

Educational (1900) Department.

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G.O., No. 505

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INDEXED.

[Despatch Abstract.]

Recording with remark taken from
the Hony. Secretary, Victoria Technical
Institute, Madras, on the subject
of the accommodation of the
institute.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

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Government {1900} of Madras. EDUCATIONAL.

Recd.

Regd.

1900.

Enclosures

Spare copies

G.O., No. 505, 15th October 1900.

OCTOBER.

Victoria Technical Institute.

Recording, with remark, letter from the Honorary Secretary, —, Madras, protesting against the orders of Government passed on the Council's proposals about the portions of the Connemera library building which they would require.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

READ—the following paper :—

From JOHN ADAM, Esq., M.A., Honorary Secretary, Victoria Technical Institute, Madras, to the Chief Secretary to Government, dated December 1895.

I have the honour by direction of the Council of the Victoria Technical Institute to acknowledge receipt of G.O., No. 872, Public, dated 19th October 1895, passing orders upon the letter of the Council, above the signature of its President, dated 25th February 1895. The Council feels that it cannot allow many of the statements made in that Government Order to pass unchallenged, and I am instructed to forward for the consideration of Government the following reply.

2. The members of the Council consider it incumbent on them in the first place, for the information of the Government and in justification of their own position, to place on record at the present time the circumstances under which the Victoria Technical Institute was founded, the functions it was intended to perform, and the conditions under which it existed until the commencement of the present controversy. These matters can fortunately be ascertained absolutely beyond the reach of doubt or equivocation, the material being contained in official documents, and reports and proceedings of the most public nature. The vital question for the Council at present is not, in the opinion of its members, what the functions of the Victoria Technical Institute should be, but what they were intended to be by the subscribers of the monies held in trust by the Council. If these functions become impossible of performance, the only course open to the Council must be to consult the subscribers as to the return, or the future employment, of the funds. This historical resumé will also show how absolutely incorrect is the statement made in paragraph 3 of the Order under reply,—“that the primary object of the new buildings was a Free Library; the Technical Institute was a secondary consideration.” No statement could well be wider of the real facts.

3. The Council can only assume that the ignorance of facts displayed in the various Government Orders on this subject is due to the entire change in the personnel of the Government itself. Not one of its members had anything to do with the inception and early history of the Institute, the youthful prospects of which were rendered so brilliant by the enthusiastic personal support of Lord Connemara, Sir P. P. Hutchins, and Sir H. E. Stokes. Fortunately the Council of the Institute is not open to the same criticism. The Hon'ble Mr. Chambers was Chairman of that Sub-Committee of the Jubilee Committee which formulated the original plan for the appropriation of the Jubilee funds for Technical Education. Mr. Adam has been from the first, except during his absences on furlough, Secretary of the Institute, and Raja Sir Savalai Ramasami Mudaliyar, Rai Bahadur A. Dhanakhoti Mudaliyar, and Rai Bahadur V. Krishnama Chariyar have been members of the Council from the first day of its existence. On the other hand when Sir H. E. Stokes retired and the late Mr. Grigg ceased to be Director of Public Instruction, the last links connecting the Government of to-day with that of 1887 were, as far as concerns education, snapped asunder.

4. It seems almost absurd—yet it appears only too necessary—to commence with a reminder that the Technical Institute was intended to be, and to-day is, the only Presidential Memorial of the Jubilee of Her Imperial Majesty. To those who remember the accusations of disloyalty that greeted those few who were hardy enough to criticise in the mildest manner any of the proposals in connection with the celebration of the Jubilee, the method in which the present Government treats the sole memorial of that memorable year must appear inexplicable; for the frowns and disfavour of to-day present a strange contrast to the smiles and enthusiasm of eight years ago. At the time of the celebration in the Madras Presidency of the Jubilee of Her Majesty the Queen Empress, in 1887, there was a very general desire that the permanent memorial of that event should take the form of a Technical Institute. Many of the subscriptions were indeed specifically appropriated by the subscribers for that object, and the Central Jubilee Committee, recognising the general desire, resolved that its surplus funds should be devoted to the same purpose. It also appointed a Sub-Committee, specially called the Technical Institute Sub-Committee, which met for the first time on 4th February 1887, and of which, as already stated, Mr. Chambers was Chairman, and Sir Savalai Ramasami Mudaliyar, Messrs. Adam and V. Krishnama Chariyar were members. This Sub-Committee disappeared with the parent Committee, but the latter, before declaring itself dissolved, appointed a Committee to organise the Institute, and to that Committee it transferred its powers and handed over its funds. This latter Committee, of which Sir P. P. Hutchins was Chairman and Mr. Adam Secretary, continued its work during 1887–88, until on 15th September 1888, Government resolved to contribute to its funds a sum equal to a moiety of the private subscriptions up to half a lakh of rupees. The Order proceeded to state :—

“The only conditions which His Excellency in Council considers it necessary to impose are that the nomination of the Chairman or President, and of one-third of the members of the Executive Council, shall be reserved to the Government: and that an annual report of the working of the Institute be submitted to Government through the Director of Public Instruction. The Government members will be nominated from time to time after the other members have been elected.”

5. This liberal resolve of the Government was announced to the public of Madras in a letter sent by Sir P. P. Hutchins to the Public Press on the 24th September 1888. In this letter he stated that he proposed to call a meeting at an early date for the purpose of formally constituting the Institute on the basis of a Memorandum which had been prepared for the Committee by its Secretary. This meeting was held on 29th October when the following with other resolutions were passed :—

1. “That this Committee accept with thanks the contribution to the funds of the Victoria Technical Institute intimated in G.O., No. 546, Educational, dated 15th September 1888; and agree to the conditions which His Excellency the Governor in Council has considered it necessary to impose.

2. “That this Committee resolve that the Victoria Technical Institute be incorporated under the Companies Acts on the general lines indicated in the memorandum of the Honorary Secretary, dated 18th July 1888; and that the first Council do consist of eight members to be elected at the present meeting and the four members and Chairman to be nominated by Government in accordance with Resolution 1.

3. “That the Council thus constituted shall have full power to proceed with the incorporation of the institute, to frame a constitution, to conduct its affairs, and to deal with its funds; that of the elected members the three having the lowest number of votes shall retire at the end of one year, the three having the next lowest number at the end of two years, and the remaining two at the end of three years, the vacancies created being filled up by members elected in accordance with the new Articles of Association; and that the Committee, as *functus officio*, do dissolve itself at the close of this meeting.”

The Memorandum, referred to by Sir P. P. Hutchins and mentioned in Resolution 2 above, was printed for public circulation with the omission of unnecessary portions referring to the constitution of the Council, and the addition of an appendix of practical information. The Memorandum itself explains so fully the views of the founders of the Institute and of the Government of that day which endorsed it, that it has been thought well to reprint it (without the Appendix) at the end of this letter. Most of it too is quite as apposite to-day as then.

6. The Victoria Technical Institute was accordingly incorporated under Act XXI of 1860, and Sir H. E. Stokes was nominated by Government its first President. The objects of the institute are thus stated in the Memorandum of Association:—

The objects of the institute are—

To impart, or to assist in imparting, instruction to persons of either sex in the scientific or artistic principles which underlie the industrial and commercial occupations of the people (including especially handicrafts, manufactures, and agricultural labour) as well as instruction in the manual and other practice involved in the application of such principles:

and such objects may be carried out by any or all of the following means, that is to say,

- (a) Establishing Technical Libraries, Museums, Colleges, Schools, Classes, or Workshops in Madras and throughout the Presidency of Madras;
- (b) Making grants-in-aid of such Technical Libraries, Museums, Colleges, Schools, Classes, or Workshops as may be affiliated to the Institute in Madras and throughout the Presidency of Madras;
- (c) Training teachers of Technical subjects for the whole of the Presidency of Madras, or granting aid to teachers trained in affiliated or independent institutions;
- (d) Holding examinations in Technology and granting Certificates of Competency to those that satisfy the prescribed tests;
- (e) Giving grants-in-aid to Managers or Teachers of Technical Schools, Classes, or Workshops, and giving scholarships, grants, or prizes, to pupils of the same.

7. The Council naturally turned its attention at an early date to the questions of buildings, and its first report, for 1889, contains the following paragraph:—

“The Council came to the conclusion that the funds at its disposal were quite inadequate to at once build and endow an Institution where Technical training on any satisfactory scale could be given. It had, however, hopes of obtaining the grant of a building from Government, in the event of suitable public premises falling vacant. This did not occur, but the Council is glad to be able to inform the members that its requirements are likely to be supplied in an even more satisfactory manner; as the Government proposes to provide accommodation for the Institute in connection with the new Public Library in the Museum compound. The close connection of the Institute with the Museum and with the various Libraries to be brought together under the same roof, is a very happy one, likely to prove of great mutual advantage and to promote the educational utility of all the agencies concerned. It is intended that the books to be purchased with the munificent gift of Rai Bahadur Dhanakhoti Mudaliyar shall be placed in a separate section of the new Library rooms. Although the annual fixed income of the Institute is small, it is probable that when the actual work of instruction is being carried on in a building specially devoted to the purpose, public interest will be aroused and public support in the shape of subscriptions liberally accorded.”

The Council however considered that its funds might meanwhile be usefully employed in other directions, and hence arose its avowedly temporary schemes of scholarships, lectures, &c., which came by some to be considered its sole aim and object, and furnished a pretext to Government for saying that because it has done little without a building, it would be worse than useless to provide it with such accommodation.

8. The report of the Council for 1890 contains an account of the commencement of the new buildings which is here quoted in full:—

“It was stated in last report that Government had intimated its intention to provide accommodation for the Institute in connection with the new buildings for a Public Library in the Museum compound. The Foundation stone of these buildings was laid by His Excellency Lord Connemara, on Saturday, 22nd March 1890. In the course of his remarks on that occasion, His Excellency, referring to the institute, said:—

“You are aware that, out of the funds that have been raised for the Jubilee, the funds for the Technical Institute were provided, and a Corporation was formed, and Articles of Association drawn up. The Technical Institute has been at work for more than a year. The first annual report I had the pleasure of reading the other day, and it describes what the Trustees of the Technical Institute have done. They have been very hard at work, and they had to do what is not at all an easy thing to do—they had in a great measure to make bricks without straw—because they had to provide what is considered now-a-days to be necessary for a Technical Institute, and the funds that they have had at their disposal were not sufficient, but they have at the same time done a great deal, I must say, so far as they have been able to do with their funds. They have established scholarships in the various institutions, where science and art are taught in the Presidency, and they have also arranged to have lectures delivered upon various subjects

They have also done other things which may be, I hope, of great use in teaching arts and sciences to many. But the great difficulty which stared them in the face was the want of a building, as the funds at their disposal were inadequate to allow them to think of such a thing. Under these circumstances, my colleagues and myself have thought that we can, in accordance with our duty to the tax-payers, and in accordance with our duty to the permanent government of the country, add a building to the free public library, which, without parting with the property in that building, we can allot, at any rate for the present, to the Technical Institute. We mean to take care that there is no mistake in whom the property shall vest, because the Government has no intention of parting with the property that is to be used by the Technical Institute. The Technical Institute will be allowed to occupy a certain portion only of this building.”

“The Foundation Stone bore the following Inscription:—

This Foundation Stone
of the
Connemara Free Library and
Victoria Technical Institute
was laid
in the fifty-third year of the reign of
Her Most Gracious Majesty
Queen Victoria, Empress of India,

by
His Excellency the Right Honorable
Robert Bourke, Baron Connemara, G.C.I.E.,
(Member of H.M.'s Most Honorable Privy Council),
Governor of Fort St. George,
22nd March 1890.

“The members, at the Annual Meeting held on the 25th March 1890, instructed the Council to express to the Government the acknowledgments of the Institute. In recording the letter of the Council, Government took the opportunity of stating formally the conditions under which the Institute will occupy the portion of the building allotted to it. The Order, No. 313 (Educational), dated 6th May 1890, is as follows:—

“The Government deem it advisable to state formally that while the use of certain portions of the new buildings will be allowed to the Victoria Technical Institute, the property in the building will vest entirely and exclusively in the Government.”

“The buildings are now in course of construction and, if the present rate of progress be kept up, will be finished by the contract date, 30th June 1892. The portion allotted to the Institute comprises a commodious lecture theatre, one wing of the general library for the reception of the Technical Library, and a number of class and office rooms. These constitute the section of the building running parallel to the Pantheon Road, of which they will prove a conspicuous and handsome architectural feature.”

9. It will be observed that the last paragraph enumerates the portions of the building proposed to be allocated to the Institute, comprising practically, in addition to the wing of the Library, the whole of the building lying east of the central tower. This was thoroughly understood at the time; and the report, which contains these statements, was issued by a Council, of which the then Senior Member of Council was President, and which included among its members the present Junior Member of Council, the Hon'ble Mr. J. Grose. The language used by Lord Connemara is also unmistakeable. He distinctly talks of “adding a building to the Free Public Library”; and the architectural construction of the edifice, divided as it is into two portions by the great central tower, is specially designed to carry out in this respect the views of Lord Connemara and his Government. If anything in history is capable of demonstration, it would seem thus to be clearly demonstrated, that the position now taken up by the Government as to the destination of the buildings in Pantheon Road differs totally from that of its predecessor in 1890.

10. Meanwhile the Council continued its policy of makeshift. The report says, “Being in the same position as regards want of buildings and inability to institute regular classes of its own, the Council resolved to continue the policy explained in last year's report, viz., to award scholarships for training teachers in the various Technical Colleges, and to hold popular courses of lectures on practical subjects.”

11. The report for 1891 contains the following significant paragraph:—

“Change in the Secretaryship.—Mr. J. Adam left India for England on a year's furlough in September and Mr. A. A. Hall, Principal of the Teachers' College, was appointed to act for

him. The Council voted a sum of £50 to Mr. Adam in order that he might visit the principal Technical Institutions of England and report on their management and working. The Council considered that the experience Mr. Adam gained in England would be of great service in fitting up and organizing the new Institute. The building intended for the Institute is in progress and when finished will be fitted up with suitable apparatus for illustrating lectures which, from time to time, will be delivered; and it will also contain a Consulting Library, to which those engaged in technical pursuits may refer."

This paragraph is significant because it shows that the Council anticipated the approaching completion of the new buildings, and looked forward to their equipment for practical work. As, in accordance with the G.O. of 15th September 1888, copies of these reports were submitted annually to Government, it certainly seems strange that Government was content to permit the Council of the Institute to dwell for so many years in a fool's paradise,—were such indeed the true character of its abode. This paragraph is also significant as showing that the members of the Council were taking steps to acquaint themselves with what technical education means and what progress it had made in other countries. They are thus able to judge the efforts of Government in this Presidency by comparison with the results elsewhere. The possession of this standard it is that prevents the Council from attaching the same importance as the Director of Public Instruction attaches to the work of the Educational department in recent years. One result of Mr. Adam's visit to England was the preparation of a memorandum on the subject which was reviewed with approval by Government in G.O., No. 813, Educational, dated 25th October 1894.

12. The report for 1892 is in the same strain:—

"*Future Plans.*—The buildings placed at the disposal of the Institute in G.O., No. 313, dated 6th May 1890, are now approaching completion and will probably be ready for occupation before the end of 1893. In view of this the Council have requested their Secretary to prepare a scheme for the establishment of an Upper Secondary Technical school, with attached evening classes, in accordance with the suggestion made in his memorandum referred to in *paragraph 2*. They also propose to purchase, during the year 1893, Technical books for the Library from the donation made by Rai Bahadur Arcot Dhanakhoti Mudaliyar for that purpose."

13. There is no change in 1893, the last year in which Sir H. E. Stokes was President. The report for that year says—

"*Future Plans.*—The Council hope to be able to begin actual teaching work, in the buildings placed at their disposal in G.O., No. 313, dated 6th May 1890, before the end of 1894. Arrangements are being completed to start, as soon as possible, a class in Lithography and Type-writing, which it is believed will meet a demand existing in the local market."

"*Arcot Dhanakhoti Mudaliyar Library.*—Mr. Adam while on furlough has been engaged in purchasing books for this Library. Eight cases, containing 1,265 books to the value of £550, have arrived and have been placed in the new buildings, pending the completion of the building for the Connemara Free Library, of which they will form a part."

14. Upon the departure of Sir H. E. Stokes the attitude of the Government towards the Institute and Technical Education underwent the change which the Council so deeply deplores, and which has given rise to such voluminous correspondence and so many Government Orders. But the position of the Institute, its aims, and objects, have never changed, and cannot be changed by the Trustees except under the mandate of the subscribers, of whom Government is only one. The preceding resumé shows what that position has been and how it has been misunderstood. It was clearly recognised from the first day of its existence that the Council could do little to carry out the objects of the Institute until a suitable building were provided. When engaged in endeavours to supply this want, Government came to its aid and promised in the most unequivocal manner to place at its disposal the new building, commonly called the Technical Institute. This popular name given to the block lying to the east of the tower merely expresses what was common knowledge at the time the buildings were designed and commenced. Depending upon this promise of Government, the Council of the Institute deliberately and with the approval of Government husbanded its resources, employing some portions of its funds in assisting what appeared from time to time to be deserving efforts in the way of providing technical instruction. It constantly looked forward to, and assiduously prepared itself for, the day when it would be put in possession of

the building designed for and promised it, in which it could commence its real work. And now, when the buildings are completed, the Council is told it has been mistaken all along in supposing Government meant what it said and in believing the buildings were intended for it, while it is further informed it does not deserve any buildings because while waiting to enter into possession it failed to do the work it could commence only on obtaining possession.

15. Passing to the more general questions referred to in the Government Order under reply, I am directed to say that the Council has received with unmixed regret the intimation therein contained of the attitude which Government has decided to assume towards the Technical Institute as well as towards Technical Education as a means for the advancement of material progress in this part of India.

16. The order in question is avowedly based on a letter from the Hon'ble Dr. Duncan, the Director of Public Instruction, which is printed along with it. In this, he has criticised, with a warmth of personality which hardly seems in keeping with the real merits of the views which he expounds, certain proposals which were laid before Government by this Council in its letter, dated 25th February 1895. The paper in question was the outcome of a protest made by the Council against the projected diversion of buildings, demonstrated above to have been specially designed and built for the accommodation of the Victoria Technical Institute, in memory of the Jubilee of the Queen Empress, to other purposes. The opportunity was taken to lay before Government for orders certain considerations respecting the sphere of the Victoria Technical Institute in the immediate future, with reference to its connection with the promotion of Technical Education, as the Council understands that term. In the Government Order under reply, the Technical Institute is informed that it will not be allowed to take part in supervising, directing, or advising in the matter of Technical Education and that, if it enters on the path of direct technical instruction, it is at liberty to do so *at its own cost*, although it is admitted elsewhere that "Government must in the ordinary course of things provide by far the greater proportion of the funds without which the object in view cannot be achieved." The Victoria Technical Institute is therefore apparently to be placed in a worse position than any other educational institution in the Madras Presidency. Moreover this decision has been arrived at on representations made by the Hon'ble Dr. Duncan, some of which are inaccurate, while others appear to be of more than doubtful validity.

17. The Government has "commended Dr. Duncan's remarks to the earnest consideration of the Council." It has entered on the task with humility, and if the result has more than justified the position assumed by the Council in February last, it hardly fulfils the anticipations of Government which were based on the too ready acceptance of the sweeping allegations made by Dr. Duncan.

18. Now, in dealing with this all-important question of Technical Education, it must be ascertained on the threshold that the disputants understand the term in the same sense. So far from this being the case, it is small exaggeration to say that Dr. Duncan and the Council do not use a common vocabulary. They can hardly even be described as talking the same language. Dr. Duncan clubs professional institutions for Teaching, Art, Medicine, Engineering, Music and Law along with commercial and industrial schools, in order to obtain his total of 4,000 or 5,000 youths whom he asserts to have been receiving Technical Education, *e.g.*, in 1893-94, in the Madras Presidency. The Council excludes all but the two last. Dr. Duncan mixes up studies, which are controlled more or less directly by the University, with those supervised entirely by himself. He confuses a University degree with a certificate granted by him, or a diploma bestowed by His Excellency the Governor. This Council draws a sharp and clearly defined distinction between them. He is content if the examination rooms contain a lot of youths applying for passes in Drawing, Type-writing, Shorthand, Commercial Correspondence and Geography or Surveying, Levelling, and so on, the *quasi* literary side of the subject, in fact. The Council seeks after the development of new industries, and the revival, resuscitation, or improvement of old ones—the material advancement of the country. Dr. Duncan's dogma is that the country must wait for educational effort in that direction until it has

attained wealth and prosperity. The Council regards this as equivalent to a refusal to grant facilities for the acquisition of the art of natation, until a man has learned to swim on dry land.

19. Finally, Dr. Duncan looks upon a policy resting almost entirely on a system of elaborate paper syllabuses and examinations as educational perfection. The Council, on the other hand, regards such a system as radically unsound and impractical. It considers that it is accountable for what it regards as the failure of the last ten lost years. It justifies, from that point of view, the opinion arrived at by the Council, after much deliberation, that the Government had, for all practical purposes, "not yet broken ground in regard to technical education". In regard to this, it may be remarked in passing that a pleasing note of agreement is struck in paragraph 2 of the Government Order under reference, where Government is understood to have fully accepted the view held by the Government of India, that the material advancement of the country, *through the means of technical instruction*, is a special and direct responsibility of Government. At the same time, the Council submits that it has hardly trespassed beyond bare fact when it asserts that the Director of Public Instruction and itself can scarcely be said to be talking in the same tongue when they attempt to reason together on this vital question.

20. The view taken by this Council when addressing Government on the 25th February last was this. It considered that the expansion of material wealth in Madras was checked owing to its having fallen into the condition of a purely agricultural country; that, even with regard to that one industry, it was retrograding, owing to the neglect of scientific methods, and of an organised system of imparting them, commencing with farm schools for ryots' sons; that it had entirely fallen out of the race for industrial prosperity, old industries having either languished or completely died out under the influence of the combined application of machinery and science to such industries in other countries. This was, in a succinct form, the position taken by the Council. It was likewise ready with a practical plan to ameliorate such an undesirable and positively dangerous state of things. Its remedy was, in brief, that Government should recognise the fact that all great changes in this country can be brought about by the direct and immediate intervention of Government alone. Just as the literary education of the people after the English method, for many long years, depended on Government schools and colleges, so the Council considered that, in regard to the technical instruction of the people, the Government must, for a considerable time to come, lead the way. It never entered into its head to suppose that the thousand and odd boys who are supposed to be learning carpentry, and so on, in the various reformatory, orphanage and industrial institutions in the Presidency, could, by a stretch of imagination, be supposed to be a satisfactory return for the ten years' work during which the present system has been in force. It assumed it to be known that, let us say, 93 per cent. of the above youths were being educated on charity, and that only 69 boys in all were the children of the artizan classes (*vide* page 55 of the report of the Director of Public Instruction for 1893-94). It was likewise imagined to be common ground that agriculture, the great industry of the country, remained entirely left out of the field of existing educational effort. The Agricultural College at Saidapet was not overlooked, but its influence has hitherto been inert; the Director's views in regard to it were, very properly, gloomy; and, in fact, only the other day he has recommended its being made a sort of back-door for entering into the public service, in order to attract pupils to its benches; while the Deputy Director of Agriculture has expressed the opinion that it does not turn out men fit to be teachers in village farm schools.

21. The Council is in entire accord with Dr. Duncan when he stated in the report above referred to that "special or technical education cannot be considered to have made much progress during the year," and that the abstention of the artizan class was "very discouraging". It cannot agree with him, however, in blaming, what he calls, "the conditions of the country". It attributes a result, which was as sure to happen as the rising or setting of the sun, to the inherent faults of the system pursued, and in a minor, but substantial, degree to the unsuitability of the Educational Department to handle the subject of technical education with success. Put in a nutshell, the reason of the failure is this. Literary education is well established. The

rules and aims of the department are well known. Government service and the bar are the goals aimed at. The Director is, therefore, master of the situation. He can promote any study with sure success by the simple expedient of making it compulsory. Everything is in his favour, but when, as a literary man, he turns his attention to real technical education, and attempts unaided to exploit it, he finds that, to his astonishment, all is changed, and that the system, for some reason unknown to him, will not work. The classes requiring instruction care nothing for examinations, certificates or diplomas. To attract them the Director must supply instruction which will pay, and which will enable them to obtain service under employers of labour, over whom the Government and the University have no control. Private technical schools cannot exist under a system of grants when there are no boys to earn them. So we find the Technical Examination notification and the elaborate syllabuses, devised with so much admirable care, standing out as beautiful ruins of educational skill,—in the sense at least in which the term (education) is alone understood by a Director, steeped to the lips in University traditions of the purely literary kind. These views are worked out with some elaboration in the joint note, signed by Messrs. Crole and Chambers and supported in a separate minute by Mr. Adam, which is attached to the report of the Committee on the School of Arts, now before Government. The Council has some reason to suspect that Dr. Duncan would not have committed himself to his present statements if his letter had been written after, instead of before, the sitting of that committee, of which he was President.

22. If further proof be wanted of the collapse of the system of 1886, it may easily be found in the report of Dr. Duncan as Commissioner for Government Examinations in 1894-95, recently published. The Council refrains from refuting the obvious reflections which have appeared in the daily Press, as well as from making others which are readily suggested by the above remarks, more especially because the attention of Government appears to have been drawn to the subject, with the result that certain enquiries have been ordered to be made. It was not deemed expedient by the Council, when making their proposals in February last, to enter upon an adverse criticism of the history of the Technical Education scheme of 1886 in detail. Dr. Duncan now attributes this reticence on the part of the Council to ignorance of the subject, and Government supports him in this view. The Council contents itself with stating that the member who drafted the letter referred to had analysed the structure of the department, as well as of the system which it has been attempting to work, in the most intricate detail, and that, certainly, nothing stated in the Government Order under reference, or in Dr. Duncan's letter printed therewith, in so far as these are supported by official records, was unknown to him, or was passed over without the most anxious consideration. It was, in short, in no sense the desire of the Council to seek personal conflict with Dr. Duncan, in respect of a matter in which he has had an entirely subordinate part, as carrying out a system devised by others.

23. This Council has still no wish to follow Dr. Duncan into the personalities and the declamation in which he has indulged. But it would propose to Government the following as a test, by the result of which both he and the Council may well consent to abide. Will Dr. Duncan point out those features of the Trade returns (Home and Foreign), which, in his opinion, indicate the material advancement attained owing to the nine years' working of the existing system of technical education in Madras? If he cannot do so, it stands condemned. In every other civilized country under heaven this is the gauge and touchstone applied to the subject, and the Council would appeal to Government to resort to it, and, by such means, end what threatens to be a most barren dispute, if the present loose method of discussion is allowed to continue.

24. The foregoing remarks have incidentally disposed of Dr. Duncan's "most emphatic protest" against the "assumption" of the Council that "the Government of Madras has not yet broken ground in the direction of technical education." As regards his attempt to embroil the Council with the eminent experts who formed the Committees of 1886 and 1892-93, it seems sufficient to remind Government that the gentlemen referred to were called together in order to work out certain schemes of

study and examination previously determined on, and that neither they nor the Examiners alluded to by Dr. Duncan lower down were ever asked for an opinion as to the soundness of the scheme itself. The Council would not have paid Dr. Duncan the compliment of alluding to such an obvious explanation were it not that experience has proved the inconvenience of even the most discreet silence where Dr. Duncan is concerned.

25. A similar necessity actuates it in refuting the following:—"What I wish to invite attention to in connection with the museum part of the Council's proposals is the repetition by the Council of the same mistake as I have adverted to in the early part of this letter, viz., the assumption that a beginning has to be made in the establishment of a technical museum in Madras. Just as it expects Government to take for granted that there has been up till now no such thing as technical instruction, so it expects it to be taken for granted that there is at present no such thing as a technical museum in Madras." A misrepresentation of this character deprives Dr. Duncan's views of all right to serious discussion. The Council restricts itself to reproducing, without a single word of additional comment, the passage to which Dr. Duncan alludes.

"As an auxiliary to the due performance of this duty, the establishment of an efficient and representative museum, containing specimens of rare and manufactured products and models of machines and appliances, would be of immense utility in the way of disseminating new ideas, of indicating to the producer in what direction profitable markets may be found, and of placing the capitalist and the merchant in possession of facts as to the existence of products, skilled labour and industries, the development of which would enrich the country and might profitably be exploited by themselves. In this connection, the library of the institute, in the formation of which a substantial commencement has been made, must not be left out of account."

"It may be anticipated that the establishment of a technical museum in Madras will lead to the formation of similar museums in the mofussil. One of the most useful and gratifying duties of the former would be to assist in the formation of the latter. For this purpose, it would be necessary to maintain spare specimens of many of the exhibits for distribution to local museums. In this view, the space reserved for the museum ought to be liberal, and that provided seems none too large."

In an address delivered on the 31st October last by Mr. Thurston, the Superintendent of the Madras Museum, of the existence of which Dr. Duncan accuses the Council of not being aware, the establishment of an Economic or Industrial Museum was advocated. The President of this Council presided on that occasion and noticed the proposal with warm approbation in pursuance of the policy of the recognition of such a museum as a potent educational force. So much for Dr. Duncan's assertions, which would be unworthy of notice, but for the attribute of "accuracy" which Government has attached to them (*vide* end of paragraph 1 of Government Order).

26. To turn back now to the report of the Committee on the School of Arts, already alluded to, the Council would cite it in support of the view that the Council has nothing to learn from Dr. Duncan, as supposed by Government. On the 28th January 1895, Dr. Duncan was unable to suggest any additions to the industries taught except blacksmithing, and reported that "the institution had been making substantial progress during the last decade, and has gradually been attracting a better class of students."

On the 8th April, in the Legislative Council, Dr. Duncan said:—"You cannot have technical education unless you have material prosperity; you cannot have a system of technical education which will be in advance of the material prosperity of the country. You must have a prosperous country in which commerce and industries of various kinds are carried on, and then only can you develop a scheme of technical education for the training of young men."

The fallacy underlying this view has been exposed above. But let that pass. On the 23rd April, Dr. Duncan produced the attack on the Council of the Victoria Technical Institute which is now endorsed by Government.

27. Meanwhile, Government had summoned a Committee to report on the soundness of Dr. Duncan's verdict on the School of Arts to the effect that it was all very good. Among the members of that Committee were four gentlemen belonging to the Council of the Technical Institute. There, for the first time, was Dr. Duncan brought face to face with the men whom he had twice in his communications with Government characterised as ignorant of the subject of technical education and incapable of advising upon it. The result was that the School of Arts was admitted to be, practically, only an elementary drawing academy, proposals were laid before Government calculated to convert it into an efficient technical school as desired by Government, and, more pregnant than all, two local industries were proposed to be taken up, *as a beginning*; so that technical instruction, through specially imported European experts, might be imparted to capitalists, managers, foremen, assistants and workpeople alike. These two embraced the great present possibilities of the Madras Presidency, dyeing and weaving and the tanning and manufacture of leather. This was in August last, and Dr. Duncan's education in this matter had so far progressed beyond its condition in January and April, that he became a party to that recommendation. Those who were present at the sittings of the Committee will be able to say what share the inefficient and ignorant members of the institute took in the proceedings which led to Dr. Duncan's notable conversion to their views. That was the first occasion on which the clearly defined aims and the practical knowledge of the Council of the Technical Institute had been brought to close quarters with departmental traditions and red tape. The result was a foregone conclusion.

28. The Council would, in the last place, desire to point out that Government, in discussing the capabilities of the members to conduct a large scheme of technical instruction and to act as the advisers of Government in that subject, appears to have overlooked the constitution of the Council. That it was originally intended to perform these functions is clear from the historical facts already recited; and it is also clear that Government desired to ensure that the Council should always be capable of performing them. Thus it reserved to itself the nomination of the President and of four out of twelve of the members of the Council. If, therefore, the latter body has proved inefficient, eminent members of Council, Judges and other high officials must share the blame with their fellow-members, against whose inefficiency or perversity none of them has been ever heard to protest. If Government, following the recommendations of the Supreme Government, desired to appoint an advisory committee of "educational experts and professional men", it could hardly invent a machinery better adapted for the purpose than that by which the Council of the Victoria Technical Institute is appointed. For the ignorance imputed to the Council by the Director of Public Instruction the Government, who nominated so many of its members must be held largely responsible.

ENCLOSURE.

APPENDIX.

MEMORANDUM drawn up by Mr. JOHN ADAM at the request of Sir P. P. HUTCHINS in 1888, and referred to in Resolution II of the Meeting of 29th October 1888 (*vide* paragraph 11 *supra*).

1. In formulating the following suggestions I have kept in mind certain indispensable conditions of a restrictive nature, which are here briefly stated at the outset:—

(a) The funds at the disposal of the institute are very limited, and accordingly it is less important to consider what we should like to do, than to discover what we can do. It follows that the popular idea of a Technical Institute, namely, a spacious public building filled with machinery and technical apparatus of all sorts, manned by able experts and turning out highly-trained specialists, is at present a chimera.

(b) If special technical instruction of the most approved type were provided, the material on which it could work does not exist in the country in any appreciable quantity. The educational system now in vogue does not turn out pupils with either the liking to adopt, or the aptitude to profit by, high technical instruction; and humbler though very useful work must be performed before high-class technical instruction can be appreciated by any but a small minority.

(c) It follows from this that the work of the institute must be progressive; it must begin with small things and proceed by indirect methods. It may contemplate much; its aims should be to consolidate, co-ordinate, extend, supplement, and popularize existing agencies; to form the link between purely professional or technical institutions and general educational establishments; to develop an interest in these special subjects among the population generally; and to seize any opportunity that offers for the improvement, resuscitation, or introduction of particular industries. But the way to achieve much is, not by attempting to do everything at once, but by having an elastic constitution in which a place will be found for everything as the work grows and opportunity for expansion offers. There should not therefore be disappointment though the enterprise at first seem insignificant. If the institute, however small its beginning, makes good its ground as it goes, it will, slowly perhaps but surely, rise to greater things.

(d) It is important that any scheme proposed should harmonize and work in with existing agencies. Some of these it may indeed modify or even absorb, but to begin with a declared course of antagonism would be fatal.

(e) The institute must endeavour to earn as much Government money as it can. The full meaning of this will appear in the sequel. It does not refer to special grants, which may be reasonably expected, but to the grants which Government has promised to technical education under the Grant-in-Aid Code. In other words, it will be the duty of the institute to work in accord with the Educational Department, or to persuade the Educational Department to work in accord with it.

If the soundness of these considerations be granted, it follows that the immediate scope of operations will be substantially limited.

2. *Buildings*.—It may be possible to rent on lease, at a reasonable rate, suitable buildings but, in any case, a building of some sort will be necessary. A site in a suitable central situation may perhaps be obtained from Government, or the Municipality, with possibly a building upon it. The building, if its cost has to be defrayed from the funds of the institute, must be unpretentious but specially adapted for its purpose and capable of extensions. Probably the best model would be that of a central building with detached, or semi-detached, wings. The central building would contain the offices of the institute, a lecture-theatre, and one or two smaller class-rooms. One wing, to be built at once, would contain the library, for which the contributions of Rai Bahadur A. Dhanakhoti Mudaliar have been specifically appropriated. This would also be used as a reading-room, as in the British Museum. Another wing would form the Technical Museum, but this, in the absence of funds, could not be proceeded with at present. Further additions, in the way of laboratories, workshops, &c., could be made as the operations of the institute become wider and its funds more ample. This system of detached blocks (which might be connected by covered ways) serves three good ends. It enables the work to be proceeded with gradually; it enables specific donations to be devoted to special buildings, which may receive the names of the donors; and it is a great insurance against total loss in case of fire. The last is a very important consideration when it is remembered that much of the work of the institute must be carried on at night, and also that many industrial processes, requiring the employment of fire, will in course of time be introduced.

3. In addition to the present pressing work of the institute, something may be done at its central building to popularise technical instruction and make the people familiar with its aims and benefits. Two useful means to this end will be the library and museum,* but courses of popular lectures may be delivered, and classes for special subjects formed, as soon as lecturers and teachers are available. But action in these matters must be guided by circumstances, and no fixed rules can be laid down.

4. Technical instruction, as is now generally recognised,† naturally divides itself into two distinct branches, which may be broadly defined as the General and the Special. By *General* technical instruction is meant the training of the whole body of school-going children in one or more of those branches which are fundamental or necessarily preliminary to all instruction treating of the application of these branches to particular trades or industries. By *Special* technical instruction is meant the training of selected individuals in the application of these branches to particular trades or industries. Thus all the decorative arts, painting, modelling, engraving, jewellers' work, embroidery, &c., are special applications of design, and it would be useless to admit a pupil into a class for any one of these subjects, who had not attained a certain proficiency in freehand drawing. In the same way, an elementary knowledge of geometry and mechanics is essential to the student of Mechanical Engineering; some acquaintance with chemistry and botany is a necessary preliminary to a study of agriculture, forestry, horticulture, and allied branches. I shall, in a subsequent paragraph, recur to the special difficulties which, in Madras, prevent at present the introduction of any extensive scheme of *special* technical instruction, but it is here necessary to point out that, however much money or however much knowledge we might have, all efforts would be futile

* See Appendix, Note B.

† When it is said that this distinction is generally recognised, it is intended to limit the application of the statement to those who have studied and discussed the question. Amongst the public there is still much confusion of thought and language, the process of clearing away which is being slowly but persistently carried on by men like Sir Philip Magnus, Sir Lyon Playfair, Mr. Leland, &c. In the Appendix, Note C, will be found a number of experts from recent literature on the subject.

in the absence of suitable material. I think these two statements may be taken as incontrovertible, (1) that suitable material is essential, and (2) that we have not got such material in Madras—or in India. Some may contend that we have material in plenty, but it cannot be admitted that either illiterate workmen or literate school-children form suitable material. Little, if any, *direct* good will accrue from attempts to improve the workman of this generation. They are wholly illiterate, their technical skill, great as it often is, is the result of an hereditary instinct combined with long rule-of-thumb practice; and it would be utopian to expect them to adopt the more scientific, time and labour-saving, and therefore more remunerative, processes of modern days. All we can hope to do is to awaken their interest and, convincing them of the practical benefit to be gained, induce them to procure for their sons the educational advantages of which they were themselves deprived.* With regard to our school-children the case is very different. Possessing a certain amount of general education, they only require to have that education supplemented or expanded by training in the fundamental branches already mentioned. Students thus taught are able to take up and develop any branch in which these principles are applied; they become, in fact, "qualified learners".

5. Granted the importance of thus supplementing an ordinary education by instruction in *General* technical subjects, perhaps the only point disputed will be, how far it lies within the sphere of a Technical Institute to aid in the work. I think it sufficient to look at the matter practically, and to point out that though strong representations have been made to and by Government on the matter ever since the time of the Education Commission (to go no further back), and though all parties appear to evince the strongest interest in something being done, nothing has actually been done, nor is anything likely to be done until some such organization as the Victoria Technical Institute takes the matter in hand. I admit it is not the highest, final, or perhaps proper work of a Technical Institute to impart general instruction; but if there are no pupils so instructed, how is it ever to begin to perform its more special duties; I hold, therefore, that the most pressing, present work of the institute will be to encourage and assist the spread of *General* technical instruction. If this course be vigorously followed for some years, it may be hoped that other agencies will take up and carry on the work, leaving the institute free for its proper duties and in no lack of suitable material.

6. Appreciation by the Local Government of *General* technical instruction has shown itself in the institution of examinations in such subjects as drawing, modelling, mensuration, agriculture and botany in the Middle School examination, and of the higher examinations in science, art and industries; and also by the promise of exceptional grants to schools or classes specially devoted to the teaching of these subjects.† In spite of all this, progress is almost imperceptible. The schools of the Presidency generally have held aloof from the scheme.‡ The reasons are obvious.

(a) The business having hitherto been everybody's business has ended in being nobody's business. Managers of ordinary schools have had no object in striving to entice their peoples from the beaten track, and ordinary pupils have seen no advantage in taking up extra and non-paying subjects. Here and there an enthusiast, who is looked upon as a sort of harmless lunatic by his fellow-students, has wandered from the highway; but these stragglers are few and they have no following. If an examination on the general lines of the proposed High School examination be introduced, this state of things will be to some extent modified. The effect of such an examination, however, upon technical education will be only indirect (though so far good) and not perhaps so great as anticipated. Candidates will soon find out the subjects easiest to pass in, those most akin to their other studies (*i.e.*, the most bookish and literary subjects), and those most valuable in public or private offices.§ But nevertheless much will be gained when the pupil can be told that in learning drawing, or botany, or engraving, he is not spending his time on a useless luxury but on something practically useful for the examinations for which he is preparing.

(b) Teachers have not been available. There being no demand for instruction of the kind indicated, naturally few teachers care without some special encouragement to qualify themselves to furnish it.

(c) And thirdly, though the offers of the Grant-in-Aid Code (Chapter V, &c.) appear superficially to be liberal, the restrictions are so severe and the conditions so onerous as to be practically prohibitive.¶

* See what Sir Lyon Playfair says of the English working man in the last paragraph of the extracts from his article in Note C, page 48.

† For convenience of reference the relevant portions of the *notifications* bearing on the *Middle School examination* and the *higher examinations in science, art, industries and commerce*, and also of the *Grant-in-Aid Code*, are printed in the Appendix, Note H.

‡ I do not allude to orphanages and other useful industrial institutions of the eleemosynary class as they lie in a category by themselves.

§ To venture on prophecy, I should say the most popular subjects will be mathematics, mensuration, book-keeping and correspondence. Inorganic chemistry and physiology will also be selected, because being already compulsory subjects for the University Examinations, most institutions possess the necessary apparatus and many graduates are qualified to teach them.

¶ I venture to suggest, and I believe the Director of Public Instruction agrees, that the Grant-in-Aid Code requires some remodelling in the interests of technical education. The difficulties are hardly realized simply because private managers do not attempt to face them, and the Code lies a dead letter. But if the work be taken in hand by the institute, the practical modifications necessary will soon appear. The main fault of the Code appears to be that it proceeds on a wrong principle. It treats *General* technical instruction not as an integral part of an ordinary education, but as something extraordinary and special. Art and industrial subjects must be taught in specially recognised schools and classes, with special fees, by extra-special teachers, &c.; in fact, everything is done to frighten managers, teachers, and pupils.

7. The object of the technical institute should be to remove, or render nugatory, those reasons

(a) It should make it its object to overcome the apathy of managers by encouraging the establishment of classes in drawing, &c., such encouragement being both moral and pecuniary; and where this endeavour fails, the institute should itself assume the position of manager, establish its own classes, obtain recognition by the department, and draw the grants earned. Gradually school managers will come to recognise their duties, and then the institute will be able to withdraw from this field and devote itself to its more special work. The institute should in fact be to the Mofussil Towns what for many years South Kensington was to the Provincial Towns of England. In thus taking up a position "co-ordinate with and ancillary to" ordinary education, the institute may well proceed on the lines, modified to suit local requirements, of the English Science and Art Department.*

(b) The institute should endeavour to provide qualified teachers. And to do this it should endeavour to utilize the existing stock of teachers. If we are to wait until we have on the one hand specialist teachers and on the other school managers willing and able to employ them, we shall have to wait for many years before this class of instruction spreads beyond a few of the very largest schools. But if every teacher in our ordinary schools, or even one in each school, be qualified to teach drawing, or agriculture, or carpentry, or some other special subject, and be encouraged in ways to be presently mentioned to open a class in such subject as a part of or an addition to his ordinary work, then we may expect to find at a very early date one or more technical classes in every school in the country.† It may also be pointed out that the influence of these teachers will be certain to extend beyond the walls of the school-room. A body of educated men, possessing some knowledge of technical subjects, spread over the country, must produce a considerable influence on their neighbours and the community generally. They will educate not only their few peculiar pupils, but the public at large. Every such teacher will be a veritable pioneer of technical education.‡

(c) The Council of the Institute, being absolutely neutral and unselfish, would, as its experience increases, be able to point out to Government, with a force which no private managers could ever possess, the modifications which may be desirable in the regulations of the Grant-in-Aid Code. The next succeeding paragraph will show that the objects aimed at in that chapter are good and exactly such as the institute would desire to attain; but it is doubtful if they ever could be attained by working under the restrictions imposed. It would obviously be of first importance that the various agencies of the institute should obtain the Government grants offered, which might be supplemented from the funds of the institute; but the conditions of the Code appear to have been framed as if it were dealing with a firmly rooted and long established system of education, instead of one which is unknown, tentative, and requiring to be encouraged and fostered rather than chained down and repressed.§ In fact, in this among other ways the Council of the Institute will perform the functions of the committee of "educational experts and professional men," recommended by the Government of India in its recent resolution.||

8. For details of the work it is unnecessary to go beyond Chapter V of the Grant-in-Aid Code. The council of the institute would;

(a) generally endeavour to encourage technical education by the means enumerated in section 2 as opportunity offers;

* The essential portions of these are printed in the appendix, note J.

† It may be pointed out that in only the largest institutions are masters specially employed to teach physics and chemistry for the Matriculation examination. These subjects are taught by graduates who, having taken science as their optional B.A. subject, teach science as they do history, Geography, or arithmetic.

‡ It may also be pertinent to mention that in Chengalvaraya Naicker's High School, which is simply the technical side of Pachaiyappa's High School, we have classes (some very large, especially those held in the evening) in drawing, chemistry, mensuration, phonography, book-keeping, and commercial correspondence, and all are taught by the ordinary masters, who have taken the trouble to study and qualify in these special subjects. Some particulars of this, the only real Technical High School in the Presidency, are given in the appendix, note D.

§ This is on the principle of what is sometimes called the Irish system. It is now being introduced in Scotland by Professor Wallace. See appendix, note E.

|| A full discussion of the various educational problems connected with the Grant-in-Aid Code would be out of place here, but so much reference has been necessary because it is an essential condition of these proposals that the institute must work hand-in-hand with Government if any great or permanent good is to be achieved. I may point out merely two questions of detail as illustrations. Section 14, Chapter III of the Code says, "a school cannot receive aid under the salary grant system for one department of the school, and under the result grant system for another, except that in results schools salary grants may be allowed for teachers of all special subjects (i.e., drawing and industries), excluding language, provided that no result grant is claimed for any such subjects." This appears to be exactly the converse of what is wanted. Teachers in salary grant schools, drawing salary grants, should be permitted to draw results grants for pupils whom they may instruct and send up for examination in special subjects. Again in section 5 (c), Chapter V of the Code, it is laid down that, as a rule, "pupils admitted into science or art schools or classes must have passed the Middle School examination or some examination accepted by the Director as equivalent or higher." I thoroughly uphold the principle that general and technical education should go hand-in-hand, but what hope is there for the technical side ever making a fair start under such a regulation? Passed candidates do not, as a rule, want to be taught, and unpassed candidates are not permitted to be taught. The special subjects can also, for the most part, be brought up only as *extras* and cannot be entered for separately. The practical experience of the institute would soon suggest how these regulations might be modified without injuriously affecting other branches of education.

¶ See the penultimate paragraph of appendix, note C, page 53.

(b) encourage ordinary teachers and normal students to attend agricultural, art, engineering, or other technical classes, and so qualify for teaching these subjects. The Council would give grants to such teachers or students, or supplement the grants earned from Government. The Council would endeavour to obtain appointments for such teachers in schools willing to give facilities for opening special classes, and the teachers or students should undertake, as a condition of receiving grants or scholarships, to open such classes on obtaining appointments. Where school managers, while willing to give facilities for such classes, are unwilling to assume any responsibility in the matter, the Council would undertake the duties of managers, and request to be recognised as managers by the Director of Public Instruction. In this case they would conduct operations with the aid of local committees, as indicated in the previous paragraph (a). It is unfortunate that the Government institutions (the Agricultural College, the Engineering College, and the School of Arts) are located at such inconvenient distances from each other and from the populous part of the town; but when the attendance of pupils increases, it should be easy to arrange for special and evening classes in the institute building, where instruction could be imparted, in the first instance, by teachers from the aforementioned institutions. These classes might offer instruction in chemistry and botany (and their applications to agriculture and industries), drawing (mechanical and its application to machine construction, &c.), and freehand drawing (with its application to such arts as carving, engraving, lithography, &c.);

(c) offer result grant to successful students of these classes, either in addition to or in place of Government grants; and assist the most promising pupils to continue their studies to higher standards;

(d) provide on loan, hire, or easy terms of purchase, the plant and apparatus requisite for teaching the subjects professed, collections of specimens, models, &c. The initial cost of providing these often forms an insuperable obstacle, which the institute might do much to remove, in the way of starting technical classes;

(e) arrange for combined classes. In a town where there are several schools, pupils may be drawn from all, but mutual rivalry will often prevent this being successful, if attempted by the managers of any one particular school. This feeling would be non-existent, or small, were the arrangements supervised by an independent and impartial body like the institute. The combined class could meet in one of the schools or in some specially engaged central room;

(f) conversely, in towns where a sufficiently large class could be recruited from each of several schools, a special teacher could be engaged by the institute, who would journey from school to school. This plan is adopted for science teaching by several English School Boards, the teacher being provided with a portable collection of apparatus, arranged in a suitable wheeled vehicle and accompanying him from school to school. This will produce the largest effective result with the least unproductive expenditure. The Grant-in-Aid Code says (section 9, Chapter V), "A teacher giving instruction in science, art, or industry in several small towns or in several schools in a large town, may receive special grants-in-aid for his travelling expenses. These special grants are only to be made provided that there is local organisation for a general system of science, art, or industrial instruction, that the teacher is highly qualified, and that local teachers possessing the requisite qualifications are not available." By the system proposed, the institute will take the place of the local organisation contemplated until the local public learn to appreciate the work of the institute and form the necessary organisation to relieve it;

(g) the classes contemplated in this paragraph would, wherever and whenever practicable, include instruction in some handicraft. The importance of this, which forms the basis of the Slöjd and other systems, lies *not* in training the pupil to any particular trade, but in teaching him to use his hands, to make him handy, in short, when he comes to devote himself to any particular craft. The object of teaching boys, say, carpentering in general schools is not to make them carpenters, but is the same as the object of teaching literary students logic. The latter is intended to train them to reason accurately, the former is intended to train them to manipulate deftly.*

9. It will be proper at this stage to repeat specifically the statement that the Council of the Institute should not contemplate continuing permanently as an organisation for the whole Presidency. It should endeavour to establish local organisations in the chief towns and industrial centres, which, while remaining affiliated to the central body, should gradually relieve it of the detailed work of administration. Even a technical school or college proper, if started in the Presidency town, could only serve as a pioneer and model for local schools or colleges, and should look forward to eventually occupying the same relation to such institutions as the University does to its affiliated colleges. The aim and work of the institute should be, not to retain everything in its own hands, but to transfer the work to branches as soon as these can be constituted

* See appendix, note F.

with sufficient guarantees of permanence. And as the promotion of technical instruction seems to be very specially within the province of Municipalities and Local Fund Boards, these should be led to expect and find from the Victoria Technical Institute every assistance in the shape of advice, loan of teachers, &c. In this connection, it is important to remember that most industries are confined to special districts and not diffused throughout the Presidency. Instruction in industries should therefore be imparted preferentially in local centres and not in Madras itself.*

10. Reference has already been made incidentally to the question of technical training for artisans and it has been pointed out how little good is likely to accrue from such attempts. There is, however, one aspect of artisan education which deserves earnest attention, though it may be a question as to how far it comes within the province of the technical institute. I refer to the education of the children of artisan castes, as for instance, weavers, goldsmiths, &c. Any effort to impart technical instruction to such children has failed because they are totally devoid of general education, and because their parents are unwilling to lose the value of their labour during the time spent in acquiring what appears to be useless knowledge. For the latter reason, any endeavour to enforce a high standard would prove fruitless in the future as it has done in the past. The three R's, in the vernacular, together with drawing or some other technical branch, is all that can for the present be attempted. It was largely in view of these sections of the community, that the Madras Educational Conference (1886) reported strongly in favour of raising the standard of Vernacular Primary schools and also of adding a vernacular side to Middle and High schools (English being an optional subject). Both the Director of Public Instruction and Government reserved these points for further consideration, but so far as I am aware, nothing further has been done in the matter. Yet it cannot be doubted that the establishment of special schools for such special classes, with a curriculum carefully graduated to their capacities and needs, would do much to raise the general status of manufacturing artisans and so pave the way for more advanced and special technical instruction.

11. It now only remains to indicate the attitude of the institute towards *Special Technical Education*. Three obstacles to immediate or extensive action in this direction have already been incidentally pointed out, to wit, want of money, want of teachers, want of teachable material. But in respect to all industries, except only agriculture and perhaps mechanical engineering, there is a fourth want which it ought to be an early duty of the institute to remove, either by its own exertions or by moving Government to action, in anticipation of the time when the other three wants shall have ceased to exist. I refer to want of knowledge, knowledge as to the extent and condition of various industries, as to how they can be improved by the application of scientific principles and methods, and so to what sort and amount of instruction is best calculated to lead to such improvement. In my first minute on this subject I remarked that I had, in common with many other persons, a floating general idea that much could be done, but that what enquiry I had been able to make into specific industries showed only the scantiness of our knowledge and the impossibility of framing on that scanty knowledge any practical scheme. I believe that the money, whether of the institute or of Government, could not be better expended than in paying the expenses of a preliminary enquiry into the actual condition of native industries, *in esse* and *in posse* not from the æsthetic but from the practical and economic point of view. The aim should be, not to produce a renaissance or a revolution in India art, but to discover whether, by improved methods of working and increased technical skill, competition is possible between native manufactures and foreign imports. After renewed attempts to study the subject, I still remain of this opinion; and I find that it is widely, entertained, has been pressed upon the attention of the Indian Government, and has been now endorsed with their approval†. If the Government cannot see its way to appoint a special commission for this purpose, it would probably be willing to render assistance were the enquiry undertaken by the Council of the institute. As the investigation proceeds, the ground will gradually be cleared for future operations, and work can be commenced by degrees as suitable opportunity offers. Whenever it has become clearly established to what extent and by what means an industry can be improved by technical instruction, the attempt should be made, on however small a scale, to improve it.

12. These initial difficulties being removed and the institute being supposed ready to begin the work of *Special Technical Instruction*, it remains to indicate how the Council should proceed; and in this connection to discuss its relations to the technical institutions already in existence, namely, the Agricultural College, the College of Engineering, and the School of Arts. Generally, the procedure should be on the lines already laid down for a course of *General Technical Instruction*, with such modifications as may be rendered necessary by the localisation of specific industries. The Council would first endeavour to procure suitable instructors. These may, in the first instance, be specially trained here, or may be sent to other countries to be trained, or may be brought from other countries. The instruction given by them should be imparted only to those who have received a fair general education and such technical education as may form the necessary basis for advanced training in the special industry selected. These pupils, when trained, should be encouraged to settle as teachers (especially in artisan schools), foremen, or even independent manufacturers in the local centres of the industry in question; they should be

* See appendix, note G.

† See paragraph already referred to, quoted in appendix, note C, page 53.

superintended and when possible assisted by the institute, until a local organisation is formed to relieve the parent institution of its charge. It will be well to bear in mind that with limited means and opportunities, it is better thoroughly to take in hand one industry than to attempt a little with many.* It is at this stage that local exhibitions may be usefully instituted. Every such exhibition should have a clearly defined object, namely, to test the results of instruction in special industries, as evidenced by the work of the pupils themselves and of other workmen who may have been affected by their influence. For want of such a definite aim, most industrial exhibitions are but melancholy monuments of misdirected zeal and perverted ingenuity.

13. The Agricultural College provides everything necessary for the training of experts, and specialist teachers. It would be the work of the institute to bring these specialists into contact with the general body of schools. In fact, agriculture is the only branch in which we are in a position at once to attack the masses. It is the most widely diffused, it is perhaps the easiest to experiment with, and that it is also the most important, is matter for congratulation. Such large numbers of the population are interested, directly or indirectly, in agriculture, that we may hope ere long to see an agricultural class in every town boasting a Middle School. It will probably, however, be considered advisable for the institute to await the report of the committee recently appointed to consider the whole work of the Agricultural Department, including education, and the action of Government thereon, before taking any important step in this direction.

14. The College of Engineering is intended under its new constitution to provide everything necessary for the training of builders, surveyors, and mechanical engineers.† From pupils who have been taught at school geometrical drawing and mensuration, classes may be formed for instruction in building, road and bridge-making, &c. These will be beneficial not only to professed builders, surveyors, &c., but to all taking an interest or share in local administration or in the management of their own property. Advanced instruction in mechanical engineering can be given with advantage only in large workshops. Schools exist in connection with the Gun Carriage Factory and the Perambore Works (Madras Railway); and the institute might operate usefully by apprenticing promising youths to these works or by making other arrangements whereby its pupils should receive practical instruction.

15. The School of Arts occupies a somewhat different and a peculiarly indefinite position. This is not the fault of the officials of the school or of its pupils, but is inherent in its present constitution. It was probably intended to be the South Kensington of Southern India; but what does South Kensington presuppose? It assumes that drawing is taught universally in Secondary and even Primary schools throughout the country, and consequently that there is abundant material from which pupils can be drawn. It assumes a constant demand for qualified teachers and a large preferential demand for trained designers of pottery, carpets, prints, wall-papers, &c., in the great workshops throughout the country. It assumes a public taste educated so far as to demand at least variety, if not beauty, in its surroundings. In India at present these are wanting. The School of Arts has consequently had to diverge from its original intention. Its chief work now consists in teaching elementary drawing to school children,‡ which ought not to be done in a School of Arts at all but in the children's own schools. It also produces some very admirable works of art in wood, metal, and pottery, at high prices for connoisseurs, which are executed to some extent by a few advanced pupils of the school and to a greater extent by ordinary paid artisans. I think it may be said that the influence of the School of Arts as an educative agent cannot be traced in any other scholastic institution or in any industry or workshop outside the building itself. If the institute be successful in making drawing a general branch of study, there would be plenty of work for half-a-dozen training schools for art teachers; and, if nothing more were contemplated by the institute, no change would, as far as it is concerned, be necessary in the constitution of the School of Arts. But in view of the further object of the institute, namely the application of art to industries, it would be a serious waste to allow the valuable appliances, staff, and experience of the School of Arts to be devoted solely to the subsidiary purpose of training teachers of elementary drawing. The latter work is certainly important, but can be carried out by less expensive and ambitious institutions than the present School of Arts. Holding these views, I have the temerity to suggest that the School of Arts, the Technical Institute, and the cause of Technical Education would all be best served by transferring the management of the School of Arts to the Council of the Institute. I understand that it was originally intended that the school should be managed by an independent committee, and that the experiment was made without success; but it may be hoped that the causes of failure, principally indifference, would not be found to exist in the Council of the Victoria Technical Institute. The transfer, to be made of course under proper conditions and saving all the rights of Government, would at once provide the institute with a local habitation, forming the centre

* It is perhaps unnecessary to mention that I do not consider as coming under the scope of the institute attempts to introduce new industries which require for success not skilled labour, but the more judicious expenditure of capital, as for instance lucifer-match making, twine and sack-making, &c.

† Civil Engineering proper is a profession, coming under the purview of the University, and is therefore omitted in this enumeration.

‡ Mr. Havell, the Superintendent of the School of Arts, in a pamphlet recently circulated, says on this point:—"under present circumstances we are obliged to train the material for more advanced work." When this training is done in the schools, the obligation will be removed from the School of Arts.

whence its future operations would develop. Indeed, the advantages accruing to the institute would be so great that they need not be enlarged upon and it is difficult to perceive any disadvantages accruing to the School of Arts itself, to education, general or technical, or to Government. All the proposals already made would obviously harmonise with this transfer and be carried out with much greater ease and efficiency.

ORDER—No. 505, Educational, dated 15th October 1900.

Recorded with the remark that the decision communicated in G.O., No. 872, Public, dated 19th October 1895, must be accepted as final.

(True Extract.)

M. HAMMICK,
Ag. Secretary to Government.

To the Secretary, Victoria Technical Institute, Madras.

Exd. S. J. Pereira.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O., No. 505, EDUCATIONAL, DATED
15TH OCTOBER 1900.

[SUBJECT.—*Connemara Public Library and Technical Institute.*]

The current is a reply to G.O., No. 872, Public, dated 19th October 1895, in which Government declined to give the Council of the Victoria Technical Institute the large share of the new buildings in the Pantheon Road for which it asked, or to allow it to conduct evening classes there, and stated that the Council's idea of its position and duties in connection with technical education was untenable and that general orders on the subject of technical education would be dealt with when the papers about the reorganization of the School of Arts came up for orders.

It may be stated at the outset, and with regard to the first line of the current, that it is believed that the current was not circulated among all members of the Council of the Victoria Technical Institute before despatch; that two of them, Mr. Irwin and Mr. Phipps, did not see it; and that the latter of them entirely disagrees with it, and has in consequence declared his intention of resigning. It seems unnecessary and inexpedient for Government to proceed to make any detailed reply to this protest as G.O., No. 872, Public, dated 19th October 1895, has already dealt finally with the matters to which it relates with the exception of the Government's policy in regard to technical education which will be dealt with in the orders on the reorganization of the School of Arts. Certain points in the current appear however to require some notice.

2. The first is that the statement in paragraph 3 of G.O., No. 872, Public, dated 19th October 1895, that "the primary object of the new buildings was a free library, the technical institute was a secondary consideration," is "absolutely incorrect." The circumstances under which the idea of erecting the new buildings in the Pantheon Road originated are unfortunately not clearly contained in any records in the Government office, inasmuch as most of the arrangements concerning it appear to have been made in Council. It appears from the papers in G.O., No. 513, Public, dated 18th June 1889, that Lord Connemara asked Mr. H. A. Stuart to put up a note upon free libraries in order that the question of establishing a free library in Madras to commemorate Lord Connemara's Governorship might be considered. At the foot of the note Sir Henry Stokes suggested, apparently for the first time, that the Victoria Technical Institute might be brought into connection with the free library. Mr. Garstin disagreed and apparently Lord Connemara did also. (And here it is perhaps necessary to explain of what the "Victoria Technical Institute" consists. A note on the subject is put up in G.O., No. 394, Public, dated 5th June 1894. This shows that in 1887 at the time of the celebration of the Jubilee there was a general desire that the Presidential memorial of the Jubilee should take the form of a Technical Institute. Many of the subscriptions by the public were specifically appropriated by the subscribers for that object. The Central Jubilee Committee resolved to devote its surplus funds to the same purpose, and before it dissolved appointed a committee to organize an institute and delegated to it its powers and handed over to it its surplus funds. This Committee carried on operations for some time and finally dissolved in October 1888 after resolving that the institute be incorporated under the Indian Companies Act and that the first Council should consist of eight members. The Government contributed to the Institute a sum equal to half the sum provided by subscriptions with a limit of half a lakh of rupees on the condition that the Chairman and four members of the Council should be nominated by Government. This Council has since been the governing body of the Institute. The total available capital of the Institute

according to paragraph 8 of the report of the Committee on the future management of the Connemara Library buildings in G.O., No. 597, Public, dated 16th August 1894, is Rs. 1,25,000 which when invested gives an annual income less expenses of barely Rs. 3,600. The Institute thus consists of this money and a Council and nothing else. It has been necessary to point this out inasmuch as the first few paragraphs of the current are so drafted as to leave upon any one who does not recollect the facts an impression that by the "Victoria Technical Institute" is meant the building in the Pantheon Road. This impression is assisted by the fact that a "technical institute" usually means a building used for technical instruction. As the current has already

H. W. B[LISS.]

been published in the newspapers it seems advisable to correct any impression of this kind in the order disposing of it. Orders are solicited.)

3. No records explaining how the buildings in the Pantheon Road came to be designed and erected can be discovered either in the Public department or in the Public Works department subsequent to G.O., No. 513, Public, dated 13th June 1889, and before G.O., No. 1264 W., dated 2nd May 1890. The latter Government Order, it will be seen, begins with a letter from the Consulting Architect enclosing an estimate for the building, but referring to no orders directing him to prepare that estimate. The Public Works department was asked under what orders it was drawn up and Mr. Irwin has replied (please see his telephone message appended) that the matter was arranged verbally and that when Lord Connemara, Sir Henry Stokes and Mr. Garstin had decided to build the Free Library he made the plan in consultation with Sir Henry Stokes. He does not know who proposed to add accommodation for the Technical Institute but designed it in consultation with Sir Henry Stokes. He says that the inscription on the foundation stone in which the building is called "Connemara Free Library and Victoria Technical Institute" was submitted to Government for approval. It thus appears to be correct that the primary object of the new buildings was a free library and that the Technical Institute was a secondary consideration. It should be noted that the whole of the funds for the new buildings amounting to 5½ lakhs of rupees were paid from Provincial funds and that not an anna of it was raised by public subscription in aid either of the Jubilee or of the Victoria Technical Institute.

4. To turn now to the question of the attitude of Government with regard to the accommodation to be allowed to the Institute in the new buildings, the first statement on the subject is that in Lord Connemara's speech on the laying of the foundation stone referred to in paragraph 8 of the current. The Council (apparently with the desire of getting down in writing the promise therein made) wrote to Government the letter recorded in G.O., No. 313, Educational, dated 6th May 1890, thanking them for this statement, and that letter was merely recorded with the remark that "while the use of certain portions of the new building will be allowed to the Victoria Technical Institute, the property in the building will vest entirely and exclusively in Government." In the Council's report for the year 1890, page 4, recorded in G.O., No. 270, Educational, dated 13th April 1891, the above order was quoted and the report went on to say that "the buildings are now in course of construction and, if the present rate of progress be kept up, will be finished by the contract date, 30th June 1892. The portion allotted to the Institute comprises a commodious lecture theatre, one wing of the general library for the reception of the technical library and a number of class and office rooms. These constitute the section of the building running parallel to the Pantheon Road, of which they will prove a conspicuous and handsome architectural feature." The order on this report was "the report will be forwarded to the Government of India." The above portion of the report is quoted at the end of paragraph 8 of the current, but the second half of the inverted commas, which should come after the words "exclusively in the Government", have been misplaced and printed after "handsome architectural feature" so that the Government order is made to state that the Institute has been allowed a lecture theatre, a wing of the general library and a number of class and office rooms. This unfortunate misplacement of the inverted commas makes the passage most misleading, and conveys the impression that the Government order granted the Institute all this accommoda-

tion, and it is submitted that inasmuch as the current has been printed in the daily papers, the order disposing of it should point this out. In 1894 the Council applied for permission to use the new buildings for certain classes, but it was decided in Council that before permission could be granted the disposition of the accommodation in the buildings required to be thoroughly discussed. A committee was therefore appointed (G.O., No. 394, dated 5th June 1894) to submit proposals on the subject. The Committee's report was considered in G.O., No. 597, dated 16th August 1894. The Committee thought (paragraph 9 of the report) that the only accommodation that the Victoria Technical Institute required was one room for meetings.

• Messrs. Munro, G. H. Stuart, Irwin and Thurston.

Up to that date, as has been seen, the orders of Government upon the question of the accommodation to be allowed to the Victoria Technical Institute had consisted in recording the Council's letter thanking Lord Connemara for his speech, and in recording the Council's report for 1890, in which it was stated (apparently gratuitously and without any authority) that a greater portion of the buildings would be made over to it. G.O., No. 597, Public, paragraph 2. referred the above report of the Committee to the Council of the Victoria Technical Institute for remarks and expressly informed them that the hopes held up to them in 1890 were expressed under circumstances which had entirely changed, that it was then anticipated that the Institute would be able to take a lead in developing technical education; and would have to teach and would so need class rooms as well as an office room and a lecture theatre, that it was now very evident that the Institute was not so strong as was expected and that an office room and a room for its books and the occasional use of its lecture theatre would probably meet all its requirements. In its letter printed in G.O., No. 975, Public, dated 2nd December 1894, the Council protested against this view of its capabilities and position, but made no definite statement of the accommodation which it required and the purposes to which it should be put. It was accordingly asked to furnish this information. In its reply read in G.O., No. 872, Public, dated 19th October 1895, the Council merely stated that it proposed to reserve the upper floor for the museum and library and the lower for meeting, office, record and store rooms, while three class rooms and the lecture hall took up the space downstairs. It then went on to discuss the policy of Government in regard to technical education. From this resumé it is evident that the statement made in paragraph 14 of the current that Government "promised in the most unequivocal manner to place at its (the Council's) disposal the new building commonly called the Technical Institute" is entirely inaccurate.

5. Paragraph 15 and onwards of the current deal once more with the policy of Government with regard to technical education. It seems sufficient to say in the present order that the question will be dealt with in the order disposing of the reorganization of the School of Arts.

6. In paragraph 26 of the current and at the end of paragraph 18, the Council says that Dr. Duncan's opinion that you must have a prosperous country in which commerce and industries of various kinds are carried on before you can develop a scheme of technical education amounts to the statement that no one should go into the water until he has learnt to swim. It has already been submitted in the note for orders on the reorganization of the School of Arts that Dr. Duncan is correct, and that no amount of technically educated youths will of themselves be able to attract capital to a country or establish industries there and that it is capital which encourages technical education and not technical education which encourages capital. Perhaps this may be noted in the Government Order. The statement at the close of paragraph 29 that Dr. Duncan has been converted to the views stated in the current is, I am assured by him, altogether inaccurate. The question referred to in paragraph 28 of entrusting technical instruction in the Presidency to the Institute's Council will also be dealt with in the order on the reorganization of the School of Arts and this may be stated in the Government Order.

Yes, it is useless to teach a man to swim when there is nothing to swim in.

J. G[ROSE].

To a really remarkable degree. Yes, he has told me so very positively, and he has shown me that his training was quite as much of a technical as of a literary nature.

H. W. B.

J. G.

With reference to the concluding remark in the current that Government is responsible for the ignorance imputed to the Council by the Director of Public Instruction inasmuch as it nominated certain of its members, it may be stated that the Government nominees in the Council are Messrs. Crole, Stuart and Irwin, Mr. Justice Best and M.R.Ry. Dhanakoti Mudaliyar. Mr. Stuart and Mr. Justice Best have apparently had nothing to do with the present controversy. Mr. Irwin, as has been shown, never saw the current before its issue. Both Messrs. Irwin and Stuart were members of the Committee which reported that the Council only required one room in the new buildings. Mr. Dhanakoti Mudaliyar was nominated by Government in consideration of his handsome contribution of Rs. 20,000 to the Council's funds and not in consideration of his ability. *He

* Dr. Duncan tells me he did not "initial" the draft.
J. G[ROSE].

also, in all probability, has had nothing to do with this controversy. There remains then Mr. Crole, and it is submitted that if Government was originally to blame for appointing him in spite of his ignorance on the subject of technical education, it has since then been doing its best to enlighten him upon the matter.

7. It is finally submitted that the wording of the order on this current should carefully avoid giving any impression that Government is opposed to the extension of technical education, or to the Council because it is pushing technical education. Such an impression would be most unfortunate, as there is probably little doubt that more will very shortly have to be done in this direction than has been accomplished or attempted hitherto, and it would moreover be erroneous, for Government is and has been anxious to do what it could for the cause and objects not to the Council's zeal in the matter, but to the methods of promoting technical education which it advocates. The order may therefore be as courteous and gentle as possible and may bring out this position.

8. The delay in sending up the current was due partly to a search (under Chief Secretary's orders) for further records, and partly to the press of other work. The note was originally written on 21st December 1895 but has now been revised.

W. FRANCIS.
28-1-96.

This current has been retained for some time as when it came up I recollected the matter of the memorandum written by Mr. Stuart. It was accordingly looked up and the Under Secretary's note had to be rewritten. As far as is known, the whole of the literature on the subject of the building has now been put up.

2. My recollection of matters is that in the beginning of 1889 there was frequent mention in Council—originating to the best of my belief with the then Governor—of the subject of having a free library in Madras. This led eventually to Mr. Stuart who was then an Under Secretary drawing up, at the request of Lord Connemara, the memorandum to be found in G.O., No. 513, Public, dated 13th June 1889. I am positive that up to then there was nothing said of the provision of any abiding place or class-rooms for the technical institute.

3. Sir H. E. Stokes' note on the back of Mr. Stuart's memorandum was the first mention of anything of the kind.

4. The matter was shelved for a time but was on several occasions incidentally talked about by the then Members of Government, but I have not the slightest recollection of anything being said about building a technical institute either separately or combined with a free library. The talk was confined to how to get a suitable building, where to put it if built, what it would cost and what books we should be able to get into it. This was the condition of matters when at the beginning of the Christmas holidays of 1889 I went away on leave to Australia and did not return until about the 8th of April 1890, when I found that the whole thing had been settled and the foundation stone laid. There is not a scrap on record to show how this all came about. As pointed out by the Under Secretary there

I acted as Chief Secretary then. The provision of a free library was the chief consideration before Government.
J. G.

is nothing between the order of June 1889 recording Mr. Stuart's memorandum and the Public Works Department order of May 1890 sanctioning an approximate estimate for the building. As the Government Architect's letter embodied in this quotes no orders, there can be no doubt that Mr. Irwin's statement (in his telephone message) is correct.

5. I was told on my return that the whole thing had been settled personally and that Lord Connemara was so very anxious to have a free library built, that he agreed to the suggestion of Sir H. Stokes, then President of the Council of the Institute, and of Mr. Grigg, then Director of Public Instruction, that buildings which could be used for the purposes of the Institute should be added.

6. There may be in the office of the Private Secretary some demi-official correspondence between the Governor and Honourable Members, but if there is I have never seen or heard anything of it. There seems no doubt that what was first contemplated was a free library alone and that the Institute was an afterthought.

7. The statement made in paragraph 3 of G.O., No. 872, Public, dated 19th October last, appears therefore correct.

8. What the Under Secretary says with regard to letter sent up by Mr. Adam not having been passed by all the members of the Council is true. Mr. Irwin personally told me that he never saw it before issue and that he totally disagreed with what it contained and Dr. Duncan told me that Mr. Phipps had said the same to him and was so angry at the way in which he had been treated that he was going to resign.

Dr. Duncan tells me that Sir S. Ramasami, Dhanakoti Mudaliyar and Krishnama Chari were not parties to the letter.
J. G[ROSE].

Whether any of the native members were in like case, I have not troubled myself to enquire.

9. The letter consists mainly of padding and what may be termed "gas". There is however in paragraph 8 a passage which purports to be a reproduction of a Government Order. This if not an absolutely intentional misquotation is certainly a most remarkable blunder.

10. The Government Order actually consists of the word "recorded" as the first paragraph and the portion marked in the margin of Mr. Adam's letter with red pencil. This paragraph 2 was written by Sir H. E. Stokes in his own hand thus showing that before anything beyond laying the foundation stone had been done, it was not the intention of Government to let the Victoria Institute take up the whole of the new building outside the Connemara Library.

11. The remainder * of the so-called Government Order will be found at page 4 of the report of the Institute under cover of G.O., No. 270, Edl., dated 13th April 1891. A perusal of this part of the report shows how this egregious blunder may have arisen, but it still seems singular that such able and presumably careful men as Messrs. Crole and Adam, who are no doubt the joint authors of this letter to Government, can have fallen into such an error. It does not, when the misquotation has been corrected, seem to be at all "clearly demonstrated that the position now taken up by the Government, &c.," and this might without chance of retort be pointed out.

12. It is not at all clear what Mr. Adam means by Government allowing the Council to live in a fool's paradise. He bases the remark, I presume, on the blundering misquotation made by him. The erection of either the free library or buildings for the Technical Institute was not decided upon until the beginning of 1890. Lord Connemara, when laying the foundation stone, said that the Institute would be allowed to occupy a certain portion only of the building. Government in May 1890 was still more explicit and told the Council plainly enough that Government reserved to itself the right to deal with the building in the future as it might think fit. Government took no notice of the reports for 1891 and 1892 for they were *vox et præterea nihil*. Mr. Adam has omitted to notice that the report for 1893 was not received until May 1895 by which time the "change which the Council deeply deplores" had made considerable progress. The concluding portion of paragraph 14 is rubbish. Government made no such promise as is alleged and the Council never troubled itself except in the most moderate degree about working matters.

13. It is submitted that Messrs. Crole and Adam have not made out a case. As for the argument stated about technical education there seem to be but two courses to follow, either to let loose Dr. Duncan, who is, I know, eager to fight, on Mr. Adam, or else to tell the Council that Government declines to discuss the point further. If Mr. Adam is allowed to argue he will do so until doomsday.

14. The Council may be told that the order on the reorganization of the School of Arts will contain the final presentment of Government on the technical education question. Mr. Adam has made in paragraph 21 of his letter another blunder. The report to which he alludes was not written by Dr. Duncan at all. Mr. Munro was the author of it.

This part of the reply was evidently written by Mr. Crole.
J. G. [ROSE].

15. I met Mr. Adam some time ago and he was good enough to tell me that he had completely overthrown Government and Dr. Duncan; he hardly appears to have done so.

16. It would be interesting to see who, if Mr. Adam had all the appointments in his hands, would constitute the Council of the institute.

J. F. PRICE.
5-2-96.

It is urged in this paper that it is a mistake to say that the primary object of the Connemara building was a free library and that the Technical Institute was a secondary consideration, but a careful examination of all the records connected with the matter shows conclusively that this was the case. It is also declared in the reply that Government gave the Council the exclusive right to the buildings east of the tower, but this is not so. All that Lord Connemara said at the laying of the foundation stone was that the Technical Institute was to be allowed to occupy a portion of the building, and this is all that was promised afterwards. The paragraph which is given at page 5 with asterisks after it, as if it were a part of the Order of Government to which asterisks are prefixed and which is alluded to in paragraph 9 as giving to the Institute the whole of the building east of the tower, was a statement of the belief of the Council made in the Council's report, not part of an Order of Government. It was undoubtedly expected when the Connemara buildings were founded that, although the cost of the buildings was to be borne entirely by the State, nothing being taken from Jubilee subscriptions, the Technical Institute would be allowed to occupy a greater portion of the buildings than it is found possible to assign to them now, but there was no gift of any specified part of the buildings, and all the proof that can be adduced of such a gift consists in assertions that have been made from time to time by the Council. When the buildings had been almost completed and the Council applied last year for leave to use it for certain classes, the amount and character of the available accommodation had to be carefully examined. The result is given in the order to which the Council replies, and that order is final.

2. Paragraph 15 and the rest of the letter deal with the policy Government should adopt with regard to technical education and Dr. Duncan's connection with it. With regard to this it is sufficient to say that the policy of Government in this matter is being carefully considered in connection with the proposed reorganization of the School of Arts, and that it has full confidence in Dr. Duncan as a supervisor of technical education—a confidence which is confirmed by the fact shown by the report of the Secondary Education Commission in 1895 that thinking men in England have now come to the conclusion that technical education should not be separated from literary education, but should be amalgamated with it and form a part of the general educational scheme.

3. It would be impossible to reply to paragraph 15 *et seq.* without going to great length and inviting an answer. The "warmth of personality" of which the Council complains with regard to Dr. Duncan glows in its reply. I am tolerably certain that the reply was not sanctioned by a majority of the Council, but we need say nothing about that.

J. G. [ROSE].
17-2-96.

H. W. B. LISS.
28-3-96.

Draft from Orders.

In G.O., No. 872, Public, dated 19th October 1895, His Excellency the Governor in Council expressed his inability to accede to the request of the Council of the Victoria Technical Institute that the whole of the new buildings in the Pantheon Road, Madras, should be placed at the disposal of the Council. It was pointed out that the calls on the available accommodation were already heavy, and that, at the present juncture, the Government could allot only one room for the use of the Council, besides permitting the small theatre of the Central Museum to be used for lectures. In addition, certain animadversions were made on the idea which the Council had conceived of its position and duties in relation to Government with regard to technical education.

2. The letter read above is the reply of the Council of the Institute. It has been held over for consideration with the correspondence relating to the reorganization of the School of Arts, and the latter part of the letter will be more conveniently dealt with in the orders of Government herewith issuing on that subject. The first half of the letter, however, dealing with the new buildings mentioned above may be separately disposed of.

3. In paragraph 3 of the Government Order of October 1895, the Government remarked that the primary object of the new buildings was a free library, the Technical Institute being a secondary consideration. This statement the Honorary Secretary of the Council has been instructed to impugn, and it has been thought fit to add that "Government promised in the most unequivocal manner to place at the disposal of the Council the new building, commonly called the Technical Institute".

4. It is necessary here to correct an impression that might arise from a hasty perusal of the Council's letter; that the Victoria Technical Institute carries in its title any reference to a building. The committee which gave it birth resolved on 29th October 1888 that the Institute should be incorporated on the general lines indicated in the memorandum of the Honorary Secretary, dated 18th July 1888; and Mr. Adam's memorandum, there referred to, contained this explicit declaration in paragraph 3: "In the name, the Victoria Technical Institute, the word Institute should be taken to signify, not a building, but the associated members."

5. The Institute was organized in March 1889, and after a year was able to announce in its first report (paragraph 5) that the Government proposed to provide accommodation for it "in connection with the new public library in the Museum compound." The first public announcement of the concession was made in a sufficiently-guarded manner by His Excellency Lord Connemara when laying the foundation stone of the new buildings. His Excellency spoke of adding "a building to the free public library, which, without parting with the property in that building, we can allot, at any rate for the present, to the Technical Institute . . . The Technical Institute will be allowed to occupy a certain portion only of this building."

6. This extract alone is sufficient to establish that the primary object of the new buildings was the public library; that the additions thereto were an afterthought; that only a certain portion of the additional building was to be allotted to the Technical Institute; and that the temporary character of this apportionment was carefully impressed on the Council.

7. On 2nd April 1890, the Secretary wrote to thank Government for the "ample accommodation" which, the Council had learnt from His Excellency's speech, was "to be provided and placed at the disposal of the Institute in the new building to be erected in the Pantheon Road." But it will have been observed that the accommodation had not been specified; and the Government Order on this letter of the Secretary was no more definite: "While the use of certain portions of the new buildings will be allowed to the Victoria Technical Institute, the property in the building will vest entirely and exclusively in the Government" (G.O., No. 313, Educational, dated 6th May 1890).

8. In paragraph 8 of his letter the Honorary Secretary has quoted this Government Order, but by a printer's error the quotation has been allowed to include a paragraph of the Council's report for 1890. This mistake was unfortunate, as it has been made to appear that Government had assented to the following allotment of accommodation which was the allotment anticipated by the Council:—

"The portion allotted to the Institute comprises a commodious lecture theatre, one wing of the general library for the reception of the technical library, and a number of class and office rooms."

9. Up to this point it appears that the Council has set forth no authority for its claim that the Government had in 1890 promised to allot to it "practically the whole of the building lying east of the central tower"; while it has been pointed out that Lord Connemara's words point to a more restricted occupation. At the same time, His Excellency in Council has never contended that the position he has taken up as to the destination of the buildings which it must be remembered have been erected entirely out of Provincial funds, has not differed from that adopted by Government in 1890; on the contrary, the divergence has been admitted and explained.

10. In G.O., No. 597, Public, dated 16th August 1894, the Council was informed that the hopes held out to it in 1890 were expressed under circumstances which had entirely changed. It had then been anticipated that the Institute would soon be so strengthened by private subscriptions that it would be able to take the lead in developing technical education, and that it would need class-rooms for its teaching. But the Committee, whose report on the utilization of the new buildings was then under consideration, having shown that the subscribers had fallen from 75 in 1888 to 4 in 1893, it was held to be clearly useless to expect the same field of activity and unnecessary to provide the same liberality of accommodation. In G.O., No. 975, Public, dated 22nd December 1894, the Council was given an opportunity of representing its requirements, and its views were fully considered by His Excellency in Council before the issue of the order of 19th October 1895. It was then decided that, for the Council's library, a room would be set apart in which the Council could meet, and that for lectures it would be permitted to use the small theatre in the Central Museum. This decision must be accepted as final.

H. TIEMENHEERE.

20-4-98.

These papers have been for the time dislinked from those relating to the School of Arts.

2. The late Mr. Grose passed the draft which is placed above (proof). The particular matter to which the draft relates is the allotment of rooms for the Victoria Technical Institute. The facts remain; and there would be no objection, so far merely as they are concerned, to issuing the draft even now. But the departure of Mr. Crole, and the circumstance that the "Council" is now all but non-existent, perhaps would make an order in some such terms as the following more suitable at this date:—

A. T. A[RUNDEL].
11-10-00.

"Recorded with the remark that the decision communicated in G.O., No. 872, Public, dated 19th October 1895, must be accepted as final."

3. Perhaps the Honourable Member will assent to the issue of such an order? The current has remained undisposed of for all but five years, and questions relating to the Institute, should any arise hereafter, will be more conveniently dealt with if this old dispute is laid at rest.

Secretary—

A. T. PRINGLE.

5-10-00.

It seems unnecessary to record reasons at length; they will remain recorded in the notes and not lost sight of. At this distance of time the letter seems hardly to deserve a detailed reply.

Honourable Member—

M. HAMMICK.

10-10-00.

The proposed disposal seems best in the circumstances.

A. T. A[RUNDEL].

11-10-00.

[To be stitched with G.O., No. 505, Educational, dated 15th October 1900.]

Telephonic message from the Secretary to Government, Public Works Department, to the Chief Secretary to Government, dated 23rd January 1896.

Mr. Irwin replies as follows to the questions regarding the preparation of plans for the Connemara Library and connected buildings, and as regards the inscription on the foundation stone, the matter was arranged verbally: At first Lord Connemara, Mr. Stokes and Mr. Garstin started the idea of a free library and when that was decided on I made the plan in consultation with Mr. Stokes. I think Mr. Grigg proposed to have a technical institute added and as soon as the question of the site was decided I arranged the plan very much as it is at present. The whole plan was arranged by me and altered as Mr. Stokes suggested.

The library was to have been much smaller as I designed it at first, but was finally planned as at present to suit Mr. Stokes' suggestion.

The institute I planned in accordance with the usual accommodation in such buildings are provided, a lecture room is always a portion of the accommodation.

I do not remember exactly about the inscription, but I know I submitted it for approval, it has a mistake notwithstanding.

The inscription is merely painted on the stone in gold letters and not engraved.

505
15-10-00

14 Nov. 95
from Madras mail

16

The Museum and Technical Education.

Last evening before a large audience in Pachaiyappa's Hall Mr. Edgar Thurston delivered an interesting address on "The Museum as an Aid to Technical Education." The Hon'ble Mr. C. S. Crole occupied the chair.

In introducing Mr. Thurston to the meeting the Chairman said:—

GENTLEMEN,—I do not propose to intervene one unnecessary second between you and Mr. Thurston. I look upon him as occupying a most enviable position in Madras. He comes into conflict with nobody and instructs every one.

Dr. Thurston then addressed the meeting as follows:—Looking at my Administration Report for 1894-95, in which I have to give an account of my stewardship during the year, I see that the Museum was visited by 368,282 visitors, a number which may be accepted as a proof that the institution is an eminently popular one. Analysing the figures I find that of the 368,282, 300,163 were unable to sign their names, i. e., they belonged to the uneducated classes who constitute 92.13 per cent. of the entire population of the Madras Presidency. Of those who were sufficiently educated to sign their names I find that 38,865 signed in Tamil, 13,803 in Telugu, 6,634 in English, and 812 in Hindustani, and the remainder in Canarese, Malayalam, Mahratta, Nagari, Guzerati, Bengali, Singhalese and Chinese, so that my Visitors' Book is, in its way, a polyglot curiosity. An interesting fact in connection with the subject of visitors is that the museum is, on the first Saturday of each month, closed to the general public and set apart, with female attendants in charge, for Hindu and Mahomedan Gosha ladies, who came during the year 1894-95 to the number of 2,254 as against 1,524 in the preceding year, and only 749 nine years ago. The museum is, therefore, I am glad to say taking its share in the promotion of female education and enlightenment. For the great mass of visitors who come under the heading of sightseers and regard the museum as a tamasha house and *Jadu Gahr* or "Stuffing College" it matters but little what exhibits are displayed or how they are displayed provided only that they are attractive. To the wholly uneducated classes the main delight of a visit to the museum is the recognition of familiar objects, which they shriek out by name. . . . You as students, with the examination demon constantly before you, are compelled to gather in knowledge mainly by appeals to the auditory centre, (the centre of hearing), through the medium of lectures. But in many cases, the appeal to your sense of hearing is, or should be, supplemented by a further appeal to the usual centre (the centre of sight) by means of diagrams, the black board, experiments, and specimens. Moreover, in elementary education what are known as object lessons, the principle of which depends on the proverb that 'to see is to know,' are resorted to with a view to investing the dry bones of lessons with some element of interest. The system of object lessons has, to my knowledge, made considerable strides in Madras within the last few years, and constant application is now made to the museum for the loan to schools of such varied objects as coral, birds' eggs, fishes, coal, iron, tin, birds, snakes, crocodiles, turtles, skulls, shells, &c. On one occasion a full grown stuffed bear was lent out to a pupil teacher to enable her to give an original object lesson at an examination. An application (which it was impossible to comply with) has even been made for the loan of a skeleton of a large water-horse. . . . I have a very vivid recollection of paying a visit some years ago to a school in London where at a class composed of tired and underfed children of the labouring classes was struggling to learn the rudiments of physiology and repeating over and over again in a musical sing-song the names of the bones of the upper extremity, the position of which had never been shown to them either in a diagram on the black board, or on the skeleton. Parrot knowledge acquired in this way, is in my eyes, an abomination, and it is a pitfall into which many of you students in India tumble headlong with the inevitable result that when you come up for examination and find yourselves face to face with questions which take you off the beaten path of the lecture or the text book, you are, to use an academic phrase, "plucked."

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And to this cause is due the large number of "failed F. A.'s" with whom every head of an office, Government or Commercial, is so familiar. . . . I take it that a museum such as that of Madras which, as compared with some of the great European and American Museums, is a small and modest institution has four primary functions to fulfil. (1) The exhibition of a systematically arranged series constituting an index or illustrated guide to the Natural History (including mineralogy) ethnology, arts, industries, economic resources &c., of Southern India; (2) to assist the cultivation of the power of observation; (3) to be an agency for the enlightenment of the people, and (4) to indirectly assist the cause of education by the exhibition of collections, teaching the most important points in the structure of the principal types of animal and plant life, and as an aid to pupils at Colleges or schools which are inadequately supplied with teaching museums, or the contents of which the lecturer can indent for illustrations to his lectures. (The lecturer here illustrated the last by reference to two examples taken from the Animal Kingdom viz (1) the skeleton of a big sea-perch with the various bones labelled, which had been brought from the Museum; (2) a stuffed specimen of a flying fox and its skeleton). . . . I fully endorse a recent suggestion that "what is wanted is an institution to afford on a small scale information which will help to develop the trades and industries of the Presidency, similar in object to the Imperial Institute in London which was founded to foster and develop the Commercial and Industrial relations of the whole British Empire." I do assure you, gentlemen, that I have not been blind for ten years to the importance of developing the Museum on these lines, and that I have, clearly mapped out in my head, a scheme which will be put into action now that increased space is available for the development of a section, already existing in a rudimentary state, devoted to the illustration of the economic resources and industries of Southern India and the establishment of what is known as a Trade Museum, but what I would rather call an Economic and Industrial Museum. . . . I do not for a moment claim on behalf of an economic and industrial museum that it can do much for industries which are already firmly established, or that I could through its medium teach our leading merchants or planters much which would bring more grist to the mill in connection with large industries such as cotton, indigo, tobacco, coffee, tea &c. Such a museum should however possess, with a view to directing general attention to them, complete collections illustrating each product in raw and manufactured state and indicate the extent to which and condition under which they are produced and their commercial value. But in addition to the major products which are firmly established in the market there are minor products which are capable of development and becoming a source of more or less profit; and to these it is the duty of the museum to attract attention. (Here the lecturer exhibited a bundle of fibre of the American Aloe and pointed out that there was a good field for profitable trade in that article.) Turning now to the mineral gallery of the museum and the lessons to be learnt from it. The system adopted in its arrangement is the exhibition of an index series, intended to serve as a general introduction to the study of minerals, while the bulk of the gallery is devoted to an exhaustive collection of the minerals and rocks of Southern India (the Madras Presidency, Mysore, and Hyderabad). I notice, as a marked sign of the increasing interest in mineral enterprise, that whereas, a few years ago, I rarely received any references relating to minerals, I am now constantly being consulted by those engaged in commercial undertakings, in connection with the economic contents of the mineral gallery or with the identification of minerals sent to me for report. Many there are whose vain hopes I have shattered by a cold-blooded statement that a glistening mineral, which they have sent to me as gold, is "iron-pyrites of no commercial value." On one occasion a specimen was sent to me

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as a meteorite, which had fallen into a distinguished native gentleman's garden, but I had the honour to report that it was a brick." The development of the mineral resources is, to my mind, one of the most conspicuous features of the last decade, so far as Southern India is concerned. In the first half of the present century large sums of money were lost in mining for copper in the Nellore District, and the beryl, or aqua marine, mines of Coimbatore were worked on contract with Government. Old workings, with excavated galleries, at Jungunrazpalli in the Cuddapah District, indicate that extensive mining for galena (the most important ore of lead) was carried on at some former time. The Singareni coal fields are, at the present day, turning out large quantities of coal annually, and coal has been found on a smaller scale, on the Godavery river. The Mysore gold mines have now an established position as gold producers. The Gor-do-norr diamond, which was picked up some years ago by a ryot at Vajrakarur, in the Anantapur District, and weighed originally 67½ carats, was sold to the Nizam for Rs. 1,65,000. Graphite (plumbago or blacklead), which is used for making lead pencils, polishing stoves, reducing the friction of machinery, and making crucibles, is being worked, on a commercial scale, in Travancore, and manganese ore in the Vizagapatam District. Attention has of late been directed to the deposits of corundum (which, when red, is the true ruby, and, when blue, the sapphire) in the Madras Presidency and Mysore, as a valuable article of export, on account of its possible use for the manufacture of aluminium. Mica (which is commonly known as talc), from the Inikurti mine in the Nellore District, has yielded a considerable profit to the enterprising gentleman who worked it, and there is no reason why still larger quantities of this mineral should not be found in the Nellore District, the Wynad, Mysore, Travancore, and other localities. A rich deposit of phosphatic nodules has been brought to light in the Trichinopoly district, and their value as a fertiliser to crops is being practically tested by planters and manufacturers of artificial manures. Of the iron ore of Southern India (magnetite, hematite, limonite, goëthite, and chromite), magnetite is by far the most abundant. The iron-ores of Southern India are practically inexhaustible in amount, and the scarcity of fuel is the principal—perhaps the only—drawback to the successful development of the iron ores in various districts of the Madras Presidency. The iron industry, which was formerly so extensive, has died out on account of the increasing scarcity of fuel and the importation of cheap iron from England. In several parts of the country we still find slag heaps standing in evidence of a formerly flourishing industry, which is hundreds of years old. Steatite, or soapstone, is widely distributed throughout Southern India, and is largely employed in the manufacture of domestic utensils. Messrs. Sugg and Co., it may be noted, reported favourably on a specimen from Maddawaram in the Kurnool District, from which good gas-burner tops were made. Clays, suitable for the manufacture of pottery are also widely distributed throughout Southern India, but a more accurate knowledge of the physico-chemical composition of these clays is required as the first step towards their employment for commercial purposes, e.g. the manufacture of crockery. Quartz, the most common of minerals, is represented by rock-crystal, smoky quartz, quartz cat's eye (of which the museum possesses fine specimens from the Nallamallai hills beyond Cuddapah), and "Vallam stones" which are found at Vallam in the Tanjore District, collected by lapidaries, and cut into various useful and ornamental articles. The museum possesses specimens, from the Madura District, of the clear and pure variety of calcite (carbonate of calcium) known as Iceland spar or double refracting spar, which is largely used in optical instruments for affording polarised light. Asbestos, which is unaffected by heat, and used for lining iron safes, as a packing for steam pipes and boilers, and in gas stoves, is represented in the museum collection from the Salem District, the Vellore bazaar, and Mysore; and selenite, or gypsum, which, when heated, falls to a powder as plaster of Paris, from the Anantapur, North Arcot, Trichinopoly, and Madura Districts, Mysore and Hyderabad. Asbestos and gypsum are both valuable economic minerals, concerning the abundance and distribution of which more precise information than we at present possess is required. Enough has been said in the sketch, brief as it is, to show how rich are the mineral resources of Southern India. I notice that the Bengal Government has recently arranged with several mines to enable students in the mining class at the Sibpur Engineering College, Calcutta, to gain practical experience, and have undertaken to pay a premium of Rs. 500 for each boy who is received as an apprentice in the mines. This is a distinct advance in the right direction, and I should, I confess, like to see our Madras students of geology compelled, as a part of their curriculum, to conduct and witness the carrying out of prospecting and mining operations, and equipped with sound practical knowledge of field work, and fitted to direct the work of quarrying, boring, digging, and searching for, winning, and working minerals. . . . The Madras Museum has quite recently become a centre for the study of Anthropology (a Bureau of Anthropology) and I had the pleasure of recording, in my last Administration Report, that an entirely new departure has been made by the commencement of a detailed anthropological survey of the races, castes and tribes which inhabit Southern India. This survey includes not merely the record of anthropometric measurements, but also detailed record of descriptive characters (skin, eyes, hair, face, etc.), personal adornment, clothing, tattooing, manners and customs, religion, ceremonial observances, marriage customs, games, arts, industries, etc. Further photographs are taken, and collections of jewellery, clothing, weapons, domestic utensils, models of dwelling huts, etc., acquired and exhibited in the museum, which will thus become, in course of time, a guide to the anthropology of the native inhabitants of Southern India, illustrated by objects and lectures.

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In conclusion Mr. Thurston said :—

I have, in a rapid summary, given you an outline sketch of the scope and contents of the institution which it is my pleasure and privilege to direct, and which I jealously guard as being, to a great extent, a child of my own creation. It only remains to thank you, gentlemen, for affording me an opportunity of giving public expression to my views, and to thank you, Mr. Chairman, for presiding over a lecture which has, to some extent, poached on your preserves of technical education which I only yesterday saw ingenuously defined as "the fine arts, the drawing, the painting, the carpet weaving, the making statues, and last, but not least, the type-writing."

The Hon'ble Mr. CROLE said he was only voicing the feeling of everybody there when he said that their best thanks were due to Mr. Thurston for his very interesting lecture. His object in having consented to preside over that meeting was to continue to hammer away on the subject of technical education. About a year ago he had addressed a meeting in that Hall on the subject of technical education. Shortly afterwards he saw notices in the press and he took another opportunity of being present to explain away his supposed hostility to higher education. He had explained that being himself a specimen of higher education it was impossible that he could run down higher education. Technical education might be as much advanced as literary education and the difference in phrase was very objectionable and invidious in regard to the words "technical education." They had also technical education which was "higher." He had experienced very great difficulty in regard to the work of technical education and he was very sorry that the powers that be were utterly unable to understand what he meant when he spoke of technical education, and he had no words by means of which he could teach them. It was very difficult to impress upon those who had the future of technical education in their hands, what was required to be done in this country in that matter. He thought that one great reason why they were not able to get what he considered a fair hearing for the claims of technical education in this country was that the destinies of the Educational Department were under persons who had been educated at the Universities. In the days when he was young the learning of Latin, Greek, Moral Philosophy, &c., was supposed to make a man a gentleman. They were in those days accustomed to that narrow groove, and it was very difficult to shake oneself clear of that prejudice and to go with the times. He had tried to overcome the prejudice of those persons who had the destinies of technical education in their hands. In regard to the museum, Mr. Thurston had very appropriately associated it in the most intimate way with technical education. Already it was a treasure house of exhibits in that direction. Not only was it a zoological, botanical, and historical exhibition, but in reference to economics it had already a large collection of specimens which were raising expectations in regard to the resources of this country. What was wanted was an extension of that museum so as to make it a truly industrial or economical museum. When that was done a great step would have been taken towards the enlightenment of the community and the material advancement of this country. He hoped it would be done. It was most uphill work that they had to do in trying to get anything done in regard to technical education. Every country had to work out its salvation for itself. What would suit England would not suit this country. There was, therefore, no use waiting for experiences elsewhere to undertake a scheme which was positively necessary to prevent the country from bankruptcy and ruin. It behoved everybody to lend a hand to divert capital into industrial enterprises and to save the country from the ruin that was impending owing to the whole of the exports from the country being raw produce. Of course people were at liberty to ask how technical education was going to do very much for the country, and as for proof that what might be good for advanced countries like America, Germany and Great Britain would do for India. He was sorry to say that in the Legislative Council he had had a similar reply given him. He wished to give an object lesson that evening. Exports in iron from England had been growing less and less every year, and the contracts were going to Germany for rails and materials. The British Iron Trade Association seeing this decline had at last sent a deputation of its members over to Germany and Belgium to investigate into the cause of this fall in the export of iron. After investigation

tion the deputation reported as follows :—
An examination of the statistics of the trade makes it clear that Germany has of late years made much greater progress than our own country. A very few figures will make this apparent. In 1880 Great Britain produced 7,749,000 tons and Germany 2,729,000 tons of pig iron. But in 1894 Great Britain only produced about 7,200,000 tons, while Germany produced 5,382,000 tons. In other words the British production had declined by nearly half a million tons, whereas the production of Germany had about doubled. This in itself is not necessarily a danger to the United Kingdom, because the iron output in Germany like that of Italy, Austria-Hungary, and the United States, might conceivably be almost wholly consumed at home. But when we come to compare the returns and exports we find that this is very far from being the case. Nearly one half of the total production of iron in Germany is exported, and the exports have been increasing of late years at a rate that would soon leave Germany by far the most important iron-exporting country in the world. To go no further back than 1880, we find that in that year the total iron exports of Germany only amounted to 1,301,000 tons, whereas in 1894 the exports had risen to 2,003,000 tons. From the United Kingdom, on the other hand, the iron exports amounted in 1880 to 2,883,000 tons, and in 1894 to considerably less than that figure. In other words, Germany has made enormous advances, while Great Britain has fallen behind. This was a truly alarming condition of things, and one which the British Iron Trade Association did well to face as they have done. The deputation came back to those who had sent them and reported that the reason for the fall in iron exports was that the British capitalists had stuck to the old ways of trade, whereas the Germans had resorted to improved and scientific ways. The deputation also pointed out that in every town in Germany, in every productive centre, boys were trained and sent to technical high schools, and that in Berlin itself there was a Royal Technical High School which was unapproached by any similar educational institution in England. The deputation deliberately reported to the Association that the only cause for the decline in the British production of iron was that in Germany technical education had been imported into the production of iron, and in England it had not yet been. He had not come across any more convincing proof of honestly looking such questions in the face than the one alluded to. There was one great industry in this country, and he was blamed for pressing that subject unduly. The great industry at present was agriculture. At this moment except the College at Saidapet which had not produced the faintest impression upon agriculturists in Southern India there was not a single institution in the whole Presidency which taught the sons of the ryots the proper way of farming. There was not a single farm school. When he said that he had established his position that in regard to the most important industry in this country the Government had yet to move. He would make this statement, viz that unless Government itself moved, the movement for technical education was doomed; and real advancement of the country would be indefinitely postponed and financial ruin would stare it in the face. (Hear Hear) Next he would deal with the question of the influence of the Museum on Female Education. There were three subjects which he had taken up and in which he hoped something would be done before he left the country. They were Technical Education, Mahomedan Education and Female Education. It was a strange thing that there was deliberate objection for some reason or other to the education of females in this country, and it was equally extraordinary that if they went to the museum they would find a very large proportion of the visitors were women and young girls. It was impossible to believe that those could go away from the museum without having been educationally benefited in the most profound degree. The Museum had therefore a right to all their sympathy. He mentioned the subject then, because the question of female education had struck him to be rather halting at the present moment. He had heard an influential native friend of his say that females had enough to do with household duties and that education was not necessary for them. Another native gentleman had asked him why Englishmen were bothering about Female Education. He had replied that the fact of the matter was that the Congress people were claiming the rights following upon Western education; their language was western, their thoughts and conversation were western, and how therefore could they expect that they would ever be placed by the British Government in the positions for which they aspired, and for which they were in many respects very well fitted unless they adopted the western sympathy for female education. He had also been told that the Hindus could never persuade people at home that they were not a barbarian race as long as they kept their females in an ignorant condition. Europeans could never treat natives as their equals till the importance of female education was recognised by them. He heard that a book called "The Old and the New" had been bought out by a Mr. W.W. Hunter. It was the most interesting book he had ever read.

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Sir William
in that book touched upon this very question of the British Government not only here but in England having neglected to educate each member of the community in accordance with his business in life, and having educated only a clerical band. Sir William Hunter had also pointed out that the consequence of such a course was that both in England and in India there was growing up a disaffected, irreligious and undisciplined youth which would bring both countries into dispute unless some reform was introduced. It was waste of time to give a young man who was not going to be a professor in the University, an education which would only be fit for a College don or a peer of the realm. It was absolutely necessary that such a man should be instructed in those branches of science which would be useful to him in his business in life. The Chairman concluded his interesting address by saying that he took that opportunity of saying what he had to say on these important subjects, as he would have no opportunity for another year to touch upon them. (Cheers.)
With a vote of thanks to the lecturer and the Chairman the proceedings terminated.

D. O.

OFFICE OF THE DIRECTOR OF
PUBLIC INSTRUCTION,
Madras, *February* 1896.

No.

From

~~THE HONORABLE MR. D. DUNCAN, M.A., D.Sc.,~~

~~DIRECTOR OF PUBLIC INSTRUCTION,~~

~~Madras,~~

To

~~THE HONORABLE THE CHIEF SECRETARY TO GOVERNMENT,~~

~~FORT ST. GEORGE.~~

CHIEF SECRETARY
14 FEB. 1896
GOVERNMENT OF MADRAS

Sir,

My dear Sir

I do not know whether Government intends to refer to me for remarks the recent polemic which purports to come from the Council of the Victoria Technical Institute, but which comes really from only three members of that body and which some of the members never saw until after it was published. Probably Government will not think it worth while to continue a controversy on a matter about which it has already come to a decision. But there is a point personal to me about which Government has not had any means of knowing the facts, and I think it is but right that they should be known.

2. The writer of the letter under reference is a master in the coining of phrases and propositions which look as if they contained a world of meaning, but which are in reality nothing but words: phrases which convey no definite idea to the mind of the reader, and propositions which, while purporting to rest on wide observation and careful generalization, are, when examined, found to be unsupported by facts.

3. An example of this reckless readiness to pervert the public mind by fine sounding but ill-considered and unsupported assertions is when the Council speaks of me as "a Director steeped to the lips in University traditions of the purely literary kind", and then argues from this ignorance of non-literary subjects that I am not competent to control industrial and technical education. I wonder what trouble the Council took to ascertain what my training and predilections were! Let me once for all inform Government. The curriculum for the degree of M.A. in the Edinburgh University, in which I graduated, comprised Mathematics, Natural Philosophy and Experimental Physics. After completion

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of my course in Edinburgh, I spent a session in Aberdeen where I took a course in Theoretical Chemistry, in Natural Science (including Geology, Mineralogy & Zoology), and in Physiology. I then went to Berlin, where I had a course in Botany under Professor Braun, one of the leading botanists in Europe; a course in Organic Chemistry (Theoretical) under Professor Hoffmann, one of the foremost organic Chemists of his day; and a course of ^(theoretical and practical) ~~theoretical and practical~~ Inorganic Chemistry at the Bergakademie, an institution something like the London School of Mines. Government will note that the Sciences mentioned above are those which lie at the basis of all technical instruction; and it was my business as a professor in the Presidency College for over 20 years to keep up more or less my acquaintance with them and with their practical applications. So very wide of the mark is the Council of the Victoria Technical Institute in speaking of me as steeped to the lips in University traditions of the purely literary kind, that my training and predilections have all along been on the non-literary side. But it did not suit the purpose of the write

of the Council's letter to ask himself whether there was the smallest iota of evidence to support his statement. Enough for him that the statement had a fine sound, that it was likely to take the popular fancy, and that it was an effective controversial weapon.

4. The suggestion in the Council's letter that the control of technical education should be separated from the control of general education is most inopportune, coming as it does within a week or two of the receipt of the Report of the Royal Commission on Secondary Education in England. One of the recommendations of that Commission is that the Science and Art Department, which has hitherto had the practical control of technical education, should be amalgamated with the Education Department. This recommendation is the outcome of the growth of public opinion at home for years past. The Madras Presidency is surely not so benighted as to approve and adopt as the latest gospel the discarded policy of the authorities at home.

Truly yours

D. D. D.

Edl. Dept.

C. 1454 of 1895.

Order (Misc.) No. 505 d/15/10-00

Recorded, with the remark that the decision communicated in G. O. No. 872 Public, 19th Oct. 1895, must be accepted as final.

M. P.

12.10.1895

To the Secretary, Victoria Technical Institute, Madras

16/10

24/10

17/10

[The type of the old order may (if still standing) be broken up, but the copy in the file should be kept carefully.]

M. P.

12.10.1895

It is to be communicated to the right parties.

submitted that it is unnecessary to communicate it to anybody except the Honorary Secretary.

P. H. 15/10/00

When given for copying _____
 When copied _____ } 190
 When examined _____
 When signed _____

AD AGAIN G.O., No. _____, DATED
 190 .

PRESENT No.

ENCLOSURES TO G. No.

ORDER OF GOVERNMENT

LETTER OF GOVERNMENT.

STATEMENT WITH DITTO.

APERS NOT FILED UP, BEING MEANT FOR DESPATCH
 IN ORIGINAL.

N.B.—
 A = Copy in full.
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