

Government of Madras.

Public (178) Department.

714-13

ORDINARY PRINTED.

G.O., No. 714-15
DATED 8-7-98.

[Despatch Abstra

[Signature]

[Signature]

to pupils of the Medical College
 : the very highest refinements
 of science. It is enough if
 we can profess to turn out
 good general practitioners.
 & power of Govt. is limited
 by its resources. If the
 graduates of the College want
 higher training than they
 can get there, they must go
 elsewhere. I do not think
 we should encourage the professors
 to make more than impart the
 results of the latest bacteri-
 ological & give some general
 instruction in the methods of
 research. To do more is
 & the present to spend
 money uneconomically. How
 many of the students when
 they become medical men
 will have the means or the time or the
 opportunity of starting a
 bacteriological laboratory & devoting
 themselves to that study?
 The Surgeon General & ^{the Hygiene Professor} ~~the Hygiene Professor~~
 also for teaching Bacteriology
 & interests of science, pure

tion

$\frac{3}{714-15}$

* See para. 3 of 1st letter
 of 30th March (C-20 1180)

which we must leave the
 future to accept
 8. The Committee on the
 Med. Coll. was apparently satis-
 fied that the Prof. of Hygiene
 could take a proportion of beds
 if in the Hospital provided he
 was limited to teaching the
 students all that they required
 theoretically & practically, and
 was not burdened with
 "Sanitary research, clinical, mechanical
 & biological," ~~in the~~ ^{the care of} with a well
 equipped laboratory. I may
 add however that it is not
 quite clear how far the duties
 connected with the instruction
 of the Sanitary Inspectors
 in hygiene theoretical & practical
 would also interfere with the
 Professor's Hospital duties. But
 I do not think this I do so
 very seriously. A reduction of
 5 or 10 beds would probably
 meet the case.
 9. Of course ~~the scientific~~
 the scientific enthusiasts who
 like to be relieved of all
~~other~~ ^{other} ~~work~~ ^{work} ~~in the~~ ^{in the}

conclusion must be that the demand
of the Med. Coll. do not justify their
being set free at the cost of the State.
The Sanitary Inspectors or health
officers are not taught Bact? &
there is no proposal that they should
be. They do not possibly understand
it.

10. The proposal to have a pure Bact.
lab was negatived in 1890. 3 Aug. 95 H. 162 H. 162.

1. (3) The third aspect of the case
the provision for the practical
Bact. investigations required by
the Sanitary Dept?

We have no information
to the extent of the requirements
of the Dept? in this direction. At the
present moment I can only
think of the Bact. examns. of
water, & there may also be some
ecine problems. Any general
investigations, we may take it as
settled, must be referred to the
lab. How far Bact?
help Sanitation practically is
very clear. What it can do is to
obtain extent must be freely
admitted to Bact? examns. to be

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concerned with ~~the~~ ^{the} ~~medical~~ ^{medical} & surgical problems.
The results achieved ^{are} no doubt intimately
bound up with sanitation. In
certain cases they have led to the
enunciation of sanitary rules,
which do not however need to
be enforced by ~~the~~ repeated Bact.
examinations. In other cases such
analyses may be necessary. But
in how many cases can Bact.
examns. yet be depended on to
give assured answers to
sanitary questions? In how many
cases are such examns. essential?
In other words, what a moment
of work may fairly be required
of a Bact. expert by the San. Dept.
in connection with everyday local
needs - i.e. apart from general or
theoretical researches. Until we
have some statistical information
on this subject we cannot with
any confidence decide what pro-
vision should be made for the
San. Commr's. demands. A con-
siderable number of existing sanitary
difficulties do not need ^{the help of} Bact. ex-
perts for their solution. E.g. it is

imperfluous to submit the water
to a village well or tank to such
examination if it is patent to every
eye that the village sewage per-
meates into it.

12. The San. Commr's remarks at
pp 135-141 of the pamphlet (May 95
Trans. of the S. I. Br. of the B. M. Assoc.)
are instructive. (I had written
to remarks above, before I
came across this)

3. When then we obtain some
estimate of the probable annual
expenditure & an idea of the
nature of the practical ex-
periments contemplated, we may then see 1st whether
they can be undertaken by the Chemical
Dept (he has never been consulted)
2^d whether the Prof. of Hygiene
must find time to do the work, with
necessary, with what reduction in
no. of his beds; or possibly the
work may be found divisible but there
are no officers

4. We cannot for the present
entertain any proposal for the
employment of a special officer as
in O. R. T. Nov.

x It will probably be made to
look as formidable as possible

x He has the ability & the
laboratory equipment vide
para 4 of S. G. letter of 30th Mar

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seems to recognize this - see his
letter of the 10th Feb? (Cont. 603)

15. Besides the ^{routine} investigations
for the San. Dept. there will probably
be also some routine work
for the Veterinary Dept. - vide
p 123 of the pamphlet already cited
in G.O. 2/8/95 no 662.

16. But even with this
I doubt if the routine work for both
the San. & the Vet. Depts. would exceed
more than a few isolated cases in
the year. If so, and the Professor
is to confine himself to imparting
to the Med. Sch. students merely a
~~general~~ ^{practical} acquaintance with the
results & methods of Bacteriology,
I am inclined to think he can
find time to work out the cases
sent to him in addition to his
present duties. If Govt. can
however afford to relieve him
of "beds", all the better; for while
we can limit the necessary
work, there is ~~an~~ ample scope
for extending it, as there are
doubtless investigations which on the
whole it will be more satisfactory
cases.

7 In his letter in C.O. 2/8/95

662

... a ...
... training of young officers
... the ... services. But
... may now be carried out
... under the proposals
... of India - vide ...
... 12 Jan de 31 Oct 95 a letter
... 339
... same date.

* C.O. 7/11/95 no 990.
* C.O. 22/1/96 no 106

As to the orders on these currents
... may all I think be read in
... same Prop.

C.O. no 508 & 603 contain the
... in reply to the Govt. request
... any remarks of the S.G. & the S.C.
... the subject of the G.O. J. Resale
... 31 Oct last relative to the establ.

the Agra laboratory & the provision
... made there not only for research
... for training med. officers in bact.
... file in C.O. no 1080 the S.G. in reporting
... the noncompliance with the request
... Bangalore San. D.D. to make a
... exam^s of water sent to the
... tab. ...

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his arguments for the provision
of a Bacteriologist.

19. With regard to the Bangalore
case, I understand that Dr. Han
Fitzel was away on furlough, & I
am told (tho I do not know
with what truth) that probably
another answer wd have
been sent if he had been
here. We know however
from the remarks of the
Prof. of Hygiene quoted in
para. 4 of the S.G.'s report of
the 30th March that that Prof.
had both the ability & the
laboratory equipment; & it is
very unsatisfactory that the
Bangalore reference was
treated as it was. Even if
the Hygiene Prof. had no time
to undertake such exams
as a regular routine duty,
he could easily find time
for an isolated case. But
perhaps he was never
asked.

20 The general orders on all
the ...

7 In his letter in Gov. 2/1/95

662

to the Govt. of India - vide letter
of 12 Jan. 1905 & letter
of 339 same date.

Gov. 2/1/95 no 990.
Gov. 22/1/96 no 106

As to the orders on these current
by may all I think be read in
the same Procp.

Cmts no 508 & 603 contain the
resp^{ce} in reply to the Govt. request
or any remarks of the S.G. & the S.C.
on the subject of the G. of I. Resoln
of 31st Oct. last relative to the establ^t
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at for training med. officers in bact^{ry}
like in C^t no 1180 the S.G. in reporting
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to Bangalore San. Bd. to make a
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the 30th March that that Prof.
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to undertake such exam^s
as a regular routine duty,
he could easily find time
for an isolated case. But
perhaps he was never
asked.

20 The general orders on all
the current matters.

embody the following points
 (1) that the Govt while recognizing
 the importance of Bacteriology
 & such investigations ~~regards~~
 as already intimated in G.O. 2/8/95 no. 682,
 a desirable, having regard to
 financial conditions, to provide
 special Bact. in the S.P.
 It is glad to find that
 the issue of that is
 at the G.O. is establishing
 a Imperial Lab. at Agara
 to which ~~not~~ Bact. research
 will be prosecuted into problems
 arising in any part of
 India, that which also
 our medical officers, who
 head go through a course at
 Netley, will be able, when
 services can be spared,
 to prosecute their studies
 in that direction further.
 By the establishment of this
 laboratory many of the more
 pressing needs of this P.
 will be satisfied.

(2) That so far as the Med.
 H. is concerned the Govt does
 not consider that the ~~medical~~

Bacteriology

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H.M. & arc.

considers that it is sufficient
 if the Professor's course ^{for the present} is restricted
 to what the Comtee of 1892 regarded
 as the actual requirements
 of the students - ^{including both the} ~~whether~~ medical
 & sanitary classes.

(3) That as to providing for
 the conduct of routine investigations
 for the sanitary dept, further
 info is required before coming
 to a decision. The info reqd.
 being on the lines indicated in
 paras 11 & 13 supra. The Govt
 will then consider whether the
 work shd. in whole or in part devolve
 on the Chem. Pnt. or on the Dept.
 of Hygiene. & if the latter whether
 it is necessary to relieve him of
 any of his Hospital work or of
 to what extent.

(4) With regard to the inquiry
 of the Govt of India about the
 Bangalore case, & the S.P. report
 thereon I think Govt. may express
 regret that in an isolated
 reference of this kind, the issue
 was not undertaken.

Bacteriology

of Hygiene who admittedly
has both the ability & the equip-
ment. It is not however clear
at any reference was
made to him.

A reply has however been to the
f. I. & we may explain that
Permanent Chem. Sect. was absent
the time of the reference; & that
apparently the matter no application
made to the Dept of Hygiene
- has both the ability & the
equipment; that the conduct
such routine investigations is
& under the control of the
f. I. & finally with reference
to G. I. Results of 30/10/95
to this Govt is ^{ready} prepared, when
if med. ops can be spared,
spare them to go for
work in the ^{general} laboratory.

S/S
12/11/96

H. M. Perce.

S/S

20/11/96

30/11/96

30/11/96

Perce

CURRENT No. 214

Home Department.

(Medl)

Simla, the

16th June 1896

8/714-15 No. 511.

Subject.

Enquiring whether the Govt of Madras
could suggest means whereby a bacterio-
logical examination of water obtained
from suspected polluted sources can be
carried out in the Madras Presidency

CHIEF SECRETARY
22 JUN. 1896
GOVERNMENT OF MADRAS

SIR,

I AM directed to invite attention to the
communication marginally noted,* and to
request ^{the favour of} an early reply thereto.

I have the honour to be,

SIR,

Your most obedient Servant,

Coaru

Under-Secretary to the Govt. of India.

CURRENT No. 502

Public Dept.

from the Govt of India
Home (Medl.)

No. 502

Recd 16
22 } June '96
23 }

Subject

Inviting attention to the
communication re bacteriological
amination of water and request
an early reply thereto.

Pulse 714-5878-7-96

S. A. with whom correspondence
is at present.

Butler June 16

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"a... and health,
vicars;

3) for practical bactl. inv
required by the Sanitar
exp

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3. As to original research
we must treat to the In
Institute or Laboratory
Established or also
by the Govt. - vide
No 12 San. in 1909 Rev

Para. 7 of 1929
indicates the fact that
the of purest the labor
local inter
investigations
is may be under
for all purposes of a
research we may the

upon it. The Surgeon
Medical College & the San. San. are
naturally anxious to have an
institute in the P. but our
is still not seen to it. Nor
is there any ^{overriding} reason for a
local establishment. Most of the
research problems are common
all India, and it would only
save a great deal of the work

the investigation of unsolved
problems of disease among
men & animals

* no reply is due from us about
the proposals. The loc. govts concerned
in para. 11 are the Govts. of the Punjab

to go on much longer without a
Bacteriologist, but I do not see how
we can get one & keep him in
Bacteriology without going to
the Sec. of State for one, as a
Prof. in the Med. College, & filling
him in addition to his other
responsibilities to the government of
the Medical Dept. This will
involve expense but we cannot
face it. The matter, however,
must not be decided just yet.
Let us first get the information
indicated in para 107 to
know, showing what the Bacteriologist
will have to do for
the Sanitary Dept. & also
as certain from the S. S. what
examinations & (excluding
original research) he will
have to make for Medical &
Sanitary purposes.

22/7/96

1. I think we should reply to the Govt. & take as
suggested in the concluding para. of Mr. F. H. H. H.
of 1st. 4. 96.

The information described at A. in the Govt.

at 26 should be considered

at of the S. Genl., who would
be considered with his
reply to the Hon. Sec.
17th February, this letter
reads: "The report

three currents in the
the S. Genl's report
as Bacteriologist
enclosing a memorandum

in. Comd. ed
13 for doing the
the S. Genl. in, best
has received
certain points
as to the man
set for the Secretary
is the S. Genl's report
the complaint of
ologist Benjamin

Bangalore water supply.

2. The demand for a Bacteriologist
presents itself under three aspects
according as he is wanted -
for original bacteriological
research,
for teaching the science in

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Bacteriology

FOR ORDERS.

H. E. THE GOVERNOR.

THE HONBLE MR. H. W. BLISS, C.I.E.

THE HONBLE MR. J. GROSE, C.I.E.

Draft of letter to Govt.
for approval (it is
being written)

In 70-714-15
Sub. 8, 8-7-96

10. B. - Not to be taken into
account in the estimate
are in the estimate

Public DEPARTMENT.

C. No.

FOR ORDERS.

*A draft of a letter to the G. & J. is
is submitted for approval.*

*There has been great delay on the part
of the G. & J. in sending up the
draft and he has been duly called
upon to do so.*

*The draft was passed by me on the
afternoon of the 3rd inst. but in
consequence of some remarks
made by me, returned on the
evening of the 4th inst. (Sahib).*

h²

6/7/96

No. 714, PUBLIC, 8TH JULY 1896.

GOVERNMENT OF MADRAS.

PUBLIC DEPARTMENT.

Read—again the following papers:—

G.O., Nos. 511, 512, Public, dated 13th July 1894.

ABSTRACT.—Addressing the Government of India on the proposal to create an Indian Chemical department for the whole of India.

G.O., No. 662, Public, dated 3rd August 1895.

Read—the following letter from Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government (through the Director of Public Instruction), dated Ootacamund, 13th June 1895, No. Tour—278:—

I have the honour to forward, for the information of Government, the accompanying report of a discussion at a meeting of the South India Branch British Medical Association on the 4th April last. The necessity of the appointment of a trained Bacteriologist and of the establishment of Bacteriological Laboratory in Southern India are very fully dealt with at length in these papers.

2. There are, however, some points which I wish to emphasise—

(a) That the Medical College at Madras, of which we are all justly proud and which Government has always dealt liberally with, is now seriously behind the time in its want of ability to impart instruction on the subject of Bacteriology to its students.

(b) A trained Bacteriologist would by his work elucidate many of the pressing problems of disease among men and animals and so save the Government both in lives and money.

(c) The need of a Bacteriologist is felt in the Veterinary Medical Department.

(d) Such an official would control a laboratory at which young officers of the Medical and Veterinary services who had a taste for that class of work would be able to work and keep up or improve their knowledge thus fitting them for independent investigations into the cause of actual outbreak of disease.

(e) The appointment of a Bacteriologist and the establishment of a properly equipped laboratory would, I am convinced, in a few years save Government more money than the whole scheme would cost.

(f) If such an official was sanctioned his duties should be confined to the study of Bacteriology and the teaching of it in the Medical College. He should be placed in the same position as regards Government as the Chemical Examiner now holds as regards his ordinary work and under the Director of Public Instruction as regards his duties in the Educational Department.

(g) Several alternatives present themselves in the selection of such an official—

(1) He might be selected by the Right Honourable the Secretary of State on the advice of those University or Collegiate authorities in Great Britain in which Bacteriological schools have been established under the same conditions of service as Professor Bourne of the Presidency College. This would be the quickest but probably the most expensive way of securing his services.

(2) The better plan would be for the Right Honourable the Secretary of State to sanction such an appointment in List I on the cadre of the Indian Medical Service, to select an officer on the advice of the above-mentioned authorities, give him a

commission in the Indian Medical Service, grant him pay commencing at Rs. 500 a month and rising by increments to Rs. 1,000 a month, as no doubt his work would be more valuable as his experience matured. Such an appointment would add to the prestige of the Indian Medical Service, would increase the *esprit de corps* and foster a spirit of scientific investigation amongst the junior members of the service, as they would work with the hope of qualifying for either the officiating or permanent appointment. If such an officer was appointed, he should be allowed a longer course of study at Netley than the usual four months one, and should be permitted to spend three or four months in some selected laboratory either in England or on the continent before coming out to India. On arrival in India he should be sent to one of the established laboratories for a short time and should be exempted from the operation of the rule which requires all medical officers of the Indian Medical Service to complete two years' military duty before they are available for duties in the Civil Department. He should be permitted to expend a sum not exceeding £100 in Europe on the equipment necessary for his laboratory and should be granted an extra allowance of baggage to bring it out. On arrival in Madras he should be provided with a room in the Medical College where he should work during the College Winter (cold weather) session; during the other six months of the year, he should be permitted to move his laboratory to one of the hill stations (preferably Kottagiri or Ootacamund).

3. I am convinced that, if the proposed plan is carried out, it would do much to increase the efficiency of the sanitary work in the Presidency by raising the standard of knowledge both amongst officers and subordinates.

No. 6711.

Submitted to Government with most cordial support.

(Signed) D. DUNCAN,
Director of Public Instruction.

22nd June 1895.

Order—No. 662, Public, dated 3rd August 1895.

The appointment of a Bacteriologist is no doubt desirable, but there are already before Government so many proposals relating to medical requirements which involve extra expenditure, that this matter must lie over for the present on financial grounds.

(True Extract.)

(Signed) J. F. PRICE,
Chief Secretary.

To the Surgeon-General.

G.O., No. 990, Public, dated 2nd December 1895.

ABSTRACT.—Communicating to the Surgeon-General and to the Sanitary Commissioner, for favour of joint remarks, resolutions of the Government of India regarding a scheme for securing a trained reserve of Chemical Examiners and for establishing an Imperial Bacteriological laboratory.

READ—also the following papers:—

From L. M. THORNTON, Esq., Deputy Secretary to the Government of India, Home Department (Sanitary), to the Chief Secretary to the Government of Madras, dated Simla, the 31st October 1895, No. 12-Sany.—340.

With reference to the correspondence ending with your letter, No. 512, Public, dated the 13th July 1894, I am directed to forward a copy of a resolution which has been issued by the Home Department of the Government of India relative to the establishment of a Bacteriological Laboratory in India for the training of young Medical officers in that science, and also as Chemical Examiners at a Central Laboratory at Calcutta under the Chemical Examiner of Bengal.

2. It will be observed that the proposal, circulated with this department's letter, Nos. 331-334, dated 24th May 1894, to increase the pay of Chemical Analysers with a view to attracting the best men in the service has been for the present abandoned, and I am to explain that this is due to the relatively paramount importance which the Government of India attach to the establishment, as soon as practicable, of the proposed Bacteriological Laboratory at Agra, and to the anxiety felt by the Governor-General in Council to make trial, before incurring increased expenditure by enhancing the salaries of Chemical Analysers, of a system by which a junior Indian Medical Service officer will be attached for training to the Calcutta Laboratory and will be available, after training for employment in any of the Laboratories at Madras, Bombay, Lahore or Calcutta in which his services may be required.

3. It is also proposed in paragraph 9 of the resolution eventually to attach young Medical officers for a six months' course of training to the Chemical Analyst's office or the Bacteriological Laboratory, and I am to request that, with the permission of His Excellency the Governor in Council, the Government of India may be informed whether arrangements can be made to give effect to this proposal as regards Medical officers who are serving in the Madras Presidency.

No. 2997

Referred to the Surgeon-General for report with advertence to G.O., No. 990, Public, dated 2nd December 1895.

FORT ST. GEORGE,
14th December 1895.

(Signed) J. F. PRICE,
Chief Secretary.

From Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Camp, Cocanada, 31st December 1895, No. Tour 4—1.

With reference to your endorsement, No. 2997, dated 14th December 1895, herewith returned, with the attached correspondence, regarding the appointment of a junior officer of the Indian Medical Service to the Calcutta Laboratory for training in the duties of a Chemical Examiner, I have the honour to inform you that, owing to the short-handed state of the establishment in Madras, no such officer is available at present, nor is there likely to be one until the arrival of the ten new officers about November 1896.

2. If the rule as now proposed is sanctioned for India as was done in Madras in 1884—vide paragraph 3 of my letter, No. Tour—62, dated 26th June 1894, on page 4 of G.O., No. 511, Public, dated 13th July 1894—and an officer was available in Madras, I consider he could be given quite as effectual a training in the laboratory of the Chemical Examiner in the Madras Medical College as he would get in Calcutta, with the advantage that he would not have to live in the more expensive city of Calcutta, and that Government would be saved considerable travelling expenses.

Letter to the Government of India, Home Department, No. 106, dated 22nd January 1896.

From Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Madras, 6th February 1896, No. 83.

With reference to G.O., No. 990, Public, dated the 2nd December 1895, regarding bacteriological research, I fully concur in the remarks of the Government of India on this subject and consider the proposals will meet the present requirements of the part of India alluded to without considering the requirements of the medical schools.

2. In Madras, however, we want a Bacteriologist for the college in whose laboratory future Health Officers could be trained; my views on this subject are fully before Government in the correspondence dealt with in G.O., No. 662, Public, dated the 3rd August 1895.

3. I have consulted the Sanitary Commissioner, and now attach a true copy of a memorandum he has furnished me with on the subject.

In the correspondence ending with my Tour 4-1, dated 31st December 1895, the Government of India have apparently decided that the Chemical Examiners to Government should be commissioned medical officers on what appears to me to be very sufficient grounds. The principal medico-legal work of these officers is steadily increasing and I cannot concur with Surgeon-Lieutenant-Colonel King that it would be desirable to place this work in the hands of a general chemist such as he describes. The importance of having such chemists is well recognised, and in my opinion, if they existed, they would have their time fully occupied without the medico-legal work.

I cannot either concur with the idea of Surgeon-Lieutenant-Colonel King that the appointment of an officer who had at least five years' experience as District Medical and Sanitary Officer to the Sanitary Department attached to a Vaccine institute, who should take charge of the Hygiene laboratory in the Medical College, lecture for six months in the year to the students on Hygiene and instruct the class of Sanitary Inspectors, would at all meet the requirements of the Educational Department as a Bacteriologist; nor would he have any time at his disposal for original work. If such an appointment was made, other proposals would be necessary to carry on the work now done by the Professor of Hygiene as Second Physician in the General Hospital.

ENCLOSURE.

MEMORANDUM as to provision for Bacteriology and Chemical Research in connection with sanitation, with reference to Government of Madras Order, No. 990, Public, dated 2nd December 1895, by Surgeon-Lieutenant-Colonel W. G. KING, Sanitary Commissioner, Madras, dated 28th January 1896.

The opening of an Imperial Bacteriological Institute as proposed by the Government of India is a matter of great sanitary import, as to the necessity for which I fully concur, although the suggestion to obtain this at the cost of abolishing a Deputy Sanitary Commissioner will, I trust, be reconsidered. I understand that the Sanitary departments of Local Governments will be permitted to obtain decisions on Bacteriological matters coming within their official work, by making references, or sending specimens for examination; and, secondly, that it shall form a school for young commissioned medical officers to be trained as Chemical Examiners and Bacteriologists for duty with Local Governments.

2. The idea of making a separate branch of the Indian Medical Service from which Chemical Examiners and Bacteriologists can be recruited is excellent; but I think it does not go far enough. If sanitation is to progress, the workers ought not to be hampered by being required to investigate medico-legal questions. This is recognised by the Government of India as to officers selected for bacteriological work; but I consider it applies equally to Chemical Examiners, not with reference to incompatibility, but with regard to quantity and character of work expected.

3. As a first step, I would arrange that, on vacating their appointments in ordinary course, the present class of Chemical Examiners should no longer be continued. I suggest the appointment of professional chemists. The duty expected of these men should be two-fold: firstly, the conduct of medico-legal examinations; secondly, the conduct of investigations into the chemistry of economic products. Bearing in mind the immense stride in trade that Germany has been able to effect by the system adopted by manufacturers having on their premises not one or two but at times half-a-dozen expert chemists, I consider that the Government of India would find that, if properly administered and encouraged, such men would, by their investigations in various matters affecting the natural products, agriculture, and manufactures of the country, amply repay every rupee spent on them. The head of this department would naturally be the Economic Reporter to the Government of India. Such men should be recruited directly from Great Britain, and should not be foreigners. The officers might be known simply as Government analysts, and should be Professors of Chemistry in Universities. This would aid economy and be of advantage to students.

4. There would thus remain as surplus in the Indian Medical Service the number of officers hitherto absorbed as Chemical Examiners; an equivalent number of junior medical officers having not less than five years' experience as district Sanitary officers should then be attached to the Sanitary Department as Assistant Sanitary Commissioners. They should be trained, as contemplated by the Government of India in the Imperial Bacteriological Institute, in Bacteriology and

GOVERNMENT OF MADRAS.

PUBLIC DEPARTMENT.

READ—again the following paper:—

G.O., Nos. 511-512, Public, dated 13th July 1894.

ABSTRACT.—Addressing the Government of India on the proposal to create an Indian Chemical department for the whole of India.

READ—also the following papers:—

From L. M. THORNTON, Esq., Deputy Secretary to the Government of India, Home Department (Sanitary), to the Chief Secretary to the Government of Madras, dated Simla, the 31st October 1895, No. 12-Sany.—340.

With reference to the correspondence ending with your letter, No. 512, Public, dated the 13th July 1894, I am directed to forward a copy of a resolution which has been issued by the Home Department of the Government of India relative to the establishment of a Bacteriological Laboratory in India for the training of young Medical officers in that science, and also as Chemical Examiners at a Central Laboratory at Calcutta under the Chemical Examiner of Bengal.

2. It will be observed that the proposal, circulated with this department's letter, Nos. 331-334, dated 24th May 1894, to increase the pay of Chemical Analysts with a view to attracting the best men in the service has been for the present abandoned, and I am to explain that this is due to the relatively paramount importance which the Government of India attach to the establishment, as soon as practicable, of the proposed Bacteriological Laboratory at Agra, and to the anxiety felt by the Governor-General in Council to make trial, before incurring increased expenditure by enhancing the salaries of Chemical Analysts, of a system by which a junior Indian Medical Service officer will be attached for training to the Calcutta Laboratory and will be available, after training for employment in any of the Laboratories at Madras, Bombay, Lahore or Calcutta in which his services may be required.

3. It is also proposed in paragraph 9 of the resolution eventually to attach young Medical officers for a six months' course of training to the Chemical Analyst's office or the Bacteriological Laboratory, and I am to request that, with the permission of His Excellency the Governor in Council, the Government of India may be informed whether arrangements can be made to give effect to this proposal as regards Medical officers who are serving in the Madras Presidency.

No. 2997.

Referred to the Surgeon-General for report with advertence to G.O., No. 990, Public, dated 2nd December 1895.

FORT ST. GEORGE,
14th December 1895.

(Signed) J. F. PRICE,
Chief Secretary.

From Surgeon-Major-General C. SINTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Camp, Cocanada, 31st December 1895, No. Tour 4-1.

With reference to your endorsement, No. 2997, dated 14th December 1895, herewith returned, with the attached correspondence, regarding the appointment of a junior officer of the Indian Medical Service to the Calcutta Laboratory for training

in the duties of a Chemical Examiner, I have the honour to inform you that, owing to the short-handed state of the establishment in Madras, no such officer is available at present, nor is there likely to be one until the arrival of the ten new officers about November 1896.

2. If the rule as now proposed is sanctioned for India as was done in Madras in 1884—*vide* paragraph 3 of my letter, No. Tour—62, dated 26th June 1894, on page 4 of G.O., No. 511, Public, dated 13th July 1894—and an officer was available in Madras, I consider he could be given quite as effectual a training in the laboratory of the Chemical Examiner in the Madras Medical College as he would get in Calcutta, with the advantage that he would not have to live in the more expensive city of Calcutta, and that Government would be saved considerable travelling expenses.

Letter to the Government of India, Home Department, No. 106, dated 22nd January 1896.

G.O., No. 662, dated 3rd August 1895.

Read—the following letter from Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government (through the Director of Public Instruction), dated Ootacamund, 13th June 1895, No. Tour—278.

I have the honour to forward, for the information of Government, the accompanying report of a discussion at a meeting of the South India Branch British Medical Association on the 4th April last. The necessity of the appointment of a trained Bacteriologist and of the establishment of Bacteriological Laboratory in Southern India are very fully dealt with at length in these papers.

2. There are, however, some points which I wish to emphasise—

(a) That the Medical College at Madras, of which we are all justly proud and which Government has always dealt liberally with, is now seriously behind the time in its want of ability to impart instruction on the subject of Bacteriology to its students.

(b) A trained Bacteriologist would by his work elucidate many of the pressing problems of disease among men and animals and so save the Government both in lives and money.

(c) The need of a Bacteriologist is felt in the Veterinary Medical Department.

(d) Such an official would control a laboratory at which young officers of the Medical and Veterinary services who had a taste for that class of work would be able to work and keep up or improve their knowledge thus fitting them for independent investigations into the cause of actual outbreak of disease.

(e) The appointment of a Bacteriologist and the establishment of a properly equipped laboratory would, I am convinced, in a few years save Government more money than the whole scheme would cost.

(f) If such an official was sanctioned his duties should be confined to the study of Bacteriology and the teaching of it in the Medical College. He should be placed in the same position as regards Government as the Chemical Examiner now holds as regards his ordinary work and under the Director of Public Instruction as regards his duties in the Educational Department.

(g) Several alternatives present themselves in the selection of such an official—

(1) He might be selected by the Right Honourable the Secretary of State on the advice of those University or Collegiate authorities in Great Britain in which Bacteriological schools have been established under the same conditions of service as Professor Bourne of the Presidency College. This would be the quickest but probably the most expensive way of securing his services.

(2) The better plan would be for the Right Honourable the Secretary of State to sanction such an appointment in List I on the cadre of the Indian Medical Service, to select an officer on the advice of the above-mentioned authorities, give him a

commission in the Indian Medical Service, grant him pay commencing at Rs. 500 a month and rising by increments to Rs. 1,000 a month, as no doubt his work would be more valuable as his experience matured. Such an appointment would add to the prestige of the Indian Medical Service, would increase the *esprit de corps* and foster a spirit of scientific investigation amongst the junior members of the service, as they would work with the hope of qualifying for either the officiating or permanent appointment. If such an officer was appointed, he should be allowed a longer course of study at Netley than the usual four months one, and should be permitted to spend three or four months in some selected laboratory either in England or on the continent before coming out to India. On arrival in India he should be sent to one of the established laboratories for a short time and should be exempted from the operation of the rule which requires all medical officers of the Indian Medical Service to complete two years' military duty before they are available for duties in the Civil Department. He should be permitted to expend a sum not exceeding £100 in Europe on the equipment necessary for his laboratory and should be granted an extra allowance of baggage to bring it out. On arrival in Madras he should be provided with a room in the Medical College where he should work during the College Winter (cold weather) session; during the other six months of the year, he should be permitted to move his laboratory to one of the hill stations (preferably Kottagiri or Ootacamund).

3. I am convinced that, if the proposed plan is carried out, it would do much to increase the efficiency of the sanitary work in the Presidency by raising the standard of knowledge both amongst officers and subordinates.

No. 6711.

Submitted to Government with most cordial support.

22nd June 1895.

(Signed) D. DUNCAN,
Director of Public Instruction.

Order—No. 662, dated 3rd August 1895.

The appointment of a Bacteriologist is no doubt desirable, but there are already before Government so many proposals relating to medical requirements which involve extra expenditure, that this matter must lie over for the present on financial grounds.

(True Extract.)

(Signed) J. F. PRICE,
Chief Secretary.

To the Surgeon-General.

G.O., No. 990, Public, dated 2nd December 1895.

ABSTRACT.—Communicating to the Surgeon-General and to the Sanitary Commissioner, for favour of joint remarks, resolutions of the Government of India regarding a scheme for securing a trained reserve of Chemical Examiners and for establishing an Imperial Bacteriological laboratory.

From Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Madras, 6th February 1896, No. 83.

With reference to G.O., No. 990, Public, dated the 2nd December 1895, regarding bacteriological research, I fully concur in the remarks of the Government of India on this subject and consider the proposals will meet the present requirements of the part of India alluded to without considering the requirements of the medical schools.

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2. In Madras, however, we want a Bacteriologist for the college in whose laboratory future Health Officers could be trained; my views on this subject are fully before Government in the correspondence dealt with in G.O., No. 662, Public, dated the 3rd August 1895.

3. I have consulted the Sanitary Commissioner, and now attach a true copy of a memorandum he has furnished me with on the subject.

In the correspondence ending with my Tour 4-1, dated 31st December 1895, the Government of India have apparently decided that the Chemical Examiners to Government should be commissioned medical officers on what appears to me to be very sufficient grounds. The principal medico-legal work of these officers is steadily increasing and I cannot concur with Surgeon-Lieutenant-Colonel King that it would be desirable to place this work in the hands of a general chemist such as he describes. The importance of having such chemists is well recognised, and in my opinion, if they existed, they would have their time fully occupied without the medico-legal work.

I cannot either concur with the idea of Surgeon-Lieutenant-Colonel King that the appointment of an officer who had at least five years' experience as District Medical and Sanitary Officer to the Sanitary Department attached to a Vaccine institute, who should take charge of the Hygiene laboratory in the Medical College, lecture for six months in the year to the students on Hygiene and instruct the class of Sanitary Inspectors, would at all meet the requirements of the Educational Department as a Bacteriologist; nor would he have any time at his disposal for original work. If such an appointment was made, other proposals would be necessary to carry on the work now done by the Professor of Hygiene as Second Physician in the General Hospital.

ENCLOSURE.

MEMORANDUM as to provision for Bacteriology and Chemical Research in connection with sanitation, with reference to Government of Madras Order, No. 990, Public, dated 2nd December 1895, by Surgeon-Lieutenant-Colonel W. G. KING, Sanitary Commissioner, Madras, dated 28th June 1896.

The opening of an Imperial Bacteriological institute as proposed by the Government of India is a matter of great sanitary import, as to the necessity for which I fully concur, although the suggestion to obtain this at the cost of abolishing a Deputy Sanitary Commissioner will, I trust, be reconsidered. I understand that the Sanitary departments of Local Governments will be permitted to obtain decisions on Bacteriological matters coming within their official work, by making references, or sending specimens for examination; and, secondly, that it shall form a school for young commissioned medical officers to be trained as Chemical Examiners and Bacteriologists for duty with Local Governments.

2. The idea of making a separate branch of the Indian Medical Service from which Chemical Examiners and Bacteriologists can be recruited is excellent; but I think it does not go far enough. If sanitation is to progress, the workers ought not to be hampered by being required to investigate medico-legal questions. This is recognised by the Government of India as to officers selected for bacteriological work; but I consider it applies equally to Chemical Examiners, not with reference to incompatibility, but with regard to quantity and character of work expected.

3. As a first step, I would arrange that, on vacating their appointments in ordinary course, the present class of Chemical Examiners should no longer be continued. I suggest the appointment of professional chemists. The duty expected of these men should be two-fold: firstly, the conduct of medico-legal examinations; secondly, the conduct of investigations into the chemistry of economic products. Bearing in mind the immense stride in trade that Germany has been able to effect by the system adopted by manufacturers having on their premises not one or two, but at times half-a-dozen expert chemists, I consider that the Government of India would find that, if properly administered and encouraged, such men would, by their investigations in various matters affecting the natural products, agriculture, and manufactures of the country, amply repay every rupee spent on them. The head of this department would naturally be the Economic Reporter to the Government of India. Such men should be recruited directly from Great Britain, and should not be foreigners. The officers might be known simply as Government analyst, and should be Professors of Chemistry in Universities. This would aid economy and be of advantage to students.

4. There would thus remain as surplus in the Indian Medical Service the number of officers hitherto absorbed as Chemical Examiners; an equivalent number of junior medical officers having not less than five years' experience as district Sanitary officers should then be attached to the Sanitary Department as Assistant Sanitary Commissioners. They should be trained, as contemplated by the Government of India in the Imperial Bacteriological Institute, in Bacteriology and

Chemistry, having special reference to sanitary duties. In my opinion, such men should be absolutely at the disposal of the Sanitary departments, and in the case of Madras, would be best attached to a Vaccine institute intended for supply of animal lymph throughout the Presidency, where exceptionally good facilities for original work could be afforded; but as economy must be regarded, I would advise his being permitted to lecture upon Hygiene in the Medical College and to be responsible for Hygiene course, practical and theoretical, for the suggested new class of sanitary subordinates. The existing Bacteriological and Hygiene laboratory in the Medical College would, with few improvements, fulfil all that is requisite. This arrangement would meet the plea the Surgeon-General makes as to the necessity for provision for the Educational Department, whilst it would sufficiently well meet the requirements of the Sanitary department, holding in mind the fact that for the more serious branches of research the Imperial Institute would be available, and that the work expected of the local Bacteriologist would chiefly consist in the aiding of sanitary precautions by the early identification of well-known microbes, not the searching after the unknown.

From Surgeon-Lieutenant-Colonel W. G. KING, M.B., C.M., D.P.H., Sanitary Commissioner for Madras, to the Chief Secretary to Government, dated Bellary, 10th February 1896, No. 253 S.

With reference to letter No. 83, dated 5th February 1896, to you from the Surgeon-General with the Government of Madras, I have the honour to represent that from the context of the last paragraph of that letter, it is apparent to me that the Surgeon-General has misinterpreted my meaning. This being so, it follows that my memorandum expresses my intentions in a manner open to doubt, which it is desirable should be guarded against on perusal by Government.

2. The Surgeon-General has understood that I would wish the proposed Bacteriologist to perform work that is obviously impossible. He has, however, arrived at this conclusion from not giving the value I had anticipated would be allowed to the following statement: "In my opinion such men should be absolutely at the disposal of the Sanitary departments, and in the case of Madras, would best be attached to a Vaccine institute intended for supply of animal lymph throughout the Presidency, where exceptionally good facilities for original work could be afforded." By this I meant it to be understood that what I considered Madras should have was a Bacteriologist attached to the Sanitary Department engaged on original work at a Central Vaccine Institute intended for the cultivation and distribution of animal lymph throughout the Presidency. This would be necessarily in a cool climate, would be worked under special hygienic conditions, and would, by the possession of large numbers of animals (over 200 calves per month) and skilled medical subordinates on the spot, afford opportunities for original research, such as never yet afforded a Bacteriologist. This would form my ideal. *To this officer no other duties should fall.* Before completion of the above sentence, however, I have added—"but as economy must be regarded (a conclusion arrived at by the nature of the proposals of the Government of India as to securing funds), I would advise his being permitted," &c. The suggestions which follow pre-suppose that the reader would understand that I considered myself bound to abandon this ideal, in favour of the compromise consequent upon no longer looking for "original research" locally, but trusting for this to the Imperial Bacteriological Laboratory. I was of course perfectly well aware that the extra duties of Assistant Physician of the General Hospital now conducted by the Professor of Hygiene would have to be otherwise arranged for, and considered that so long as I defined the duties expected, this would be sufficiently understood.

3. I therefore trust it will be seen that the Surgeon-General's deduction that the Bacteriologist proposed would not have time at disposal for the duties I have sketched is founded upon a misinterpretation of my doubtless insufficiently exact statements, seeing that his work would extend to solely (1) the present duties of Professor of Hygiene in the Medical College, which would necessarily include the teaching of Bacteriology, theoretically and practically, in a laboratory already existing; (2) the training of the future class of Sanitary Inspectors; and (3) routine bacteriological investigations for the Sanitary Department.

From J. P. HEWETT, Esq., C.I.E., Secretary to the Government of India, Home Department (Medical), to the Chief Secretary to the Government of Madras, dated Calcutta, the 17th February 1896, No. 136.

I am directed to forward the accompanying extract from a report (No. 651, dated the 11th September 1895) by the Sanitary Board on the outbreak of cholera in the Civil and Military Station of Bangalore, which contains a complaint by the Board concerning the absence, in the Madras Presidency, of any means whereby a bacteriological examination of water obtained from suspected polluted sources can be carried out. In inviting the attention of the Government of Madras to this matter, I am to enquire whether His Excellency in Council could suggest means for avoiding the recurrence of such a difficulty in the future. It seems probable that some of the medical officers who have lately joined the service would be competent to make such an examination.

ENCLOSURE.

EXTRACT from a report, No. 651, dated the 11th September 1895, by the Sanitary Board on the outbreak of cholera in the Civil and Military Station of Bangalore.

11. As the water from polluted sources has called for particular attention from the Board *

Samples of water from suspected polluted sources obtained and forwarded for bacteriological examination to Madras, but not carried out.
* Sanitary Board of Bangalore.

it was considered desirable to send some specimens (particularly from the wells and tank which many persons were known to be in the habit of using in the cholera-infected locality referred to) with the object of its being examined as to the presence or otherwise of the causative organism of cholera, and accordingly several samples were forwarded to Madras for that purpose, but to the extreme surprise of the Board a reply was received from the Chemical Examiner stating that he was unable to undertake the necessary bacteriological examination and was moreover not in a position to say where in the presidency such an examination could be conducted. Now, as it is generally understood that the discovery of the cholera microbe is necessary to the determination of the very important question whether a particular water is infected or not, and also whether a doubtful case is cholera or not, the Board thinks it incumbent on it to express its extreme disappointment and disapprobation at finding that this very necessary bacteriological work cannot be carried out in this presidency, especially when it is considered how many efficient laboratories have for many years past been established throughout Europe.

(Signed)	S. B. HUNT, Surgeon-Colonel,	} President.
	P.M.O., Bangalore and Southern District.	
(")	A. F. DOBSON, Surgn.-Lieut.-Col.,	} Members.
	Residency Surgeon, Bangalore.	
(")	GEORGE J. SHAW, Captain,	
	Offg. Asst. Adjutant-Genl.,	
	Bangalore District.	

From Surgeon-Major-General C. SIBTHORPE, F.R.C.P.I., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, dated Madras, 30th March 1896, No. 260.

I have the honour to acknowledge the receipt of your endorsement, No. 435, dated the 25th February 1896, referring for my remarks letter, No. 136, dated the 17th February 1896, from the Government of India, forwarding a complaint by the Sanitary Board in Bangalore concerning the absence, in the Madras Presidency, of any means whereby a bacteriological examination of water obtained from suspected polluted sources can be carried out. The Government of India further enquire whether any means could be suggested for avoiding the recurrence of such a difficulty in the future, and consider that some of the medical officers who have lately joined the service would probably be competent to make such an examination.

2. In reply I have the honour to state that it is a fact that no arrangements exist for making such examinations.

3. There are now two propositions before Government which will, if sanctioned, provide such arrangements. The first is contained in the proposition of the Special Committee of 1892 appointed to report upon the re-organization of the Medical College, forwarded with my letter, No. 671, dated 12th December 1894. In this the committee recommended that the teaching of hygiene should be viewed from two different standpoints—

- (1) the actual requirements of the students; and
- (2) the requirements of science—pure and simple;

and they suggested that, if the former view was taken, the Professor should give a course of systematic lectures and a practical course and have not more than forty beds in a hospital. In the interest of the Sanitary Science, however (including such duties as are now under reference, the proper superintendence of the Hygiene Laboratory already built and fairly equipped, the instruction of the College medical students and the Sanitary Inspectors' class by practical demonstrations of sanitary work throughout the city, and the organization, equipment and superintendence of a museum of hygiene), the duties of the Professor should not be confined to the teaching of students, but he should be provided with a well-equipped laboratory and establishment for the purposes of sanitary research—clinical, mechanical and biological. If these were to be his duties, the committee was strongly of opinion that he should not have any attached duties.

The second proposition, which would meet the requirements now under consideration, is the appointment of a Professor of Bacteriology—pure and simple—as proposed by me in the correspondence dealt with in G.O., No. 662, Public, dated the 3rd August 1895, and my letter, No. 83, dated 6th February 1896. I am strongly of opinion that the Professor of Hygiene should be able to devote his whole time to the teaching and investigation of sanitary subjects and that the proposed Professor of Bacteriology should be able to devote his whole time to the study of Bacteriology. Either of these Professors would be in a position to carry out the investigations now under reference in his laboratory if it was properly equipped.

4. I forwarded the correspondence under reference to the Principal of the Medical College, through the Director of Public Instruction, for his suggestions and to report how far it is possible at present to make a bacteriological examination of water with the present appliances in the Hygiene laboratory. In reply he forwards me the remarks of the Professor of Hygiene who is in charge of the laboratory and who states—

"With regard to the first question, the means—if that term be used in its fullest sense—do not at present exist, for the simple reason that no one has the time or opportunity to undertake such work. When equipping this laboratory, I took the greatest care to furnish it with everything essential for such work. I have the training and I have the appliances, but most certainly I have not the time, nor will I have it until relieved of my present hospital duties in connection with the clinical teaching and the charge of seventy to ninety beds throughout the year."

"With regard to the second question, as to the possibility of carrying out such work at the present moment, I have no hesitation in saying that it could not be done without neglect of routine work. Scientific work to be of any value must be deliberate, and none more so than bacteriology. The laboratory requires very slight and inexpensive alterations to make part of it suitable for bacteriological work, but some changes in arrangement must be made before the latter can be attempted with reasonable chance of accuracy. It might be possible to produce a report of a kind on the subject without much delay, but certainly not a report for the accuracy of which I would care to stand sponsor. The provision of various culture media and the growth and cultivation of numerous micro-organisms for purposes of identification is a very different matter from simple microscopical and chemical examinations, and the more one knows of the subject the more clear does it become that such work cannot be systematically left undone and then suddenly attempted."

I concur fully in these views of the Professor of Hygiene.

5. As to the appointment of one of the officers lately joined to carry out such investigations, it should be remembered that none of them are at my disposal. All the more junior officers have received the training at Netley, but those who are in civil employ have other duties which fully occupy their time, and those in military employment are rarely in Madras and even when here are not available for such

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duties. Moreover, as the Professor of Hygiene states, the reports of such investigations to be of any value must be from men who are in the habit of carrying on such scientific work continuously.

6. The correspondence is herewith returned as requested.

From J. P. HEWETT, Esq., C.I.E., Secretary to the Government of India, Home Department (Medical), to the Chief Secretary to the Government of Madras, dated Simla, the 21st May 1896, No. 391.

With reference to the correspondence ending with your letter No. 196-Public—1081, dated the 22nd January 1896, I am directed to forward, for the information of the Government of Madras, a copy of a letter marginally noted on the subject of the proposed deputation of medical officers of the Indian Medical Service for instruction in Bacteriology.

2. I am to request that, should the Government of Madras find it convenient, and consider it desirable, to depute an officer in the manner suggested, the Government of India may, with the permission of His Excellency the Governor in Council, be informed of the fact.

ENCLOSURE.

From J. P. HEWETT, Esq., C.I.E., Secretary to the Government of India, Home Department (Medical), to the Government of Bengal, N.W. Provinces and Oudh, dated Simla, the 21st May 1896, No. 393-95.
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With reference to the correspondence ending with the letter from this office, No. 12-Sanitary—342-344, dated the 31st October 1895, regarding the establishment of a Bacteriological Laboratory in India for the training of young medical officers, I am directed to state that the Director-General of the Indian Medical Service has suggested to the Government of India that, in consideration of the growing importance of Bacteriology in connection with sanitation and specific diseases, it would be desirable that junior officers of the Indian Medical Service should, if possible, be posted either to the Bacteriological Laboratory at Calcutta or Agra, as may be thought expedient, for the purpose of assisting Dr. Cunningham and Mr. Hankin in their investigations and of acquiring a practical knowledge of Bacteriology.

2. It will be seen that this proposal anticipates to some extent the scheme sketched in the resolution of the 31st October 1895, a copy of which was forwarded to the Government of Bengal with the letter above quoted. The object of the Director-General's suggestion, which is to obtain as soon as possible a few officers capable of conducting independent investigations of a reliable character, is, however, one of which the Government of India approve, and they anticipate that Local Governments would find great advantage from having a few officers at their disposal who had undergone this training.

3. In the opinion of the Director-General of the Indian Medical Service this training should last for from 6 to 12 months and it has been suggested that Local Governments might find it possible to occasionally spare a medical officer from the number of supernumerary medical officers placed at the disposal of the Government of Bengal by Home Department Resolution, No. 14-Medical—760-772, dated the 12th December 1894. The Governor-General in Council anticipates that this might at all events be found feasible from (say) the beginning of October to the end of April, and I am to enquire whether, under the circumstances set forth above, His Honour the Lieutenant-Governor would have any objection to deputing a medical officer as proposed from time to time. I am to explain that the officer so deputed would, while attending the Laboratory, continue to receive his grade pay under Article 306, Army Regulations, India, Volume I, Part I, as laid down in the resolution quoted.

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ORDER—No. 114, Public, dated 8 July 1896.

His Excellency the Governor in Council has already recognised the importance of Bacteriology and of Bacteriological investigations, so far as the requirements of this Presidency are concerned, and the correspondence read above points to the necessity of adopting some definite measures for attaining the objects aimed at by the Surgeon-General and the Sanitary Commissioner; but these officers have not expressed themselves with any degree of clearness or precision as to what their actual requirements are, and some additional information is necessary before orders can be passed on the proposals made.

2. The demand for the services of a professional Bacteriologist presents itself under three aspects, according as he is required—

- (i) for original bacteriological research, i.e., the study and investigation of unsolved problems of disease among men and animals;
- (ii) for teaching the science theoretically at the Medical College and practically to young medical, sanitary, veterinary and other officers at a laboratory;
- (iii) for practical bacteriological investigations required by the Sanitary, Vaccine, Veterinary and other departments.

3. The measures to be adopted as regards original research and education in bacteriology must depend on the ultimate results of the re-organisation of the Medical College and the redistribution of work among the chief medical officers of the Presidency town.

4. As regards the provision to be made for the practical bacteriological investigations of the Sanitary and other departments, full information should be furnished with statistics and rough estimates of cost on the following points:—

- (i) For what departments of the public service practical analyses of this kind should be undertaken.
- (ii) What particular articles should be subjected to bacteriological examination besides water. Surgeon-Lieutenant-Colonel King's reference to "the aiding of sanitary precautions by the early identification of well-known microbes" is rather vague.
- (iii) What amount of work will be required of the bacteriologist by the Sanitary Board in connection with actual local requirements, apart from general and theoretical researches.
- (iv) What portion of the work can be undertaken by the Chemical Examiner, and the Professor of Hygiene, if he is relieved of a certain number of beds.
- (v) What additional establishment would be required in each of the existing departments to carry out the necessary reforms.

5. It is to be regretted that in an isolated reference of the kind as was made from Bangalore, the investigation of the sample was not undertaken by the Professor of Hygiene, who is reported to have had both the ability and equipment necessary for the purpose. It is not clear why no reference was made to him.

6. The Surgeon-General will in due course report the names of such officers as can be spared for training at the laboratories in Agra and Calcutta, in accordance with the scheme proposed by the Government of India.

(True Extract.)

To the Surgeon-General. 3
" Sanitary Commissioner. 3
" Sanitary Board. 2
" Chemical Examiner. 3
" Local & Municipal. 7
" Revenue. 7
" Public Works. 11

(From memo)

Chief Secretary.

3/7/96

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[Ltr to Secy]

has already been recognized

with these
collected notes.
Major K. M. S.
officer, who
authorised
breached these instructions.
The Govt. of India
has to put him on
a strict line
by the time
next year.

1. When immediate
indefinite and
ought to be amplified

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No. , PUBLIC, 8 JULY 1896.

PUBLIC DEPARTMENT.

LETTER—from

THE CHIEF SECRETARY TO THE GOVERNMENT OF
FORT ST. GEORGE,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA, *Letter 31 Oct*
HOME DEPARTMENT. *22/10/96*

SIR,

I am directed to acknowledge the receipt of the communications noted in the
margin on the subject of bacteriological
research in India, and in reply to submit
the following observations:—

- (i) Resolution, No. 12-Sanitary—339, dated 31st October 1895.
- (ii) Letter, No. 136-Medical, dated 17th February 1896.
- (iii) Letter, No. 391-Medical, dated 21st May 1896.

(i) His Excellency the Governor in Council is glad to find that bacteriological laboratories are being established in North India, at which original research will be prosecuted into problems

arising in all parts of the country, and at which also young medical officers, who already go through a course at Netley, will benefit when their services can be spared, to prosecute their studies further in that direction.

(ii) In regard to the specimen of water which was forwarded by the Bangalore Municipality for bacteriological examination at Madras, I am to explain that the permanent Chemical Examiner was absent on leave at the time of the reference and apparently no application was made to the Professor of Hygiene, who had both the ability and the equipment (though not perhaps the time) for undertaking the analysis. The question of arranging for such routine investigations locally is now under the consideration of Government, and the final orders on the subject will be communicated to you in due course.

* G.O., No. , Public, dated July 1896, copy annexed.

(iii) As regards the deputation of young medical officers to Agra and Calcutta for training at the laboratories established in those places, I am to say that the Government is unable to spare anyone as the service is actually short-handed at present, but that, as stated in my letter, No. 106, dated 21st January 1896, advantage will be taken of the earliest opportunity to accept the proposed offer.

I have the honour to be,

Sir,

your most obedient servant,

AB
30/6/96

8th OOTACAMUND,
July 1896.

Chief Secretary.

I have the opportunity
Sanitary Board,
and to express the
weight of this point that
being to great quantity of Officers,
has to be at present share
anyone, but that the
earliest opportunity of deputation
a suitable Officer or Officers
will be taken.

A.S.H.
7.7.96

31/7/96

Bacteriology

C.S.
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(Fern idea)

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stomach of the
fish. The
bacteria were
found in the
stomach of the
fish.