CHAPTER VI

PROGRESS IN SERVICE AND RECENT HISTORY OF THE COLLEGE.

One of the most important features in the history of the College during recent years, is its development as an institution for instruction and investigation in science. In the early part of 1906 there were one Professor and three Assistant Professors; in 1914 there are five Professors, four Assistant Professors and four Demonstrators.

Up to 1906 Professor Hemmy held the combined chair of Chemistry and Physics; but since instruction up to the M.A. degree was given in both these subjects, the duties were manifestly too onerous; and Professor Mount Jones was appointed in the May of that year to take charge of Chemistry, Professor Hemmy retaining Physics.

In Biology Mr. Chhibber was Assistant Professor. The subject had been started in the College in 1902 with 7 students; the number had grown in 1905 to 16. It was housed on the upper floor in a single room partly divided into two by a wooden partition. A few diagrams, a few specimens and models, a very few microscopes, a single box of dissecting instruments and a single dissecting dish constituted, to the best of the writer's remembrance, at any rate, the most important part of the teaching apparatus. With these resources, to which must be added an invaluable laboratory assistant, Mr. Chhibber, gave instruction to first, second, third and fourth year classes in both Zoology and Botany with practical work
Principal (1912—1919)
in addition—as much practical work at least, as was at that time required by the University Syllabus. How this could ever have been done must remain a mystery. In passing, a remark may be added on the convenience of the term “Biology”. The word is conveniently used to denote the natural history sciences of Zoology and Botany, which deal with living things, as distinguished from those other sciences which deal with inorganic substances; this may be a real convenience. But its frequent use is apt to lead to the idea that ‘Biology’ is a single science equivalent to Physics or Chemistry, or Geology, and to the idea, therefore, that a staff, and accommodation, and grant for apparatus, etc., which would be sufficient for one of these is sufficient for Biology also. We see this idea dominating the minds of the authorities in the heroic attempt that was being made to teach under this title, two subjects, each requiring laboratory work up to the standard of the B.Sc. degree, in one room and by means of one single teacher. Though magnificent, this was not education.

A change in the regulations for the medical degrees of the Panjab University was the immediate cause of re-organisation. Hitherto the Assistant Surgeon classes at the Medical College had consisted of two sets of students—one, the more numerous, reading for the diploma of L.M.S., the other for the degree of M.B. The courses of instruction were much the same for both, with the exception that degree students, who had to possess the degree of B.A. before they entered, attended a Course of lectures in Comparative Anatomy, given by the Professor of Human Anatomy, in their first year. This course was illustrated by museum specimens but included no practical work by the students themselves.
It was now decided to abandon the teaching of Comparative Anatomy, Botany, Chemistry and Physics, in the Medical College, to have only one class of students—those reading for the M.B. degree—and to insist on the Intermediate Examination in Science of the Panjab University, which in their case must include Biology, instead of the B.A. as a preliminary to Medical study. The subjects which were abandoned by the Medical College were to be taught to intending candidates in the first place at Government College.

While Chemistry and Physics were sufficiently sparsely housed, staffed and equipped to take over this additional number of students without insuperable inconvenience the Biology Department obviously was not, and immediate reorganisation was necessary. Mr. Chhibber, moreover, was transferred to the Bombay Presidency during the vacation of 1906, and since there was no time to secure a Professor of Biology from England, Captain J. Stephenson, I.M.S., then Civil Surgeon of Ambala, was appointed temporarily to the post, at about a week’s notice. At the same time Lala Shiv Ram Kashyap, B.Sc., was appointed as Assistant Professor. It was generally understood that Captain Stephenson had taken a Science degree, which included Zoology, in his earlier days, and this was perhaps the reason for his selection; it is at any rate safe to say he had forgotten most of the Zoology he ever knew, and that at no time was his Botanical equipment more than rudimentary. Lala Shiv Ram had taken his degree in Physiology, but may be presumed to have also had an elementary knowledge of the subject he was to profess. Under these circumstances it was obviously advisable that there should be some division of labour; while it would have been merely derisory for
both members of the Biological staff to claim acquaintance with both branches of the subject, it was conceivably possible that, each taking one branch, by painful application and lavish expenditure of midnight oil, exposure might be avoided. Captain Stephenson took Zoology as his portion, Lala Shiv Ram, Botany, an arrangement which still exists to-day. Lala Behari Lal Bhatia, B.Sc., again a Physiologist, was also appointed as Assistant Professor, during the first session.

The first requisites were accommodation and apparatus for practical work. The University, it is true, required little of this, none at all for Medical students, and so long as such regulations continued in force it was not easy to introduce a more extensive scheme into the work of the College. Fortunately the University was induced to see the error of its ways, and a more adequate syllabus was introduced. As in all cases, it could not come into force for two years; perhaps as well, for during the first session of the reorganised department very much could not be effected. A class-room was taken from the Oriental College then housed in the Government College, for lectures to the Medical students, and such practical work as was required, or was possible, was done in the verandah in front of the Biological room. The Medical College kindly allowed specimens from their Zoological Collection to be brought over for demonstration to the classes. This necessitated a large amount of labour, but at this stage it was a great consideration to have specimens made available at any cost. A fresh lot was brought over weekly and those which had been used were taken back; the same plan was adopted for many of the diagrams for lecture purposes.
The annual grants for the maintenance of Biology were naturally small, in accordance with the scale on which the subject had hitherto been taught; Rs. 300 per annum for current expenses (contingencies), and Rs. 300 for apparatus, models, diagrams, and specimens from Europe. The whole of the annual grant for apparatus would have been swallowed up by the purchase of three students' microscopes; and the early history of the department is largely the history of attempts to obtain a more adequate allowance for its upkeep. The trouble largely was, that a grant was made to the College as a whole for contingent expenditure, and another for European stores, etc.; the other scientific departments were thus included in the grant, and in the case of 'contingencies' the Principal's office and College at large also. If the annual Budget allotment was not increased, any extra allowance made to the Biological Department meant a corresponding diminution of the amount available for Physics and Chemistry; and this at a time when they too were growing and were subject to increased demands owing to the influx of the Medical students. If an increased allotment was sanctioned on representations of inadequacy from the Biological Department, it was sanctioned as an increase under the general head of "Scientific Apparatus", and became the prey of all the Scientific Departments, and Biology being held (under these circumstances) to be one subject, came badly out of the scramble.

The next session, 1907-08, saw the last batch of students who were taken over from the Medical College under the old regulations, and the first batch of those who began their course at the Government College for the Intermediate in Science with a view, subsequently,
to entering the Medical College. The accommodation allowed to the Oriental College was still further restricted, and the Biological Department flowed further into the upper storey of the north wing. The Medical College generously transferred the whole of the Zoological Museum to the Biological Department; room was found for it in the gallery round the upper part of the College Hall; but the skeletons of the elephant and camel, which could not be accommodated in the narrow space of the gallery, were placed in the elephant room, under the tower. This gallery has continued to be the Zoological Museum from that time forwards. The Museum was well supplied with examples of Vertebrate Anatomy, and especially of Mammalian skeletons. As was natural, it was much less complete in the Invertebrate section, but in each succeeding year a portion of the annual grant has been devoted to supplying its deficiencies, and as a collection for teaching purposes it is now fairly adequate. Had the Medical College Museum not been available for the purposes of Zoological study, it is difficult to see, with the funds at that time available, how any adequate cause could possibly have been given, and the College was in the highest degree fortunate in being able to acquire it.

With the taking over of the whole of the upper storey of the north wing, the Biological Department waslodged as satisfactorily as it was ever possible to be, having due regard for the space of other subjects, so long as it was confined to the main College building; and the single room which was its original home was given up to the Physics Department, which also now required more space. It need scarcely be said that it can only be in exceptional cases that class-rooms, not originally
designed for the purpose, can be successfully adapted to form a Biological Laboratory. The first requisite is light; this means many more windows than are usually to be found in ordinary class-rooms, it means also that there must be no verandah, which is practically universal in Indian architecture, and can only be dispensed with in case of a due North aspect. In any room with only ordinary lighting and with a verandah, the light on the hinder row or rows of benches is often insufficient for microscopical work or fine dissection; so it was, and is still, in the Government College laboratories; though by whitewashing the verandahs and adding extra windows something was done in the required direction. But it was obvious that the accommodation, though the best available under the circumstances, could not be regarded as in any way suitable for the permanent lodging of the only school of advanced Biology in the Province.

First a course of gentle agitation to bring the minds of the authorities into a condition to listen to definite proposals, then the formulation of the proposals, then the acquisition of a site for a new department, then the preparation of plans, and so the sanction of funds and the commencement of work on the new buildings,—some such progress occupied the years from 1907-1913; towards the close of the latter year work was actually begun; in the present year we trust at last to enter into the occupation of our new home.

The growth in numbers of the newly organised department was rapid. In 1906 there were in the Junior classes (1st and 2nd year) fifteen, in the Senior (3rd and 4th year) four. The numbers in the 1st Year Class increased considerably in the following year in consequence of the new regulations for medical degrees,
as previously explained; the increase continued, and in 1909 the numbers in the Junior Classes reached 138. This was found to be about the limit which could be efficiently taught with the available staff and accommodation; and though the numbers could have been and could still be, much increased by taking all applicants for admission, it was wisely decided to refuse applications in excess of this number, rather than lower the efficiency of the teaching; there has in consequence been no further expansion of these classes.

Expansion has, however, not been confined to the Junior Classes. At first nearly every student who entered the department did so, intending, after passing the Intermediate in Science, to pass on to the Medical College; thus very few were left to proceed to a degree in Science, and to these few, Physics and Chemistry also were open as well as Biology. In 1909, however, the number of Senior students had reached sixteen, and in 1912, 45; and it now became necessary to limit the advanced classes as well as the elementary. In the latter year there were altogether 183 students in the department.

Other Colleges have in recent years provided teaching in Elementary Biology, and ours is no longer the only one which supplies students to the Medical College. Indeed, it is a remarkable testimony to the success of Government College in Science teaching in recent years, that so few students now leave after passing the Intermediate in Science; whereas previously, all except two or three of the successful candidates migrated to the Medical College, it is now quite a minority who do so; while the larger number, if they pursue collegiate life further, proceed to
a B.Sc. degree either in Biological subjects or in Physics and Chemistry.

It only remains to record the developments in the staff of the Department and in the scope of the instruction given. Early in the history of the reorganised department, an M.Sc. class was started in Zoology, but the staff, though increased by the creation of a post of Demonstrator, of which Lala Bishamber Das was the first incumbent, was not large enough to permit of Botany being carried to the same level. Professor Shiv Ram Kashyap and Lala Behari Lal Bhatia both took the M.Sc. degree in 1909, in Botany and Zoology respectively, the first to do so in this University in their respective subjects. In 1910 the Department sustained a severe, though temporary, loss, by the departure of Lala Shiv Ram for Cambridge, where he devoted himself with much success to the advanced study of Botany. On his return in 1912, after obtaining high honours in the Natural Science Tripos and earning the encomiums and good wishes of his Professors, it was possible to take the further step of inaugurating an M.Sc. Class in Botany also. Lala Shiv Ram was appointed Professor of Botany; Lala Bishamber Das, who had been officiating as Assistant Professor during Lala Shiv Ram’s absence, was appointed permanently to the post thus rendered vacant, and a second Demonstrator was added to the staff. The system of appointing a certain number of student Demonstrators from the advanced classes to give assistance to the junior practical classes had already been in existence for some time.

An impediment to the higher work of the department in past years, has been the great demand for teachers of the subject in other colleges of the Province;
and not only of this Province but of other parts of India also. The numerous instances in which other institutions have turned to the Government College to supply the needs of their staff has been very gratifying, but it has resulted in posts being offered to B.Sc.'s who otherwise would have stayed on to take the M.Sc. degree, and it is this demand for Biologists which has robbed the Department of the credit of figuring more largely in the M.Sc. lists of the University. In the session 1911-12, a promising M.Sc. Class in Zoology gradually faded away altogether before the Professor's eyes; the attractions of lucrative posts overcame those of the study of advanced Zoology, and 1912 was a blank year for the department in the M.Sc. lists of the University. But both subjects are now firmly on their feet; the first students of the M.Sc. Class in Botany have this year (1914) completed their course and obtained their Master's degree; and a combined staff of two Professors, two Assistant Professors and two Demonstrators, with full courses of instruction in every grade of each subject, represent an advance on the condition of 1906 with which the College has every right to feel gratified.

The recent history of the other Scientific Departments, those of Physics and Chemistry, is not as full of developments as that of Biology. At the beginning of 1906 Chemistry and Physics were still combined under Professor Hemmy, with Lala Ruchi Ram Sahni and Lala Chetan Anand as Assistant Professors, and after the division of the combined chair in that year, when Professor Hemmy took the Department of Physics and Professor Jones was appointed to the charge of Chemistry, Lala Chetan Anand remained with Professor Hemmy while Lala Ruchi Ram devoted himself exclusively to Che-
chemistry. M.A. Classes (the M.Sc. degree dates only from 1908) were already held in both subjects, which thus began the period here reviewed in almost the same position as that in which Biology ends it. In Physics the same rooms are still occupied, with the addition of that which was the first home of the Biology Department, and is now the Junior Physics Laboratory. The staff is the same, with the addition of a Demonstrator. The increase in the number of students has here also been considerable; in 1906 there were 124, in 1913, 216.

Chemistry has been rather more favourably circumstanced. It was evident soon after the beginning of the present period, that extended accommodation in the shape of new buildings would before long be required for all departments of Science. The extension of the Chemical Department was the first to be undertaken, and an additional block was added in 1911 according to the designs of Professor Jones. Moreover, the staff was increased by the creation of a second Professorship as well as by the addition of a Demonstrator. Chemistry is thus the only subject in the College, except English, which has two Professors. Lala Ruchi Ram Sahni, the former Assistant Professor, was promoted to the second Professorship in 1909. In passing, the bestowal on Lala Ruchi Ram of the title of ‘Rai Sahib’, which was conferred in connection with the Lahore Exhibition in 1909, may be mentioned here. The loss sustained by the Department, through the retirement of Professor Jones, for reasons for health, in 1912, is still fresh in the minds of all connected with the College; after a short interval, during which Dr. Sane officiated, the vacancy was filled by the appointment early in 1913 of Professor Wilsdon.

The number have grown from 125 in 1906 to 224 in 1913.
So much for the history of the past, the immediate future will witness the transfer of both the Biology and Physics Departments to new building on a site close at hand, just outside the College gates.

Physics and Chemistry (Prof. A. S. Hemmy).

The process of evolution which has characterised the development of Science teaching in England has been followed at a greater or less distance in the Government College and as in nature has passed from the generalised to the specialised type.

At first there was a Professor of Science who apparently was expected to teach anything, but who in practice confined himself to Physics and Chemistry, although the first incumbent of the chair, Professor J. C. Oman, was by the wideness of his scientific interests quite capable of giving instruction in any science. Professor Oman who was appointed in 1877 and held the post for twenty years, was an excellent popular lecturer and with his extended interests was particularly well suited to act as a pioneer in the subject. The appreciation in which he was held was recognized by the conferring upon him of the Honorary Degree of D.Sc. when he retired. During his tenure of the appointment, Science had rapidly increased in importance as an educational subject, and on his retirement the appointment was raised from the Provincial Service to the Indian Service.

In 1898, after a rather long interval during which Rai Sahib Ruchi Ram officiated, Mr. A. S. Hemmy was appointed. At that time the whole of the accommodation provided for teaching the two subjects of Physics and Chemistry up to the M.A., now M.Sc. standard, consisted of two lecture rooms, a laboratory built over a porch, and sundry passages and verandahs
whilst the professor was expected to limit his expenditure to Rs. 15 per mensem for contingencies and about ten times as much for apparatus and chemicals. Under the urgent representations of Mr. Hemmy's predecessors, Government had begun to realise that the accommodation was insufficient and were prepared to spend a sum of Rs. 8,000 upon building a complete chemical laboratory which, in spite of adverse expert opinion, was apparently regarded as adequate. Somewhat reluctantly they consented to new plans being prepared which by the exercise of the utmost economy provided a lecture room, laboratory and sundry smaller rooms sufficient for the existing classes for a sum of about double that originally sanctioned.

At the same time a plant for the manufacture of oil gas was provided. Even then, owing to the advent of famine in the province, the building of the laboratory was postponed for nearly two years for lack of the necessary funds.

In the meanwhile work had to be carried on under somewhat primitive conditions in the old building. Of gas there was none, a spirit lamp had to do its work. For a water supply taps and pipes were provided, but they were empty. The water pressure was not sufficient to carry the water to the height of the first storey of the College. To provide water, that general utility article the kerosene tin, was used, one being provided for each student, whilst another one was used as a sink, the existing sinks having their outlets blocked. By the aid of a force pump and a small supply tank, the water pipes were once more filled, but the provision of a gas supply was more difficult. The gas, however, was obtained at the railway station and brought by bullock cart in the cylinders used for storing gas for railway carriage lighting. One of these cylinders is
still doing duty in one of the Mofassil Colleges. Needless to say, under the circumstances, gas was a very precious commodity not to be needlessly expended.

At about the same time the process of squeezing the Oriental College out of the building was commenced by the conversion of one of their lecture rooms into an apparatus room.

With the completion of the chemical laboratory in 1900, the old rooms were given up to Physics entirely and with four rooms, the Physics department has had to be content up to the present. In fact for the four years 1902-1906, one of these rooms was given up to the teaching of Biology.

In 1906 an expansion of staff took place. Up to that time a staff of two had to undertake the whole of the work in Physics and Chemistry. With the arrival of Mr. Mouat Jones, the two subjects were completely divided and an additional Assistant Professor, L. Chetan Anand, was also sanctioned.

At about this time the teaching of pure Science was relinquished by the Medical College, the instruction for the Preliminary Science examination being undertaken by the Government College.

It was decided by Government that Science should be made a speciality of the latter institution, new Physical and Biological laboratories and an extension of the Chemical Laboratory being promised. The two latter projects have been carried out and plans and estimates for a properly designed and equipped Physics laboratory have been prepared. It is intended that this shall be taken in hand shortly.

The new Physics laboratory will consist of a large lecture room to hold 160 students and a smaller one to
hold about 50. These will be equipped in an up-to-date manner with gas, water and electric light and power, whilst a projection apparatus will be installed.

Two large laboratories, one for the Intermediate, the other for B.Sc. students, together with two small rooms available for research, will form one wing, whilst, on the other side, will be the larger lecture room, a large apparatus room, a workshop, an engine and a battery room. Joining the two wings will come the smaller lecture room, a preparation room, rooms for professor and staff, an optical room for junior students divided into four independent parts, and three rooms for the M.Sc. students devoted to Electricity, Optics and General Physics, respectively.

In the centre will come an experimental tower consisting of a stair-case winding round a hollow central shaft which will pass right through from the top to the basement ten feet below ground level where there will also be a constant temperature room. By means of this shaft experiments can be performed for which a long vertical distance is required.

An up-to-date electricity supply is also intended. A number of accumulator cells as well as a direct current transformer is to be provided. These are connected to a switchboard to which are also fixed a large number of wires leading to the different rooms of the building so that in each room there are several independent circuits, on any of which can be placed a supply of electricity with a voltage which may be anything desired from about one volt to four hundred and forty.

It is also proposed to install a liquid air plant driven by motor.

The workshop will be equipped with a number of
motor-driven machines and all the various tools required for instrument making. When this building is completed, the College may be regarded as fairly up-to-date in this department.

The extension of the chemical laboratory has already been completed. Upon the nucleus provided by the laboratory already referred to, which now forms the junior lecture-room and B.Sc. laboratory wings have been added at each end. On the north side is a large junior laboratory with smaller rooms for the staff and stores. On the south side is a M.Sc. laboratory divided into three parts by glazed partitions, a small senior lecture room, a museum and library, and a professor's room besides smaller adjuncts. A direct current transformer provides both direct and alternating currents of any voltage from 25 to 220.

Later Days

A few words on the occurrences of the last two years will complete our history.

Mr. Robson left the College in the summer of 1912, leaving behind him a record of careful and conscientious administration of justice and of impartiality, which will not be surpassed. He was succeeded in the Principalship by Major Stephenson; Mr. Wathen was transferred from the chair of History to that of English and after a short interval the professorship of History was filled by the appointment of Mr. H.L.O. Garrett, M.A. of St. John’s College, Cambridge. With the continued growth of the College the work of the English classes had increased so much that a second professorship was created and Mr. F. R. Tomlinson, B.A. of Clare College, Cambridge, was appointed to the post. The retirement of Professor Mouat Jones, in Nov. 1912, has been mentioned earlier in the present chapter; his going was a
loss not merely to the Chemistry department, but to every side of College life; besides being in charge of the Branch Boarding House, he was keenly interested in College athletics, and living close at hand, and being in touch with all College activities, his geniality and kindliness caused him to be looked on as a friend by every one. Professor Garrett, on his arrival, undertook the duties of Warden of the Branch Boarding House, while the chair of Chemistry was filled, as has been mentioned, by the appointment of Mr. B. H. Wildson, of Lincoln College, Oxford. L. Ram Pershad Khosla, who in 1913 took two years' leave in order to study at Oxford, was succeeded as Assistant Professor of History by M. Abdul Hamid.

Till 1912, the College had been dependent for instruction in Oriental Languages on the Oriental College; Government College could therefore claim nothing from the teachers of these subjects except so many hours of instruction, given in the vernacular. The Oriental College was in this year finally crowded out of the Government College buildings, and the Education Department adopted the principle that Sanskrit, Arabic and Persian should be taught by scholars trained in critical methods, instead of altogether on the traditional system as hitherto. L. Gulbahar Singh was appointed as Assistant Professor of Sanskrit, and in the following year M. Ghulam Yazdani as Assistant Professor of Arabic; the latter, however, held the appointment only for a short time, and was succeeded by M. Sadr-ud-Din, who is also leaving to proceed to England as State Scholar in Arabic. The corresponding post in Persian has not yet been filled.

The size of the College has been a matter for serious thought on the part of the authorities. At the beginning of the Session 1913-14, the number of
students was as high as 585 and this although 300 applications for admission were refused on account of want of accommodation. A certain number, as always, have dropped out during the course of the Session; but this has scarcely reduced the total below 550, a number which is perhaps as many as is advisable for a single administration to deal with. Even after the removal of Biology and Physics there will be no superfluous space in the main building; since a certain number of additional class-rooms are already required, and the Library is to be removed from the College Hall. More serious is the fact that students from the mofassil cannot all be received in the main and Branch Boarding Houses; and, though many of those who are excluded are able to take up their lodging in reputable hostels, a certain number cannot or do not. If the College authorities believe, as is the case, that they are not doing their duty by those of their students who live away from home, unless they can assure themselves and the parents of their charges that these are under a reasonably effective supervision, then it is evident that the numbers in the College cannot be allowed to increase out of proportion to the accommodation of the Boarding Houses. On every count, then, it appears that a halt must be called in regard to the expansion of the College. This need not be taken to mean that yearly increases in the College budget will no longer be asked for; but that Government will be requested to consider a higher and higher degree of efficiency as the primary object to be aimed at.

New College Societies have been springing up; the most recent of these are the Junior Students' Debating Society, the Jones' Scientific Society, and the Third Year Debating Society. Along with this has occurred a change in the constitution of the Union Debating
Society. In the previous chapter this institution was left as a College Parliament, meeting weekly. But a Debating Society, under a parliamentary form or otherwise, which comprises 550 members only a minority of whom can find seats, while the rest are naturally tempted to stroll about, or to come in or out, as the interest of the moment seizes them, is not likely to be a very manageable body; while proportionally only a very few are able, in the limits of time, to do what all are supposed to have met for, namely to debate. The numerous smaller Societies fulfil far more adequately the functions of debating Societies; and the parent Union, having discarded its parliamentary form, no longer meets weekly as before.

The development of the athletic side of College life still goes on, and has recently given rise to a Gatka Club and a Boat Club. And finally, material improvements are represented by the acquisition of a second house for Professors of the College, situated almost at the College gates, and by the installation of electric light and fans.