of what is really necessary.

I am given to understand that the printing of slips at the Government of India Press at Calcutta is desirable for weighty reasons, but there is no doubt at all that the distance of Calcutta from Kathiawar or the Karnatak is a serious handicap, and the time required for the transport of the goods required introduces complications which are harassing in the extreme and which would be substantially eased if it were permissible to obtain all printed forms from the Provincial Press. Similarly the necessity of obtaining stationery from a depot 1,000 miles distant is definitely a nuisance and I would again suggest that in this respect at least, the present practice be reconsidered.

The primary need of any Census Abstraction office is abundant space for the Record rooms and this prerequisite of efficient working was lacking. Racks of a suitable pattern to take the vast mass of documents were unobtainable on hire and would have cost a small fortune to manufacture and therefore the most rediculous makeshift arrangements were adopted. The dealwood boxes in which the bulk of the pads were forwarded were converted into compartments for the reception of the pads and built up in tiers in a crazy pattern which would have both inspired and delighted a Heath Robinson.

As a result of these primitive conditions of working the cost of Abstraction has been maintained at an exceedingly low figure but I do not recommend the assembly of all slips in a single Abstraction Office. I suggest that a population of about 10 millions is the most that can be handled conveniently and that therefore in 1951, at least two Abstraction offices be set up.

Broach is a town which is conveniently situated for the British Districts of Gujerat, the Gujerat States and the Western Indian States Agency and where good accommodation and inexpensive staff are obtainable.

If accommodation could be found at Satara, it should be possible to congregate all the slips for Maharashtra and the Karnatak in one office. Such an establishment would be on the large side but if sufficient accommodation is secured, and it would be available in times of peace, cheap labour is procurable locally and the vicinity off Bijapur District and Sangli State ensures the ready recruitment of Kannada knowing hands.

It is most unfortunate that the component parts of the Western India States Agency and the Gujerat and Deccan States cannot be persuaded to combine to set up Central Abstraction offices at Rajkot, Baroda and Kolhapur respectively as this would be a convenient arrangement but I fear that such a proposition reasonable and economically desirable though it may be, will remain an unaccomplished aspiration.

The rivalry between the major States is so considerable that it is regarded as absurd that any one State should contemplate entrusting its slips to another and each cheerfully sets up an expensive Tabulation Office though combination would halve the cost to each unit of the combine.

On this occasion, however, the decision to resort to partial tabulation was so unexpected that its novelty caused confusion of mind and induced many States who as a matter of course intended to set up independent offices, to modify their decision and to entrust their slips to the Provincial Superintendent.

As regards the propriety of the arrangements made with the Bombay and Ahmedabad Municipalities, whereas the underlying principle is not open to objection, administrative difficulties have arisen. The position is that the superintendent is responsible for watching the whole of the expenditure incurred and for safeguarding the interests of the Central Government but his capacity for doing so is fettered by reason of the fact that he can lodge a protest in connection with any particular item only after the expenditure has been incurred. As a consequence it is only patent extravagance which can be questioned. The extent of such wastage may not be serious but it exists and its dimensions cannot easily be computed. In a fastidious view, this must always be unsatisfactory but the remedy is by no means obvious.

I venture to repeat my recommendation made in 1931 that a separate Abstraction Office be set up to deal with the population of urban areas and that half the cost of this office should be debited to the Census Budget and the other half recovered, proportionately to the population, from the Municipalities concerned. (See pages 24 and 25 of the Administration Report for 1931.)

CHAPTER V—FINANCIAL

I—SUMMARY

The financial picture is summed up in the tables attached to this chapter. Enumeration cost 14·65 lakhs and tabulation 6·45. Against both but more notably against tabulation substantial recoveries should be set off totalling over 4 lakhs. The net figure is therefore in the neighbourhood of 17 lakhs. In view of the limited tabulation no comparison with 1931 is possible in that field. Where enumeration is concerned however the processes having been completed in both years comparison becomes possible, and the picture that emerges of net enumeration costs in two years is 13 lakhs for 1941 against 12 for 1931. Over a population increased by 15 per cent the true basis of comparison, *i.e.*, per thousand persons, shows a reduction from the 1931 figure, the respective figures being Rs. 4-8 and 4-4. This represents a diminution of 5½ per cent. This would be creditable in any case, but when one remembers that the enumeration was carried out during a war and against a substantial increase in prices it becomes more remarkable. To take one element of cost, paper, the advent of war brought an increase of over 30 per cent before our contracts were placed.

II—GENERAL

In the first chapter I touched on a good many points of general administrative interest. Some of these have a pronounced financial interest also and for that reason are briefly referred to again here.

First is the unique phenomenon of the unpaid census. Its social importance and interest are alike very great. As I have indicated previously, it seems to me so advanced and excellent a principle that I would gladly see it continue. If the enumeration system were fully rationalised and brought down to a purely patwari basis it may be possible to consider what Dr. Hutton recommended 10 years ago, a small payment. The dimensions involved however are so large that thorough investigation should be made before a decision to pay is adopted. It is doubtful if the payment of Re. 1 for example would satisfy a patwari. With the respect for tradition which characterises the country and is one of the excellent features it has in common with Britain, he could probably appreciate the idea that it was part of his duty to do this every 10 years, but if once the payment idea came in there is a distinct possibility that a token figure would be regarded as derisory. The number of villages in British India is about half a million; at the best we should need one enumerator per village and so even on a token payment we have 5 lakhs at once added on the census budget and the minimum figure would be more likely 50 per cent above this.

Another point is between-census continuity and a degree of permanence in such matters as house list and house numbering. If this came about an appreciable saving could probably be made in cost for it would be possible to defer the appointment of superintendents for some months. The form of slip etc., having been determined well in advance, the presses could start printing on a district basis in good time and the provincial government itself could give the estimated numbers per district/tehsil etc., in fact all the components of the code number. The superintendents' function then would be essentially that of training charge superintendents and the staff generally and carrying through the actual details of enumeration. As it is, six months are spent more or less on the house lists.

Taking the average cost of a superintendent's office at a minimum of Rs. 2,000 per month the saving for each month by which it was found possible to defer taking over charge would be about a quarter of a lakh of rupees and thus over 4 months, one lakh. The general run would be above this.

2. I have frequently stressed the importance of this aspect and it cannot be too strongly pressed. Nor I am afraid is it sufficiently borne in mind by the Government of India; the phœnix system sees to that and ensures that nothing is remembered. But the time has come when the Government of India must really face the situation. They have a marvellous system which has produced the cheapest census in the world and they take that cheapness for granted. The moment however the unpaid basis is affected it is not a matter of a few thousand here and there, it is one of at least doubling or more the total cost so far allowed for the entire operations. The Bengal S. C. O. estimates that the cheapest acceptable system of paid enumeration would cost 6½ lakhs; in other words this change in itself would multiply the entire cost of the Bengal operations by 4. On this scale the change would involve for the central fisc the difference between 50 lakhs and 2 crores.

I said "acceptable" and the word is important; for once payment enters it cannot be put on a derisory scale.

The unpaid system can be preserved; but it will not be by letting everything slide till 1951. Government must long before then make their plan for the fullest and most effectual use of existing agencies and work it out in full consultation with all concerned, well in advance.

3. One change that has been suggested is to allow one census whole-time clerk for 6 months in each district. This would involve for British India an increase of approximately ½ lakh. In Bihar an attempt was made to get a clerk for every district for the whole year. This I opposed and finally none was appointed at all.

On the whole I should oppose this. If the theory is, as I have said that the provinces must be prepared to carry the enumeration stage, then this matter is

one of the elements concerned and I would far rather see the half lakh spent towards petty expenditure by enumerators, *e.g.*, giving them each a pencil etc. than spent on these office clerks. Moreover there are possibilities of diminishing to a large extent the post office function and this was illustrated in Madras where tehsildars were appointed charge superintendents, and communications were made direct to them by the superintendent with copies to Collectors for information. This at once removed the great bulk of the post office element.

A final argument against this proposal is that in most provinces the offices which carry the work are really the tehsils; and if Collectors' offices were given a whole-time man there would arise a well justified plaint from the tehsil for similar assistance. Since the number of tehsils is approximately 10 times the number of districts the extra expense involved, instead of ½ lakh becomes 5 lakhs.

4. Perhaps the most menacing tendency which showed itself in 1931 was for T. A. claims by provincial staffs etc., to be unloaded on to the census for every conceivable piece of census touring. This had its origin in the wording of the Auditor General's instructions which could be taken to mean that any kind of census touring must appear as a census charge. The main illustration was in Madras where 26,000 bills totalling over 3 lakhs were received.

Such a development went obviously to the root of the whole principle on which the Indian census had hitherto gone namely that provinces carried enumeration more or less in their stride, only genuine extras being charged to the centre. Unless it were checked it might on an all-India scale have in itself added twenty lakhs to the total bill. I took two main measures to check it.

The first was the issue on my recommendation, and indeed on my draft of the letter of November 1938, the responses to which bound the provinces not to go beyond past practice. This meant that the Madras phenomenon could not emerge as a fresh development in provinces unaffected by it in 1931. The second step was to get the Auditor General's Rules framed so as to make it clear that the acceptance of any charge as a debit to the census was solely within the superintendent's discretion. This removed any faculty of bills being put in and passed in districts to unknown amounts.

These were specific measures. A third, and a more general one, connected to some extent with the first, was to emphasise on every hand the principles of maximum association of census with other touring.

It was interesting to observe that while the Madras Superintendent of Census Operations with the consent of his government was able to repeat the stringent orders issued by myself in 1931, confining T. A. claims to actual expenses and various other details and to apply them; and the Orissa Superintendent of Census Operations to adopt them for his province, the U. P. considered such action impossible; thus incidentally illusttating the characteristic differences in economy outlook of the two regions.

In general, the results were impressive. The figures under B-2 Allowances, for a population 15 per cent up were Rs. 3,33,470 in 1931 and Rs. 1,47,870 in 1941, a reduction of over 50 per cent.

If enumeration is a provincial responsibility ten years hence then the whole of this aspect vanishes. If not, the important elements are to secure again the agreement sought in the Government of India letter of 1938 and the presence in the Auditor General's rules of a specific statement that only debits accepted by the superintendent will be taken against the census.

5. Another feature which presented itself notably on this occasion was the astonishing delays in the presentation of T. A. bills for census touring. Ten years ago I imposed a time limit in Madras after which I declined to accept any bills. For, even allowing for the time that must be taken for a bill to filter through from the depths of a district, it was ridiculous for bills relating to November and December 1940 to find their way to me in May 1942 a year after the Madras office had closed. Audit of census T. A. which is a debit to the central fisc, will not be as strict as that on provincial debits and when one thinks of the concentration of the whole operations within two or three months it should be insisted on that bills relating to census enumeration touring must be presented to the passing officer (*i.e.*, the superintendent) within 3 months from the journey with the rider that no extension will be allowed in any circumstances. The rider is most important: if it is realised that this is absolute then the districts will get a move on. Otherwise they will not.

I suggest therefore that in the Census Commissioner's instructions for the next census this matter be specifically included along with that relating to actual expenses etc., as applied in Madras for two censuses with success.

6. Failing the adoption of my proposal to make enumeration a provincial responsibility government should at least consider taking further an innovation this time in Assam of basing census postage etc., on a subvention. This was paid to the Assam Government on the basis of previous census experience and thereupon all census correspondence was treated as that of the provincial government. This could I think be taken into the T. A. matter also with great advantage, *i.e.*, pay to the provincial government outright a sum based on that of the previous census and thereafter let it be agreed that all travelling on census duties would be the concern of the provincial government in so far as T. A. etc., entered. This would relieve census authorities of a very difficult position of which I myself bore the brunt in 1931 and would introduce some element of reason into a matter of great difficulty.

7. It is characteristic of the episodic nature of the census in the past that there has been no consistent policy on such matters as State contributions and it has been largely a matter of what happened to be done when a State first joined as it were the census union. There may be one or two exceptional cases in which for good reasons a State receives special consideration, but on general principles it is difficult to see why when tiny States of the Punjab pay up in proportion to population, much larger units elsewhere should expect to have their census free or paid for in some degree by British India. I suggest that where a State cannot carry out its own census entirely it should be given the direction and supervision of the appropriate provincial superintendent free but should pay for its own enumeration cost and contribute in proportion to its population to the costs of tabulation. In 1941 I took the principle of State contribution much farther than in the past and suggest that, in good time before the next census, this matter be put on rational general lines.

Nothing of this of course applies to the larger States which run their own show from A to Z; it relates mainly to the scattered minor States which are not really fit to run a census of their own for lack of competent staff etc., and are therefore associated with nearest British India province.

8. Connected with this is the practice whereby the Rajputana and Central India volumes have in the past been produced and published at the expense of the Central Government. It is of course convenient for the series to include volumes on these specific areas and from one point of view the States concerned might say that the production of the Imperial volume is not their concern, which is limited to their own individual State figures. In future, Central India as a separate volume will disappear altogether if Indore, Bhopal and Rewa produce their own volumes next time, in which case the smaller States could either be attached to one of the British India provinces or, preferably, put as annexures to the Indore etc., volumes. Rajputana however is so individual an area that a single volume for it is necessary or at any rate very desirable and I think that the States concerned if asked to contribute *pro rata* to the production of this volume would probably agree. After all they get the services of a superintendent free.

9. In order to get dues into the central fisc as soon as possible, I collected money from States, etc., for pads supplied, at a provisional rate intimated by the Controller. This money was not regarded as a deposit but with the consent of the A. G. C. R. was treated as a receipt and I was myself authorised to give refunds. The final printing rate came to less than the provisional rate intimated but a good deal of the difference was taken up to other costs and only a limited number of refunds were in the end necessary. I should be inclined at the outset of the operations next time to arrive at an approximate figure both for enumeration and tabulation costs and get States to deposit this in advance. Then there can be a single settling up at the end of the whole operations.

10. An indication of provincial diversity and of the way in which the census reflects these differences is that while in some provinces, *e.g.*, Madras, it is the invariable rule for all municipalities to contribute to the cost of tabulation, this does not obtain elsewhere and for example it is regarded as a departure that 50 out of 85 U. P. municipal boards should have agreed to contribute. This is a point in which uniformity is certainly desirable and it should be a principle that in this great all-India effort, every body which possesses revenue derived from the public should contribute to the procurement of the basic information on which their administration rests.

11. It is useful in any consideration of census cost to bear in mind the pronounced difference between enumeration and tabulation.

Enumeration is a field process, broadly speaking, little affected by changes in population. Tabulation on the other hand is directly proportionate to such changes, since the record of every individual must be handled; that handling takes time and time of sorters, etc., is one of the main elements in tabulation cost.

The difference is important and extends also to possible developments. One might say that the enumeration stage represents broadly the minimum: there are practically no opportunities for substantial reductions here. On the other hand there are very distinct possibilities of a substantial rise and one of the main objects of this report is to get it realised that if extra cost is to be avoided or kept at reasonable limits it will need some clearer definition of objects and methods and a much longer process of preparation than has ever been given in the past.

In tabulation however one might say that possibilities exist in both ways but notably so as regards reduction. For example the removal of the caste tabulation removes also several lakhs of expenditure. Government might decide that birthplace tabulation could be greatly limited or mother-tongue extraction be given up. They might decide to simplify the means of livelihood investigation. I am not necessarily recommending all these although in my view there is a great deal to be said in favour of the earlier examples. The point I am making now is that tabulation is flexible, enumeration is not; while in tabulation there exist possibilities of developments in methods, such as sampling, which may produce information equal in value to that yielded by full-length sorting at however a much lower cost. Where enumeration is concerned the role of Government in methods would be not so much or even at all to produce positive economies as to prevent substantial increase,

III—PROVINCIAL STAFFS AND BUDGET SYSTEM.

In Schedule 7 to the Government of India Act, "census" appears as a List I subject. In actual fact this ascription is inadequate and unreal and fails altogether to take account of the circumstances in which the all-India census is carried out. That failure represents one of the most serious and constant anxieties of a Census Commissioner today. There may have been some theoretical justification for the appearance of "census" among the purely central subjects, but one had not thought that theory could be so compelling as against the printed exposure of actual facts which appeared in for example my own administration report for the Madras census of 1931. As Census Superintendent I had to contend then with a wave of not unnatural individual desires to make something out of what apparently had ceased to be a provincial matter. I pointed out then that the best solution was to make enumeration provincial.

2. One of the commonest of analogies is implicit in the phrase "the body politic." It is an apt analogy, for government and the social community it rules are not machines or automata and have in a way processes which can be compared without manifest unreality with those of the physical body. The body politic for example has undoubtedly a digestion and a wise government will never lightly strain that digestion. Another illustration that occurs to me is summed up in what is commonly described as a hang-over. Hang-overs produce inertia and inertia produces blocks and drastic remedies.

Thirty years ago the Government of India's writ was as compelling in the provinces as that of the provincial governments, and indeed more so; and its compulsion operated throughout the governmental field. Even twenty years ago the position had been altered by the Montford Reforms but the momentum of the old system carried the census through on the old lines. By 1931 however it had presented itself to a considerable number of people in various provinces that the census was a central subject and why should a province, or the citizens of a province, exert themselves unduly or without recompense for a central object? I have indicated in Part II the specific manner in which the effects of this attitude presented themselves and how the implications for 1941 were met. A copy of the Government of India letter of November 1938 is given as an appendix.

From the short point of view it probably seems obvious that since a census comes only once in 10 years it can be dealt with when it comes and dropped when it is over. Such a view would seem to pay the proper attention to financial considerations as well as practical. Actually it disregards both: and I have no hesitation in saying that it costs the Government of India a good deal both in money and most certainly in results to be content to repose its tenyearly operations on a succession of *tours de force*. Experimentation in methods is most important if one is to keep in step with developments and needs. But the dimensions of India's census are so enormous that experimentation on an all-India scale is not really possible and is in any case an undertaking of the most serious moment. Consequently changes in methods have to be adopted as an act of faith and pushed through by the individual authority of the Census Commissioner. I have done this on the present occasion in several directions but I am the first to declare that this is not the best way of securing a change. I do not think, to adopt the language of physics, that quantum leaps should be the process by which changes are made, and consider a differential progression far more healthy. But such is the pressure which the non-continuous system of administration involves that there is no possibility of limited trial, experiment, discussion, practice, or the other features that can make administration something of a science.

3. India offers an astonishing variety of administrative as well as political systems and the census, projected as it is at the last minute against the problems it has to solve, has perforce made use of whatever it found. Actually this is fundamentally a sound approach when one is dealing with an episodic phenomenon. To handle such phenomena one would ordinarily try to employ continuing organizations on the spot. But under a normal system one would also take the study further, investigate the best ways of using these continuing systems to deal with the episodic phenomenon; and by the best ways I mean those which would involve the least expense, the least inconvenience and the best results. This means study and, probably experiment, examination of the results of the experiment, and then possibly further experiment. But all that cannot be done at the time of a census when everyone is working under pressure to a rigid timetable; it can only be done when the phenomenon has happened and been recorded and before its next appearance is due. In other words, if a scientific handling of the census position in India is desired it cannot be obtained under the present regime. It might almost have been designed to prevent the correct scientific approach. I do not deny that successive Census Commissioners have left on record their proposals and that these have always been of interest and value; what I am saying is that the correct examination of these proposals implies something more than their being thrust on the attention of the proposer's successor ten years afterwards.

4. When I took over as Census Commissioner the only member of my predecessor's staff still in Delhi was his duftry. The others had been dispersed all over and those whom it would have been advantageous to recall quite naturally declined to come. They were established in permanent positions and what had the census to offer them? Nothing, but one or two years of overwork and then the sack. The whole system by which the census is carried out in this country can without injustice be described as fantastic. I described in Madras how it was actually

against the interests of any promising young tahsildar or similar officer, whatever the pay given, to take on the difficult and responsible job of head of a sorting office. Similarly, on the administrative side there are few attractions for men of standing, conscious of their abilities. The operation is a side line not to say a dead end, and men are not unnaturally apprehensive of injuring their prospects of advancement by going for two or three years to census work. In fact the only class for whom census employment can be said to have any real attraction is the unemployed or absolute beginners, unless, which is rarely the case, the financial inducements are substantial. On this occasion I secured the Government of India's agreement to bringing up from Madras Mr. D. Natarajan who had worked in my compilation office at the Madras census. The only reason however he was willing to come is because the difference in pay scales between Delhi and Madras, in the Secretariat clerkship which was all he had been able to secure, made it worth his while.

This is all wrong. At the very least the administrative side of the census should be manned by men who have a standing in a permanent department which is taken into account in all departments, schemes of promotion, etc., etc., and to whom the census experience may be a definite source of opportunity.

5. It was characteristic of the former procedure that the accounts side of the census remained at accounts and nothing more. The census was inadequately financed but the phœnix system made it difficult to introduce any long view into this side of the work. Enumeration is a provincial phenomenon and provinces differed widely in their systems of administration and general quality. These differences showed themselves in a marked way in census budgets, and past practice in making a census budget had merely been to add up provincial figures, apply the cut which no self-respecting Finance Department can ever omit, and leave it there. Some astonishing diversities presented themselves as a result of this procedure and there had been no attempt to look at the system as a logical whole. The absence of any real acquaintance with census matters on the part of any department of the Government of India was one major cause of this and also the inevitable preoccupation of Census Commissioners with results rather than methods. It ought to be possible to give recognition to local differences in methods and standards and yet to produce a greater degree of uniformity and economy. Some provinces for example, and even so small an area as Baluchistan, had been in the practice of appointing a deputy superintendent during the enumeration year; others made no such appointment. I had had none when conducting the census of a major province in 1930-31 and it seemed to me that there could be no real justification for such an appointment. It could be said of census superintendents more than of most Government offices, with the necessary adaptation of meaning, that " L'état c'est moi "; there is no noting which his office can do except on minor matters of personnel and accounts. All matters of policy flow from him alone. Provincial governments and district officers look to him for guidance and no deputy can hope to exercise his authority. Everything comes back to him and he must be ready to carry it all. Here enters the importance in these appointments of officers who are not affected by and preferably who have a liking for, individual responsibility. The natural tendency of deputy superintendents and clerks is, if work does not exist, to make it appear to exist, and in a properly functioning superintendent's office in the enumeration year and afterwards the only essential elements are a good stenographer and a dependable clerk of some general experience. In smaller offices and at the beginning in all offices there is no need even for a separate accountant, although as the enumeration year develops this will be necessary. In the past, when superintendents had to print their own schedules the accounts aspect was heavier than now when the Census Commissioner prints all the pads for the whole of British India and many states as well. Often it may be possible to combine the clerk and accountant, and when work develops to strengthen the staff by a general duty junior clerk.

6. I put these considerations before my officers at the conference I had in February 1940 and the table below (Appendix II) which compares expenditure with that for 1930 shows the results achieved. Provinces varied in the degree of expression they were able to give to these particulars.

Madras has always been in the van of economy but on this occasion has had to give best to Bengal. When one remembers that the Bengal Superintendent's office also carried through the distribution of pads all over India, great credit must go to Mr. Dutch for his economical administration.

Bombay has always been more expensively inclined, but the three presidencies are well ahead of the fourth major province, the U. P. This province has far more districts than any other, although neither in area nor in population is it No. 1 in India. Here it had been the unvarying practice for expenditure on superintendence and administration generally to be far in excess of that for the comparable provinces. I imagine that much of this was due to the presence of a deputy superintendent, and a significant commentary on this is that the more expensive provinces were much more prolific in their emission of circulars and other documents. The large number of districts may have some influence on the number of papers to be sent out but it is impossible to feel that any provincial differences existed which could justify the superintendent's office costing twice in the U. P. what it did in Bengal.

The N. W. F. P. and Orissa have also a commendable record of economy in headquarters staff while the C. P. too shows up very well.

It is significant that Baluchistan produces a figure exceeded only by the U. P.; its superintendent's staff costs for example twice that of the C. P. and nearly thrice that of N. W. F. P. Condition are

peculiar there and staff always more expensive; but even so the figures invite criticism. Here as in Rajputana and Central India it must be said that no real financial control in budgeting was exercised at all and the most elaborate staffs were sanctioned for offices with nothing like the weight of work of a major province. I must in fairness add that the superintendents of Rajputana and Baluchistan, Capt. Webb and Major Gastrell, gave good effect to my injunctions towards economy and the latter in particular produced notable savings which were of value in a difficult year. His success showed how defective previous budgeting in this area had been.

It must be admitted however that the phœnix system makes budgeting difficult. A local government or a Resident has to put up a census budget for 1939-40 (or 49-50, etc., etc.) after a long interval in which no census staff has existed or census operations been carried on. He himself will lack inside knowledge of what the administration of a census means and will go on figures of 10 years before. The actual census officer himself for the year also has no experience whatever and starts on the old ways, inheriting incidentally a budget which he has never seen. And so on and so on; pressure of work and other interests and the consciousness of impermanency prevent any real thought being given to proposals for the future.

7. In my view the census budget should be prepared in the following way. A skeleton staff should be drawn up for each superintendent's office and the provincial governments directed to express this in budget terms. The rest of the budget should be in the hands of the Census Commissioner in a lump sum which he will allot to the provinces in accord with any particular administrative intentions of his own and with past experience. I applied this system myself in relation to the budget of 1939-40 in which total unallotted figures under various heads had been presented. One result of this was that I was able to adjust money to actual local necessities and achieved better distribution and a certain saving.

I have given separately the framework in which all census budgets in future should be expressed and shall not expand further on this topic here beyond emphasising one important feature. In many ways the conduct of the census resembles that of a campaign; the generalissimo is far away from the actual scene of combat and operates through divisional commanders. The essence of a campaign is adequate and available reserves at the critical moments. It should be part of the census fisc to have something in reserve for the last months of the enumeration year. All sorts of things may turn up then. A consignment of pads may be damaged or lost in a railway journey; accidents may make particular expenditure suddenly unavoidable; the results of the house list or preliminary endeavours may indicate fruitful lines of enquiry not provided for; a particular problem may crop up in which a provincial government seeks census assistance; if possible, without departing from the gross dimensions of financial provision, we should try to provide for such a reserve and the method of provision I contemplate is indicated above; namely to adjust the areas of the administrative staff to the necessities at particular times and hold the balance so secured to meet inevitable later demands.

8. The correct line of action would be to fix on a sum for the census at the beginning and remove it from questions of lapse and reallotment at the close of the various financial years embodied in the census period. The pressure against which an Indian census is carried out is difficult to realise by those (*i.e.*, practically the entire Government of India) who have no experience of it. The census should be looked on as a whole, not as a succession of detached compartments. The expenditure in the enumeration year has no other function than to make available material for tabulation. It has no value in itself. Here it is quite different from say research bodies or administrative organisations whose work in different years or parts of a year retains an individual value. If the census fisc were dealt with on a global basis say for the years 9-0, 0-1 and 1-2 and in addition the other suggestions already made were adopted, it would lead I am convinced not only to a more powerful financial control but also to a better use of the sums available. Every piece of tabulation costs money and no one could fail to admit that there are many branches of tabulation in the Indian census sphere that ought to be taken up. One advantage of the change I have suggested would be to help towards this end, *i.e.*, of getting the maximum of useful tabulation done and placed on record.

9. In fact I would go further to the logical conclusion and suggest a yearly provision of 5 lakhs towards the census. This would remove the heavy addition to two budgets at the end of each decade and spread the census cost of 50 lakhs as a recurring feature over every administrative year. If some form of continuity is provided for, and the problems that present themselves at one census are discussed, as they should be, during the following between-census years, this money could be used to finance experiments in methods etc., carried out with an eye to the next main operation. The census has suffered in fact from having to justify itself every ten years; whereas it is as I said a continuing feature of the country's administrative life, and a much older one than many.

10. This implies that the census should be definitely accepted as a continuing activity of the Government of India, only one having a longer wavelength and a different amplitude. This being so, provision should be continuous. I imagine this would offer some advantages from a financial point of view also and suggest therefore that serious consideration be given to the proposal in paragraph 9. Research and experiment in methods, so desirable where an operation of this sort is concerned, could be carried on at the proper time, *i.e.*, between census years and on a small scale, with the best results and the fullest economy.

This postulates of course a continuing intention on the part of the Government of India to take a

periodical census. This however is not an excessive assumption. It will be essential for the Government of India, whatever its political composition, to keep in touch with the growth and development of India's population and so long as communal divisions persist there will always be a most active curiosity over the precise detail of their composition. Apart from this however no organised government can do without regular information on the state of its people. I do not myself regard the ten-yearly census on past lines as the ideal; indeed far from it; to me it is essentially a primitive method. But until we have developed our system and our continuing statistics a good deal further than their present stage, some kind of ten-yearly round-up will be unavoidable. Consequently the making of a regular provision in the way I suggest cannot be attacked on financial grounds as presuming an undetermined future while it can be fully justified on grounds of policy. For if, as I have said, there is scope for improvement in methods which will simplify and cheapen these population determinations, it seems clear that we are much more likely to be able to pursue the enquiries which will produce such methods if there is regular provision from which they can be financed. I hasten to say that there is no reason whatever why these experiments should be elaborate or costly and I do not contemplate the yearly 5 lakhs being eaten up or indeed seriously affected by a few experiments none of which would extend to more than one or two thousand rupees.

11. Everything I have said in this section received a notable corroboration from the budget experience of this census. The budgets for 1940-41 from provinces followed the lines of ten years before. They were prepared by non-census authorities and passed through Government of India stages without any scrutiny from the technical point of view. Ordinarily I myself would have been in the country in time to bring some such outlook and experience to bear on them but war difficulties and shipping disturbances delayed my arrival for over a month, by which time nothing could be done. In any case however anything I could have done at this late stage with budget pressure at its height could have gone only a very small way towards remedy; there was no getting away from the defects of the original preparation. The present system cannot fail to produce every decade anomalies, difficulties, inadequacies of every description in the budget of an activity which like others may well change considerably within a decade.

"The census budget is always cut to the bone. It is not safe to cut it to the marrow."

This pithy sentence from Mr. Dutch's administration report might well be made a text. Texts are apt to be given only lip service and this may incur a like fate. The Government of India however would be unwise if they disregard it any longer. The census was cut to the marrow in 1941. Because it was a season of war and people were ready for sacrifice in many fields, and also I may say because of a firm control and direction by myself, the 1941 census achieved the administrative miracle of reducing costs despite greatly increased prices. But this will not continue and government must face before 1951 the implications of India's unpaid census.

A further difficulty was imposed by a largely random cut to the tune of a lakh and a half by the Finance Department. Had the system I have suggested above been in operation I could have introduced my various changes, financed them from the fund and accounted for them in due course. The utmost economy would have been observed and the whole operation completed, with a saving.

What actually happened was very different. The provincial budgets had been based on 1931. Schedules were used in that year whereas I changed over to the pad system described elsewhere. This meant a different weight of paper, different arrangements for printing, differences of every kind which these artificially produced budgets could not possibly reflect. For example we asked 22 questions this year as against the 18 of 1931 and some of the additions bore on the difficult matter of means of livelihood and its connected problems to which an answer in words was required and which therefore needed a reasonable amount of space. The old schedule would not have held these 22 questions and would have had to be at least 20 per cent. longer. In other words, 20 per cent more paper would have been consumed. Consequently there entered an immediate corruption in the budget figures accepted by the Government of India.

Then there was the question of increase of population. The more people you have the more paper you need to count them. It is true that since a number of persons were enumerated on each of the old schedules, it was not a question of an extra schedule being required for each addition to the population. But even so, an estimate on the most economic basis showed that over 3 million additional schedules would have been required.

No separation of costs for the various features was made in 1931 and consequently it is not possible to say exactly what this would have represented on the basis of that year; but for the 1939-40 budget even on pre-war costs an additional charge of the order of Rs. 40,000 would have been inevitable.

These two circumstances taken together therefore called for an addition from the very beginning of at least three quarters of a lakh of rupees.

Then there was the matter of paper costs as between 1930 and 1940 when the orders were laid. These showed an increase of over 30 per cent. in the case of the type of paper used for the schedules.

Consequently, even presuming the continuance of the schedule enumeration, a number of considerations entered the budget question for 1940-41 but were unrepresented in the actual performance. One need not blame provincial governments for this; they have no census advisers or knowledge and the actual budgets in question are a purely financial not a professional product. But I think it must be admitted that a system which produces such efforts is seriously at fault.

12. Since I had decided to introduce the pad system of direct enumeration a variety of different circumstances entered, all of which required consideration in a budget connection. For example a different kind of paper was required, since the same piece of paper would have to be used throughout the process of enumeration and sorting. The choice was limited and in fact limited to one kind of paper, 24 lbs. unbleached. Cost ruled better papers out, strength ruled weaker papers out. After this census is over we shall be able to form a good idea of whether any paper lighter than 24 lbs. would be able to stand up to the wear. The next weight paper below 24 lbs. ordinarily stocked by the Controller is 20 lbs. but this is appreciably lighter and a census enumeration is apt to involve hard wear. I have remarked elsewhere under a mechanical system of sorting even this lighter paper might be practicable for the enumeration stage since *ex hypothesi* it would not have to stand up to sorting as well. Actually however experience has shown that as against the old schedules, the binding of slips together in a pad means that only the top one or two are liable to damage and great majority are kept intact by the pressure of the binding. This points in favour I think of trying out a lighter weight of paper next time.

It might be possible in future censuses to get the manufacturers to make a paper of special weight for the census, say 22 lbs.; since we could offer them a consumption of nearly 500 tons this might be possible on an economical basis. Time however would be required for investigating and arranging this and time is the thing of which any Census Commissioner for India has least.

13. Actually comparing the consumptions and paper costs the new system on the paper side alone shows a clear saving of over 1 lakh of rupees.

14. There is an inescapable correlation between the cost of a census and the population dealt with. The more people there are the more paper you need to enumerate them on. Under the conditions of India, fortunately, the bulk of the enumeration is unpaid. Otherwise the correlation would be even greater. Even so however the more people there are the more enumerators, supervisors, etc., tend to be required and these persons have to travel and require T. A. for doing so. In the tabulation year the positive correlation is even more marked; for every unit of the population has to have a card or a ticket and be sorted in the form of this card for every table it is desired to publish. Payment is made by outturn and it is merely an arithmetical calculation to show that a 10 per cent. increase in population means practically 10 per cent. more in sorting costs. Other costs are also affected although not so directly for overheads, paper, furniture and all the various items of compilation office expenditure are bound to rise.

15. The correlation is high but I do not claim it as equal to 1; since there are possibilities of change induced by improvements in method or alteration in governmental attitudes.

16. Perhaps the most notable illustration is the actual drop in cost in 1901. This represented the effects of the introduction of the slip-copying system in place of old cumbersome methods. So great was the improvement that a substantial actual saving was achieved over previous years. 1911 saw only a slight increase in cost, further effects of the slip-copying system having shown themselves at this census.

17. A huge leap upwards between 1911 and 1921 shows a variety of influences in the other direction, notably the high prices and higher rates of pay, etc., etc., obtaining after the four years war. The artificial aspect of these ought to have been dispelled by 1931 but a substantial increase showed itself again. This was partly due to the heavy increase in population but also to changes in governmental attitude as regards accounts, many items not hitherto debitable to census having been brought into its expenditure side, for example the pay of superintendents. Notably however there entered here the beginnings of the charging to the census and the central fisc of elements connected with the operations of provincial and municipal, etc., servants working in the enumeration stage which in the past had always been borne by the provincial sources which carried their pay. The course was set for these influences to have their full operation at this census and all the tendencies therefore operated to produce an even steeper rise between 1931 and 1941. There is however a marked difference in their rate of change and this can be attributed to notable changes of method I have introduced on this occasion. Although not so sweeping as that of 1901—such opportunities rarely come more than once—they have had the substantial influence indicated by the slowing down of what otherwise would have been an inescapably pronounced increase.

18. Another potent influence in averting a pronounced rise in cost was my action in 1937-38 in bringing the Government of India to see the dangers ahead and to approach provincial governments in the manner referred to elsewhere. This approach brought the provincial governments' consent to take part in the census on the old lines and to discourage any attempts to make use of the opportunities for exaction presented by the attribution of the census as an entirely central subject and the accounts possibilities which flowed from that. I should add here too that this preparatory action was only possible because I happened to be with the Government of India in another capacity. In other words this preparation and the economy secured were the result of an accident, not of any regular system which would have brought all census matters into timely consideration.

19. Every aspect of this census reinforces the considerations I have frequently urged namely that under a federal constitution with "census" unwisely treated as entirely central, the mere mass of India's dimensions may take the census beyond the bounds of financial possibility unless either there is a change in

census allocation and provincial attitudes or a radical change in the methods of taking the census itself. For the latter the country is not yet ripe but in my opinion there should be a systematic assault on the vital statistics of the country and a continued campaign to bring these up to such a state of efficiency that the question of a simplified taking of the census itself may become a practical possibility.

IV—CENSUS COMMISSIONER'S OFFICE

I have given a sketch of a skeleton staff in the provinces on which budgetting should be based. Some comments are called for on the Census Commissioner's office also and a statement of the staff employed is appended.

2. The first feature is the absolute lack of continuity to which I have already referred in Part III. This dependence on temporary men, always unsatisfactory and particularly so in a very specialised office which has to work against time, produced serious consequences as a result of war expansions in the Supply Department and other offices. Temporary men not unnaturally went after these opportunities and at the end it was not possible to keep together an adequate number of trained men to deal with compilation. This difficulty of course was aggravated by the truncated tabulation which curtailed the employment period that could be offered.

In a census there will always be a certain scope for temporary men at the compilation period and the main desirability applies to permanent staff. With a recollection of my own difficulties in Madras in 1930-32 when I had to carry through the census with an entirely raw staff I determined to pass some of my own people this time into the Government of India and therefore insisted on my financial assistant, census clerk and stenographer coming from Government of India departments to which they have returned.

3. The census is regarded as a kind of orphan left on the door step of the Government of India every ten years; like a foundling it is nobody's child and has to put up with what it can get. I suggest that this attitude is not creditable to the Government of India and most definitely is not in the interests of efficiency. It should be recognised as essential for the main staff of the Census Commissioner's office to be men in the permanent service of Government with a definite guarantee that service in the Census Commissioner's office will count exactly as if it had been service in their own departments. Otherwise there is bound to be difficulty about acting promotions etc., and I had a difficult case on that very head in regard to my Financial Assistant. The Finance Department refused to accept my proposals and it will be impossible to get a good man from the Finance Department for the Census Commissioner's office except on a far greater pay than was given this year. And even then I doubt whether a really good man will look at it. And only good men will do. For a job like the Census Commissioner's carried out at great pressure he should have a contented and loyal staff and the entire administrative side should be permanent men. Discontent is inevitable if men feel that their prospects have been injured. The point about the Financial Assistant this year was that his own department held that having come to the census office when he was not yet acting in the first division he should be taken to have waived his right of counting his census services towards any Finance Department promotion in return for the higher pay he drew. This pay was not higher than that of an assistant in the first grade and was given as payment for work done and responsibility carried. There was no superintendent and he worked directly under me. Consequently I do not agree with this view even on the personal grounds of the man himself; while most certainly this view is fatal to any prospects of getting good men again.

The Finance Department asked me to place the correspondence on record in the Home Department and this I have gladly done; for the more this serious obstacle to efficiency is realised the better. Possibly it is an inevitable consequence of the phœnix system that there should be so little understanding of the difference between a 2-3 years job and a more or less permanent deputation; but the effect remains. Incidentally this correspondence brings up the evil influence of the phœnix system inasmuch as it was actually suggested that there was no need to consider now the position of the next Census Commissioner: this could apparently await till 1950. This attitude is at the root of a large part of the Census Commissioner's difficulties.

4. An important point is the stenographer. Here again I suffered from the practice of the Government of India in releasing only raw men and these men too sought employment in permanent departments whenever it offered. In two years of my post I had 4 stenographers. This is quite wrong. The Census Commissioner has to dictate a good deal and often in difficult condition of travelling etc., and he should start right off with an experienced man in permanent service to whom the census office would represent desirable employment. This is absolutely essential and no pay consideration should weigh against getting a good man for a post in which heavy and continuous dictation is the rule. Above all the man should have a permanent post. I would suggest also taking on as typists only men with some knowledge of shorthand. These men could be used for occasional simpler work and brought up gradually to a higher standard and thus by the time the main rush of dictation comes on, the Census Commissioner's stenographer will have at least some degree of assistance available. I did this in 1940 when I took on as typist a man with some knowledge of stenography. It was not very great but with practice he improved and when my regular stenographer went for a permanent job (as he had no per-

manent post I could not hold him back) this man was at hand to take on the stenography. But for that, in the conditions of war pressure and office expansion I might have had difficulty in securing another man on a whole time basis.

At any rate there is a substantial element of census experience now represented in the Government of India. And I hope this will be made use of during between-census years and at the next census.

5. My office was cast on different lines from previously. There was no highly paid superintendent. The work distributed was in two branches, one "Census" and two "Finance and administrative" respectively, under Messrs. D. Natarajan and J. N. Beri on the pay of assistants. Given good men this formed a very satisfactory distribution. Like provincial superintendents the Census Commissioner can have no deputy. What he needs is good ministerial assistance and this I got from my staff. The skeleton I proposed for future budgetting is therefore as follows :—

1. One census assistant.
2. One financial assistant.

Both men should be in permanent Government of India service with considerable experience and attributes of character, readiness to appreciate a new job and new conditions of working and to adapt themselves to it. In addition there should be :—

1. One general assistant. } Both in the permanent service of the Government of India.
2. One good stenographer. }
3. One typist with a knowledge of shorthand.
4. One routine clerk.
5. One duftry etc.

At the beginning of the office the routine clerk and typist can be doubled up but as work develops and the Census Commissioner is on tour it will be necessary to separate the posts.

Another former census employee of mine in Madras was taken up in my Census Commissioner's office. This was Sheikh Ebrahim, a record sorter in the Federal Court, whom I employed in the coding and mechanical tabulation operations for Delhi province. He should be borne in mind for future census employment.

6. The financial assistant should come from the Finance Department.

The other men should come from the administrative department to which the census is attached, since it is obviously there that an understanding of census running should be located. At present this is the Home Department, but I have suggested elsewhere that the census be linked up with the Economic Adviser's office and if this, or other change, is given effect to, the Census Commissioner's staff should be brought from that office and returned to it. And the men leaving my office now should be accommodated in it.

7. Dr. Hutton's suggestion that at the beginning the census office should start as part of the Home Department was adopted this time and was definitely an advantage and should be repeated. In fact so long as the phœnix system continues the Census Commissioner's office should start inside the department with which the census is associated, then run its separate life and at the end re-enter it. This will enable the tidying up stages which are inevitable at the termination of operations to be taken over instead of being left to drag out the independent life of the census office, which leads in its turn to individual officers being pursued with minor fragments of detail.

8. I have already referred to the desirability of the Census Commissioner himself being given some *ex-officio* status in the administrative department concerned with the census. I have already commented on the saving of effort and time this would produce. It has to be realised that whereas the ordinary attached office sending proposals to a Government of India Departments has them examined by persons possessing a very considerable general acquaintance and understanding of the points at issue and the general circumstances of the operations in question, none of this obtains where the census is concerned. The phœnix system sees to that. The result is that in an operation where time is of the first importance weeks and months are spent in departmental groping. If the Census Commissioner had an *ex-officio* status he could put up the proposals on which Government of India's orders are required and secure orders in weeks or even days as against the months that were necessary in 1940-41. Fortunately I only had three issues to put. All the others I decided on my own responsibility. Had there been more I do not think the census could have gone through at all.

APPENDIX I

No. 45/14/38-PUBLIC

HOME DEPARTMENT

Dated the 9th November, 1938.

CENSUS—1941. *Financial and other considerations.*

India's census takes place in the first year of each decade and is, therefore, due again in 1941. As, however, the provincial Governments are aware, consideration and preparation have to begin in advance and the Government of India have been studying the census of 1941 in the light of the constitutional and financial position of the present time. One of the particular features of a census is that it does not lend itself to interruption or fragmentation; hence it has to be looked at as a whole from the very first.

2. The Indian census represents probably a major administrative achievement, for about one-fifth of the human race has hitherto been regularly enumerated in a single operation. Although in theory the census has always been a central subject, in practice the achievement represented by the Indian census has been the result of Central-Provincial collaboration and its continuance is really possible only if that collaboration also continues. An Indian census must, if only because of the problem of illiteracy, be operated through large bodies of enumerators, and the training of these enumerators and their distribution so as to cover the entire country have been made possible in the past only by the fullest use of provincial administrative systems and by the fact that hitherto census duties have been accepted as a national service and on a voluntary basis, save for a few exceptions of detail.

3. The last census in British India (excluding Burma) cost the Government of India approximately Rs. 45 lakhs, a figure likely to be largely exceeded for the coming census. Such is the importance, however, of the Census to India that the Government of India, even in the adverse financial conditions of the time, would be most reluctant to postpone it; if however the burden of cost were to be seriously enhanced by the presence of items of expenditure not formerly incurred, the case for a postponement of the census would inevitably become much stronger. The items in question could be said broadly to flow from the work of the provincial staffs and enumerators. A strict application of theoretical considerations might prompt requests for payment by the Central Government to provincial, municipal and other staffs for census duties performed, or on account of travelling on census duty even when combined with their ordinary duty, while suggestions might be made that enumerators should be paid for their services. The Government of India are satisfied that either of these circumstances, and a fortiori both together, would, if they occurred, add so greatly to the financial burden as to imperil the continuation of the Indian census series. It is for this reason that the Government of India, with the distribution of subjects under the new constitution in mind, as also the tendencies towards a rigidity of separation of functions which began to manifest themselves at the last census, seek to present the census question in good time and in a clear focus.

4. The determinations which result from an Indian census are of great importance, interest and value to the provinces and the towns and populations in them. In effect the census represents a great national effort, in which all citizens take their part with the object of producing material which shall be of service to all. The object of this letter therefore is to invite the cooperation of the provincial Governments to this end and in particular to obtain an assurance that provincial officers and administrative systems would be, as in the past, put at the disposal of the census system without claim on the Central fisc for travelling allowance or remuneration apart from such exceptional cases as have existed in the past, *e.g.*, cases of remote tracts, etc. The other assurance invited is that the provincial Government would accept and stress the honorary aspect of the census enumerators' work and thus obviate demands for remuneration which, as already remarked, might well be sufficient to wreck the prospects of a census being held at all, at any rate in the near future. These requests, it will be observed, do not ask the Province to assume any fresh burden but merely to secure the continuance of a distribution of effort and an attitude towards the census which have existed in the past and are in the opinion of the Government of India essential if the census is to continue.

5. The Government of India are anxious that India's census series should not be interrupted and they feel that the Provincial Government share this desire. They hope that this letter will serve to show that the continuance of the census is possible only on the basis of a full provincial participation on the broad lines of the provincial system, being put to the fullest degree, without extra charge, at the disposal of the Centre for the purposes of enumeration. Tabulation would of course remain, as in the past, a purely central function.

6. In view of the need for an early decision of the question whether it will be possible to hold the census in 1941 the Government of India would be grateful for a reply to this letter by the 1st of December.

APPENDIX II

Staff employed by Superintendents of Census Operations in 1940-41

Province	*Designation*	*Average monthly Establishment charges for the enumeration period*	
		1940	*1930*
1	*2*	*3*	*4*
Madras ..	Manager	421	496
	Accountant		
	Clerk		
	Steno-typist		
	Attender		
	2 peons		
Bombay ..	Head clerk	491	437
	Accounts clerk ..		
	Camp clerk		
	Typist and general clerk		
	3 peons		
Bengal ..	Head Assistant ..	392	436
	Stenographer		
	Accountant		
	Clerk		
	3 peons		
United Provinces	Head assistant ..	592	566
	Stenographer		
	Accountant		
	Record keeper-*cum*-drafter		
	Do.		
	Typist-*cum*-despatcher		
	Do.		
	Do.		
	Naib-jamadar		
	2 peons		
Punjab ..	Head clerk	453	358
	Clerk		
	Do.		
	Do.		
	Daftri		
	4 peons		
Bihar ..	Head clerk	371	341 (B & O.)
	Accountant		
	Steno-typist		
	Typist-clerk		
	Typist		
	Daftry		
	2 orderly peons ..		
	Office peon		

Province	*Designation*	*Average monthly Establishment charges for the enumeration period*	
		1940	*1930*
1	*2*	*3*	*4*
C. P. & Berar ..	Head clerk	363	374
	Steno-typist		
	Accountant		
	2 peons		
	2 boy peons		
Assam ..	Head assistant ..	354	434
	2nd Assistant ..		
	Typist		
	2 orderlies		
	Office peon		
N. W. F. P. ..	Head clerk	253	177
	Jamadar		
	peon		
Orissa ..	Head clerk	253	..
	Stenographer-typist ..		
	Clerk		
	2 peons		
Sind ..	Head clerk	398	..
	Accountant clerk ..		
	Camp clerk		
	Naik		
	2 peons		
Central India ..	Head clerk	509	578
	Second clerk		
	Clerk		
	Do.		
	Jamadar		
	2 peons		
	Farrash and waterman		
	Sweeper		
Rajputana ..	Deputy superintendent	544	738
	Touring inspector ..		
	Steno-typist ..		
	Daftry		
	2 peons		
	Farrash		
Baluchistan ..	General assistant ..	729	801
	Head clerk		
	Junior assistant ..		
	3 peons		
	Chowkidar		
	Sweeper		

APPENDIX III

Census Budget—Framework—General principles

No province should have any one described as Deputy Superintendent. The conditions o census enumeration make it a one-man show and the only effect of using descriptions like "Deputy Superintendent" is to swell the pay-roll.

Provinces differ in size but that has very little effect on the size of the Superintendent's own office which should be framed on the following basis :—

(1) Manager, corresponding to Superintendent in provincial secretariat or Deputy Tehsildar—census experience most advisable—accounts training useful and preferably the Manager should double the Accountant's work.

(2) No separate highly-paid accountant is necessary. With the removal of ordering of paper etc., from provincial superintendents and its centralisation in the Census Commissioner's office the need for a separate accountant in the enumeration year has gone. It may be necessary to appoint an Accounts clerk in some cases later in the year but this could be against the short-term post mentioned below.

(3) Stenographer and general duty clerk.

(4) Extra clerk's post up to six months for period of greatest pressure, ordinary clerical scale.

(5) Junior clerk for registry, typing, etc.

(6) Inferior staff not exceeding three.

N.B.—The above scale is given only as a model and it will not be necessary in some provinces (*e.g.*, N. W. F. P., where during the present census it has been possible to carry on with one Head Clerk) to appoint the entire staff set out here.

2. There is no need for a separate record keeper in any provincial census office.

3. Scales of pay should correspond to the status in the provincial service *e.g.*, superintendent, etc., where men in service are recruited subject to a maximum of Rs. 250. The incumbent of the Manager's post should invariably be drawn from government servants.

4. Provision on these lines for the personal office of each superintendent should be made in advance, the details being inserted by the province concerned. The remainder of the provision under this head should be in a block total against the C. C.

Provision for all other branches of expenditure should be by lump sum under the main heads to the Census Commissioner who will as one of his first activities make a provisional allotment, retaining in his own hand however a balance of 10 per cent which will be used against emergencies or exceptional requirements in the course of the year.

5. Power to make additions should repose with the individual provincial superintendents within the above limits (*e.g.*, if not all the permissible staff are appointed at the outset) but beyond that should be transferred from the provincial government or Resident to the Census Commissioner. Experience has shown that Residents in particular do not apply any real financial scrutiny to demands for staff etc., and provincial governments vary very much. Until we can bring the provincial governments in, with a disposition to look on the census as something of which they should be as jealous custodians as of their own establishments, we shall not get the true financial scrutiny that is necessary. Undoubtedly on general grounds there is everything to be said for having the provinces with certain powers in the census but I have come to the conclusion that unless the radical step is taken of bringing them in as the definite agents, and preferably of reposing the enumeration stage of the census on the provinces as a provincial responsibility, it would be better to take all financial sanctioning powers up to the centre.

6. The skeleton starts from my conviction, to which I have given effect, that a SCO carries a peculiarly personal responsibility which no one can share—except in so far as the Census Commissioner partakes. Once this is realised, and the consequent fact that no office can put up notes and that problems should be dealt with directly by the superintendent himself, a good deal of unnecessary paper work vanishes and we have the correct position revealed—namely of a responsible single officer working with necessary ministerial assistance.

7. The burden of touring on the superintendent is undoubtedly heavy and this point was particularly urged from the U. P. On the other hand the census is so personal an activity that no visit from a subordinate can carry anything like the same authority. If ever particular circumstances made relief advisable then the case could be put up to the Census Commissioner on its own merits. The balance with the Census Commissioner could be used for any such justified extra expenditure. This skeleton however should govern budgeting

APPENDIX IV

Staff employed in the office of the Census Commissioner for India

Posts	From	To
1 Assistant	1-11-1939	16-3-1942
1 Assistant	8-2-1940	16-3-1942
1 Assistant	9-4-1941	16-3-1942
1 Stenographer	25-11-1939	16-3-1942
1 Clerk	8-12-1939	16-3-1942
1 Clerk	9-4-1940	8-4-1941
2 Clerks	10-6-1941	16-3-1942
1 Clerk	7-7-1941	16-3-1942
1 Clerk	1-8-1941	16-3-1942
1 Clerk	26-1-1942	16-3-1942
1 Compiler	1-12-1941	16-3-1942
1 Duftri	1-1-1940	16-3-1942
1 Jamadar	12-11-1939	16-3-1942
1 Peon	23-12-1939	16-3-1942
1 Peon	2-3-1940	31-7-1941

APPEN

Expenditure on census operations

Sub-heads	Census Commissioner's Office			Madras			Bombay		
	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
A—Superintendence	*14,273*	*55,784*	*35,901*	*5,562*	*34,568*	*9,997*	*3,438*	*37,875*	*18,145*
A-1—Pay of Officers (N. V.) ..	9,794	36,000	13,258	4,118	21,000	7,169	..	26,400	13,231
(Voted) ..	..	..	..	..	..	..	1,821	3,412	2,694
A-2—Pay of establishments ..	1,981	9,011	13,405	339	5,050	1,446	14	2,450	1,785
A-3—Allowances, honoraria etc.—(N.V.)	964	2,101	991	535	5,703	691	..	2,850	..
(Voted) ..	339	807	456	22	12	85	1,363	784	21
A-4—Contingencies	618	6,803	7,455	428	1,829	378	240	1,949	414
Grants-in-aid contributions ..	577	1,062	336	120	974	228	..	..	..
B—Enumeration	..	..	..	..	*21,252*	*28,769*	..	*42,350*	*27,892*
B-1—Pay of establishments ..	..	..	..	..	1,902	180	..	21,950	1,060
B-2—Allowances, honoraria etc. (Voted)	..	..	..	..	5,469	28,369	..	6,434	22,879
(Non-voted) ..	..	..	..	..	..	..	..	..	..
B-3—Contingencies	..	..	..	..	13,881	220	..	13,966	3,953
C—Abstraction and compilation ..	..	..	*8,782*	..	..	*41,359*	..	..	*38,535*
C-1—Pay of officers	..	..	..	..	..	..	..	..	..
C-2—Pay of establishments ..	..	..	4,264	..	..	4,119	..	..	32,563
C-3—Allowances, honoraria etc.	..	..	32	..	..	36,359	..	..	..
C-4—Contingencies	..	..	4,486	..	..	881	..	..	5,972
D—Miscellaneous Staff ..	..	..	..	..	*1,063*	..	..	..	..
E—Printing and Stationery charges	..	*3,80,855*	..	..	*7,737*	*1,558*	..	*7,051*	..
F—Charges in England ..	*8,348*	*38,015*	*19,000*	..	..	..	..	..	..
G—Loss or gain by Exchange ..	*13*	*80*	*50*	..	..	..	..	..	..
Total ..	**22,634**	**4,74,734**	**63,733**	**5,562**	**64,620**	**81,683**	**3,438**	**87,276**	**84,572**

	Central Provinces			Assam			North-West Frontier Province		
	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42
	23	*24*	*25*	*26*	*27*	*28*	*29*	*30*	*31*
A—Superintendence	*6,736*	*28,657*	*10,781*	*6,674*	*28,259*	*12,089*	*4,419*	*23,971*	*7,935*
A-1—Pay of Officers (N.V.) ..	4,725	19,200	8,356	4,875	19,800	9,520	3,021	17,629	6,221
(Voted) ..	..	..	..	..	..	..	..	..	..
A-2—Pay of establishment ..	985	4,235	1,870	944	4,246	1,785	537	3,042	1,483
A-3—Allowances honoraria etc. (N. V.)	231	2,774	319	542	2,353	..	457	1,269	..
(Voted) ..	80	498	75	..	167	210	104	1,133	205
A-4—Contingencies	715	1,950	164	313	1,693	574	300	898	26
Grants-in-aid contributions ..	..	..	..	..	..	..	..	..	..
B—Enumeration	..	*3,831*	*383*	..	*18,493*	*1,837*	..	*1,082*	..
B-1—Pay of establishments ..	..	..	..	..	624	..	..	389	..
B-2—Allowances honoraria etc. (Voted)	..	560	383	..	7,574	775	..	3	..
(Non-voted) ..	..	..	..	..	..	..	..	..	..
B-3—Contingencies	..	3,271	..	..	10,295	1,062	..	690	..
C—Abstraction and compilation ..	..	..	*39,101*	..	..	*7,053*	..	..	*3,952*
C-1—Pay of officers	..	..	..	..	..	..	..	..	..
C-2—Pay of establishments ..	..	..	33,486	..	..	5,593	..	..	3,315
C-3—Allowances, honoraria etc.	..	..	153	..	..	477	..	..	89
C-4—Contingencies	..	..	5,462	..	..	983	..	..	548
D—Miscellaneous Staff ..	..	..	..	..	..	..	..	..	..
E—Printing and Stationery Charges	..	*8,754*	*335*	..	*4,304*	*233*	..	*190*	*1,709*
F—Charges in England ..	..	..	..	..	..	..	..	..	..
G—Loss or gain by Exchange ..	..	..	..	..	..	..	..	..	..
Total ..	**6,736**	**41,242**	**50,603**	**6,674**	**51,056**	**21,212**	**4,419**	**25,243**	**13,596**

DIX V

distributed under the various heads

Bengal			United Provinces			Punjab			Bihar		
1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42
11	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*
6,403	*29,105*	*21,653*	*7,175*	*33,773*	*11,116*	*6,548*	*32,426*	*13,538*	*5,764*	*30,549*	*15,431*
4,950	20,043	15,563	4,950	20,100	7,436	..	..	..	2,710	17,100	11,802
..	..	..	..	..	..	4,674	19,122	11,258	..	..	..
569	4,707	3,704	991	7,102	2,499	523	5,432	1,485	549	4,447	2,000
282	1,962	1,259	124	2,423	308	..	..	..	1,146	3,249	200
25	287	194	69	881	552	651	5,377	167	300	538	200
597	989	207	1,041	3,467	321	700	2,495	628	962	3,998	500
..	1,140	666	..	..	..	..	..	..	97	1,217	729
..	*38,965*	*2,026*	..	*36,705*	*1,771*	..	*7,624*	*8*	..	*22,116*	*1,800*
..	1,402	..	..	3,917	112	..	..	..	..	..	..
..	18,712	687	..	12,329	1,094	..	..	..	..	10,324	1,800
..	..	..	..	946	..	..	..	..	..	..	..
..	18,351	1,439	..	19,513	565	..	7,624	8	..	5,792	..
..	..	*1,18,315*	..	..	*43,437*	..	..	*20,116*	..	..	*41,063*
..	..	8,050	..	..	4,010	..	..	..	..	..	3,077
..	..	80,800	..	..	32,122	..	..	3,059	..	..	32,091
..	..	4,558	..	..	878	..	..	14,765	..	..	600
..	..	18,000	..	..	6,827	..	..	1,092	..	..	5,400
..	*23,276*	*5,759*	..	..	..	..	..	..	..	..	..
..	*14,352*	*872*	..	*20,094*	*655*	..	*6,707*	*544*	..	*12,932*	*914*
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
6,403	**1,05,701**	**1,48,605**	**7,175**	**99,572**	**58,979**	**6,548**	**46,757**	**34,208**	**5,764**	**65,647**	**59,213**

Orissa			Sind			Baluchistan			Rajputana and Ajmer Merwara		
1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42
32	*33*	*34*	*35*	*36*	*37*	*38*	*39*	*40*	*41*	*42*	*43*
1,220	*28,730*	*13,883*	*14,209*	*34,004*	*10,114*	*8,974*	*39,444*	*8,533*	*7,668*	*33,714*	*23,506*
729	19,800	12,224	8,516	20,800	6,125	6,333	24,589	6,289	4,800	19,200	14,400
..	..	..	..	2,929	1,380	..	..	..	..	..	..
..	3,038	971	1,552	1,845	872	79	8,748	1,750	603	6,524	4,158
376	3,449	300	1,856	3,348	16	1,260	3,102	224	1,186	3,252	1,126
..	391	..	496	1,318	983	..	..	..	110	924	302
93	1,129	114	1,532	2,719	510	1,302	3,005	270	969	3,814	3,460
22	923	274	257	1,045	228	..	..	..	..	..	..
..	*8,278*	*1,641*	..	*2,867*	*17,444*	..	*5,284*	*46*	..	*3,943*	*150*
..	2,289	..	..	87	4	..	4,155	..	..	939	112
..	3,007	1,448	..	550	17,313	..	..	..	..	398	27
..	..	..	..	..	..	..	689	..	..	..	..
..	2,982	193	..	2,230	127	..	440	46	..	2,606	11
..	..	*9,627*	..	..	*6,265*	..	..	*2,800*	..	..	*5,070*
..	..	405	..	..	..	..	..	1,291	..	..	..
..	..	7,067	..	..	2,843	..	..	1,210	..	..	4,256
..	..	568	..	..	3,066	..	..	..	..	..	472
..	..	1,487	..	..	356	..	..	299	..	..	342
..	..	..	..	..	..	..	..	..	..	..	..
..	*3,365*	*170*	..	*3,379*	*38*	..	*1,207*	*200*	..	*2,400*	*4,972*
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
1,220	**40,373**	**25,221**	**14,209**	**40,250**	**33,861**	**8,974**	**45,935**	**11,579**	**7,668**	**40,057**	**23,698**

APPENDIX V—*contd*

Expenditure on census operations distributed under the various heads—concld

Sub-Heads	Central India			Coorg	
	1939-40	1940-41	1941-42	1940-41	1941-42
	44	45	46	47	48
A—Superintendence	*6,940*	*39,284*	*5,710*	..	..
A-1—Pay of officers (N. V.) ..	5,987	23,883	2,467	..	..
(Voted) ..	..	..	200	..	..
A-2—Pay of establishments ..	..	6,113	1,328	..	..
A-3—Allowances, honoraria etc. (N. V.)	727	4,500	..	..	..
(Voted) ..	130	2,579	303	..	..
A-4—Contingencies	996	2,209	152	..	..
Grants-in-aid contributions ..	..	..	..	..	..
B—Enumeration	..	*1,324*	*200*	..	..
B-1—Pay of establishment ..	..	..	..	..	..
B-2—Allowances, honoraria etc. (Voted) (N. V.)..	..	..	200	..	..
B-3—Contingencies	..	1,324	..	..	..
C—Abstraction and compilation ..	..	..	*5,405*	..	..
C-1—Pay of officers	..	..	2,012	..	..
C-2—Pay of establishments ..	..	..	1,796	..	..
C-3—Allowances, honoraria etc.	..	..	581	..	..
C-4—Contingencies	..	..	1,016	..	..
D—Miscellaneous staff ..	..	..	..	*511*	*313*
E—Printing and Stationery charges	..	*2,181*	*644*	..	..
F—Charges in England ..	..	..	..	..	..
G—Loss or gain by Exchange ..	..	..	..	..	..
Total ..	**6,940**	**42,789**	**11,958**	**511**	**313**

	Andamans and Nicobar Islands		Total		
	1940-41	1941-42	1939-40	1940-41	1941-42
	49	50	51	52	53
A—Superintendence	*1,221*	*970*	*1,06,003*	*5,11,367*	*2,19,305*
A-1—Pay of officers (N. V.) ..	800	600	64,608	3,06,344	1,35,861
(Voted) ..	..	..	6,496	25,493	15,592
A-2—Pay of establishment ..	180	320	9,666	76,170	40,921
A-3—Allowances, honoraria, etc. (N. V.)	..	..	9,666	42,335	5,434
(Voted) ..	241	..	3,689	15,737	3,813
A-4—Contingencies	..	50	10,806	38,927	15,223
Grants-in-aid, contributions ..	..	..	1,073	6,361	2,461
B—Enumeration	..	..	..	*2,14,114*	*83,967*
B-1—Pay of establishments ..	..	..	..	37,654	1,468
B-2—Allowances, honoraria etc. (Voted) (N. V.)..	..	..	..	71,360 1,635	74,875 ..
B-3—Contingencies	..	..	..	1,03,465	7,624
C—Abstraction and compilation ..	..	..	..	..	*3,90,785*
C-1—Pay of officers	..	..	..	..	20,354
C-2—Pay of establishments ..	..	..	..	..	2,55,184
C-3—Allowances, honoraria etc.	..	..	..	..	62,496
C-4—Contingencies	..	..	..	..	52,751
D—Miscellaneous staff ..	..	..	..	*24,850*	*6,052*
E—Printing and Stationery charges	..	..	..	*4,75,558*	*12,814*
F—Charges in England.. ..	..	..	*8,348*	*38,015*	*19,000*
G—Loss or gain by Exchange ..	..	..	*13*	*80*	*50*
Total ..	**1,221**	**970**	**1,14,364**	**12,63,984**	**7,32,003**

Note.—1941-42. The figures for the Revised Estimates have been filled in.

APPENDIX VI

Expenditure on Enumeration and Tabulation during the 1941 Census

Province 1	Enumeration 2 Rs.	Tabulation 3 Rs.
Total ..	14,65,602	6,45,049
Census Commissioner's Office	4,50,912	44,683
Madras	99,940	51,925
Bombay	1,18,606	56,680
Bengal	1,14,130	1,46,579
United Provinces	99,518	55,208
Punjab	53,313	34,198
Bihar	73,211	57,413
Central Provinces and Berar	48,361	50,220
Assam	59,567	19,375
North-West Frontier Province	31,346	11,912
Orissa	43,234	23,580
Sind	71,903	16,417
Baluchistan	54,955	11,533
Rajputana and Ajmer-Merwara	48,189	33,234
Central India	49,929	11,759
Andaman and Nicobar Islands	1,221	970
Coorg	511	313
Charges in England	46,456	19,050

APPENDIX VII

Recoveries and Receipts

Province 1	Recoveries 2	Receipts 3	Total 4
Total ..	3,52,572	8,035	3,60,607
Census Commissioner's Office	..	135	135
Madras	10,444*	230	10,674
Bombay	59,107†	..	59,107
Bengal	80,767‡	695	81,462
United Provinces	7,184	1,096	8,280
Punjab	6,228	273	6,501
Bihar	1,20,637	2,353	1,22,990
C. P. and Berar	30,652§	396	31,048
Assam	941	..	941
N. W. F. P.	1,913	70	1,983
Orissa	10,744	242	10,986
Sind	1,950	487	2,437
Central India	12,961	388	13,349
Rajputana	4,799	1,107	5,906
Baluchistan	1,935‖	563	2,498
Cochin State	2,310	..	2,310

* Includes Rs. 2,700 recovered from the Provincial Government on account of the cost of preparation of village statistics.

†Includes Rs 26,726 recovered from the Provincial Government on account of the cost of special work done for them. Final figures of total recoveries not available.

‡ Includes Rs. 52,926 recovered from the Provincial Government on account of special work done for them.

§ Includes Rs. 17,000 recovered from the Provincial Government on account of special work done for them.

Recoveries from Kalat, Las Bela and Kharan States on account of cost of tabulation were waived as a special case on account of the famine etc. conditions prevailing in the States.

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