

Saturday, 5<sup>th</sup> September, 1863.

Library of the Board of Public Examiners.

At the quarterly meeting of the Board of Examiners were present,

W. Justice Watermeyer, President

D. Dale

Rev. Canon Lodge

Sir Chas. Maclean

D. Jones

Rev. S. F. Childe

D. Dale and Professor Childe were appointed to conduct the Preliminary Examination. Eight Candidates presented themselves. D. Dale reported that three had passed in the literary section. Their names in alphabetical order & without reference to merit are as follows

Peter Batchelor

Edward Frederick Collard

Henry de Smidt.

The meeting adjourned until Wednesday, the 9<sup>th</sup> Instant.

On Monday the 7<sup>th</sup> September Mr. Childe reported that the three Candidates above-mentioned passed a satisfactory Examination in the mathematical department. He handed in his report which he requested might be recorded. It is as follows:

(1) Arithmetic

H. de Smidt

Collard

Batchelor

} In order of merit

(2)

Descriptive

## (2) Descriptive Geography

Collard

H. de Smidt

Batchelor

In order of merit

Note. In arithmetic, the questions given have been in most instances fairly answered; and might, in several, entitle the candidates to a reconsideration, unless they are precluded by the results of Dictation, &c.

Note. In Geography, the questions are well answered by the majority of Candidates, in some vaguely and inaccurately.

On the whole, the Preliminary Examination, Sept-1863, in Arithmetic and Descriptive Geography presents a fair knowledge of the subjects, and would have sufficed to pass most of the candidates, had they been approved otherwise by the Literary Section.

(Signed) George F. Childs  
Comd. Examr.

E. P. W. W. W.

Wednesday, 9 September, 1883.

Supreme Court Chambers

At an adjourned meeting of the Board of Public Examiners, at one o'clock, were present:

Mr. Justice Watermeyer, President,

Dr. Dale

Rev. Canon Sedge

Dr. Chadgion

Rev. F. F. Childs

The minutes of the last meeting were read & confirmed.  
The President proposed that

"It shall be competent to the Board, if the Government  
"should desire it, to examine into Testimonials of  
"Mathematical knowledge produced by Candidates  
"who desire to be admitted as Government Surveyors,  
"and upon a Certificate by the Board to the Govern-  
"ment that the Testimonials show that the candi-  
"date is possessed at least of the qualifications  
"required for the examination for their Certificate  
"in Trigonometrical Surveying, - such Candidate  
"shall be entitled to be admitted to the practical  
"examination in surveying equally as if he  
"possessed the Certificate of the Board."

As the general feeling of the meeting seemed to be that there would be considerable difficulty in the working of such a rule, the Resolution was not formally put to the vote; but it was decided that the matter should stand over for future consideration.

The President then proposed, and it was decided unanimously that

"As often as it shall be made to appear to the  
"Board, by notices received before the 1<sup>st</sup> of September  
"that there will be ten Candidates, at least, for the  
"several

"several certificates of the Board, at the time of  
 their annual session, <sup>in the ensuing January</sup> at any Town in the Colony,  
 "The Board shall communicate with the Govern-  
 "ment on the subject, and shall, subject to the  
 "sanction of the Governor, appoint a Commissioner,  
 "bring a member of the Board, or, if necessary,  
 "not a member of the Board, to preside at the  
 "examination at such place, as nearly as possible  
 "simultaneously with the examinations in  
 "Cape Town."

Mr. Childe stated that he had drawn up a programme  
 of subjects which he thought should be embraced  
 in the examination in the Theory of Civil Engineering.  
 It was decided that this Programme should be  
 considered by the Scientific Section before it came  
 before the Board for final approval.

The meeting adjourned at 2 p.m.

Saturday, 19<sup>th</sup> September, 1883.

Library of the Board of Public Examiners.

At a meeting of the Scientific Section of the Board of Public Examiners, at eleven o'clock, were present,

Sir Thomas Mackenzie

D. J. Rose Jones

Rev. G. F. Childe.

D. Jones and Mr. Childe <sup>each</sup> submitted a programme of the subjects to be embraced in an Examination in the Theory of Civil Engineering.

After discussion it was determined that the following should be the Programme:

1. A preliminary Paper on such sections of Coordinate Geometry, both of two and three dimensions, and of the Differential & Integral Calculus as are necessary to the establishment of those formulae in mechanics, that are included in the Theory of Civil Engineering in its several branches.
2. Statics. The Conditions of Equilibrium as applicable to trussed frames & carpentry in general, to the construction of arches of various forms & suspended road ways, to retaining walls, &c. (including in all cases friction.)
3. Dynamics. First principles. Motions both of translation & rotation, both varied & uniform, free & constrained. Practical Problems having reference to some branch of Engineering.
4. Hydrostatics. The conditions of equilibrium of a fluid incompressible: - the laws from which they are deduced. The pressure of such a fluid against retaining walls, - the construction of Reservoirs, distributing basins & distributing pipes.

pipes. The principle of the Bramah Press & its application to practical purposes. Centres of gravity, pressure & percussion. Practical Problems for exercise on the Theory of Hydrostatics

5. Hydrodynamics. Fundamental laws of Hydrodynamics; the issue of fluid particles from an orifice under the pressure of a constant head with & without friction; the vena contracta; the action of waves & currents, - their action on breakwaters, harbours, & other marine structures; the construction of Canals for irrigation, drainage & commerce. Water as a mechanical agent in Civil Engineering. Marine Currents. The Theory of the Steam Engine.

The meeting adjourned at 12 o'clock.

Saturday, the 10<sup>th</sup> October, 1863.

Library of the Board of Public Examiners  
At a Meeting of the Board of Public Examiners,  
at seven o'clock were present:

- Mr. Justice Watermeyer, President,
- Dr. Dale
- Sir Thos. Maclear
- Dr. J. Ross Jones
- Rev. S. F. Childs.

The President submitted to the Meeting a Resolution which was agreed upon unanimously, viz:

(Rule 45.) "Whenever it shall appear necessary for the Board to appoint a fit person, in the terms of the 8<sup>th</sup> section of Act No 4 of 1858, "to examine candidates upon subjects regarding which they consider that an examination conducted by any individuals from their own number would not be satisfactory," the name of the special examiner so appointed shall be printed in some prominent place on the paper prepared by him and submitted to the candidates. This power of appointing a special examiner shall not be exercised except in regard to optional subjects."

The Scientific Section then brought up a programme of the subjects to be embraced in the Examination in the Theory of Civil Engineering which was adopted in the following form:

Certificate of qualification in the Theory of  
Civil Engineering

1. Coordinate geometry, both of two and three dimensions. In geometry of three dimensions, the straight line and plane.
2. Differential and Integral Calculus: Differentiation; singular values; maxima and minima; the Theory

Theory of plane curves; differentials of curved lines, and of areas, volumes and surfaces.

The inverse processes of integration; integration by parts, and by formulae of reduction; rectification of curves; determination of volumes and surfaces.

3. Statics :- Centre of gravity; conditions of equilibrium; retaining walls; arches; the catenary; bridges. Friction.

4. Dynamics :- First principles. Motions, both of translation and rotation, both varied and uniform, free and constrained. Practical problems.

5. Hydrostatics :- The conditions of equilibrium of a fluid non-elastic and elastic. The pressure of such a fluid against retaining walls; the construction of reservoirs, distributing basins and distributing pipes. The Bramah press. Centres of gravity, pressure, and percussion. Practical problems.

b. Hydrodynamics: Fundamental laws; issue of a non-elastic fluid from an orifice; the vena contracta; waves and currents, - their action on marine structures; canals; water as a mechanical agent in Civil engineering; the theory of the steam engine

E. P. Whittaker



Saturday, the 14<sup>th</sup> November, 1863.

Supreme Court Chambers.

At a meeting of the Board of Public Examiners  
were present:

Mr. Justice Coatermeyer, President

Dr. Dale

Dr. Champion

Rev. E. Sudge

Dr. Jones

Rev. G. F. Childs.

The Minutes of the last meeting were read & confirmed.  
The Examinations papers of the literary section of the  
Board were presented, viz:-

For the Second Class Certificate.

1. Cicero, pro Archia
2. Xenophon, Anabasis
3. Sophocles, Ajax
4. Virgil, Georgic
5. English Language and Literature
6. History of England and Constitutional History
7. Logic and Roman History.
8. Dutch
9. French.

For the Public Service Certificate.

1. French
2. Dutch
3. Caesar
4. History of England, and Rise and Progress of  
the Constitution

The Scientific Section reported that the papers in  
Mathematics and Physical Science were nearly  
completed and would be ready in a few days.

The questions on Botany prepared by Dr.  
Brown

Brown for the Second Class Examination were approved by the Board.

The meeting adjourned until Saturday, the 21<sup>st</sup> November.

Saturday, the 21<sup>st</sup> November 1863

Supreme Court Chambers.

At a Meeting of the Board of Examiners were present:

Mr. Justice Waterman, President

J<sup>r</sup>. Dale

Dr. Chauvin

Rev. E. Lodge

J<sup>r</sup>. Jones

Sir Tho. Maclachlan

Rev. S. F. Childs

The Minutes of the last Meeting were read & confirmed

The Examination Papers of the Scientific Section

were presented, viz: for the

Second Class Certificate:

Arithmetic

Algebra

Plane Geometry

Plane Trigonometry

Spherical Trigonometry

Analytical Geometry

Survey Certificate:

Arithmetic

Algebra

Plane Geometry

Plane Trigonometry

Spherical Trigonometry

Astronomy

Problems

Public Service

Arithmetic

Algebra

Plane Geometry

The Examination papers of the Second Class Certificate

in Law and Jurisprudence were handed in, viz:-

Roman Law, 1<sup>st</sup> paper

" " , 2<sup>nd</sup> "

Roman-Dutch Law

English Law

Notarial Practice.

Saturday, the 5<sup>th</sup> December, 1863.

Library of the Board of Public Examiners.

At a Meeting of the Board of Public Examiners were present,

Mr. Justice Watermeyer, President

Dr. Dale

Dr. Changuion

Sir Thos. Maclean

Dr. Innes

Rev. G. F. Childe

The Minutes of the last Meeting were read and confirmed.

The Scientific Section presented the Examinations papers in Physical Geography for the Second Class and Public Service Certificates.

Dr. Dale and Rev. G. F. Childe were appointed Commissioners to conduct the Special Preliminary Examination to be held in Cape Town on the 4<sup>th</sup> of January, 1864.



Monday, the 4<sup>th</sup> January, 1864.

Library of the Board of Public Examiners.

At a meeting of the Board of Public Examiners were present.

Mr. Justice Watermeyer

Dr. Dale

Rev. E. F. Childe

Dr. Dale and Mr. Childe, the Commissioners appointed at the last meeting held on the 5<sup>th</sup> December, proceeded to examine the two Candidates for the Special Preliminary Examination. They reported that both Candidates passed a satisfactory Examination: - their names, in alphabetical order, and without reference to merit, are

Richard Brooke

Frederick Howe Ely

J. Watermeyer.

January, 1864.

The Annual Session of the Board commenced on Tuesday, the 5<sup>th</sup> January, and the examinations were held in the following order:

Examination for the Public Service Certificate.

Tuesday, January 5<sup>th</sup>: 9.30-12.30, morning, Rise and progress of the Constitution: 1-4, afternoon, Caesar.

Wednesday, January 6<sup>th</sup>: 9.30-12.30, morning, Modern Languages

Thursday, January 7<sup>th</sup>: 9.30-12.30, morning, Arithmetic; 1-4, afternoon, Algebra.

Friday, January 8<sup>th</sup>: 9.30-12.30, morning, Geometry; 1-4, afternoon, Physical Science

Examination for the Certificate of Qualification in the Theory of Trigonometrical Surveying.

Tuesday, January 5<sup>th</sup>: 9.30-12.30, morning, Arithmetic; 1-4, Algebra

Wednesday, January 6<sup>th</sup>: 9.30-12.30, morning, Plane Geometry; 1-4, afternoon, Plane Trigonometry

Thursday, January 7<sup>th</sup>: 9.30-12.30, morning, Spherical Trigonometry; 1-4, afternoon, Astronomy.

Friday, January, 8<sup>th</sup>: 9.30-12.30, morning, Problems in Geodesy and Land-Surveying.

Examination for the Second Class Certificate in Literature and Science

Tuesday, January 5<sup>th</sup>: 9.30-12.30, morning, Arithmetic; 1-4, afternoon, Algebra.

Wednesday, January, 6<sup>th</sup>; 9.30-12.30, morning, Plane Geometry; 1-4, afternoon, Plane Trigonometry.

Thursday,



- Thursday, January 7<sup>th</sup>: 9.30-12.30, Spherical Trigonometry;  
1-4, afternoon, Analytical Geometry & Conic Sections.
- Friday, January, 8<sup>th</sup>: 9.30-12.30, Physical Geography.  
1-4, afternoon, Chemistry.
- Monday, January, 11<sup>th</sup>: 9.30-12.30, morning, Constitutional History  
1-4, afternoon, Cicero and Latin writing.
- Tuesday, January, 12<sup>th</sup>: 9.30-12.30, morning, Virgil  
1-4, afternoon Xenophon and Grecian History.
- Wednesday, January 13<sup>th</sup>: 9.30-12.30, English Language & Literature  
1-4, afternoon, Modern Languages.
- Thursday, January 14<sup>th</sup>: 9.30-12.30, morning, Sophocles  
1-4, afternoon, Roman History & Elements of Logic

Examination for the Second Class Certificate in  
Law and Jurisprudence

- Tuesday, January 5<sup>th</sup>: 9.30-12.30, Elements of Roman Law  
first paper; 1-4, Elements of Roman Law, 2<sup>nd</sup> paper.
- Wednesday, January 6<sup>th</sup>: 9.30-12.30, Elements of Dutch  
Law.
- Thursday, January 7<sup>th</sup>: 9.30-12.30, Elements of English  
Law.
- Friday, January, 8<sup>th</sup>: 9.30-12.30, Notarial Practice

The examination of Candidates for the Certificate of  
qualification in the Theory of Trigonometrical Survey  
~~was~~, at Port Elizabeth was conducted simultaneously  
with that held in Cape Town.

The names of the Candidates who appeared are  
as follows: (over-leaf.)

Public

Public Service:

1. Overbeek; William Fredrik
2. Reynolds; George A.
3. de Villiers; Isaac Jacques Jean Henri
4. de Villiers; Johan Zulch
5. Stokes; Henry J
6. Willis; Ireton
7. Batchelor; Peter

Survey:

1. Brown; James G. (Port Elizabeth.)
2. Brown; Charles E. (Port Elizabeth.)
3. Adams; Matthew James
4. Hoffman; Gert Joël
5. Heavyside; James Edward. (Port Elizabeth.)
6. Powrie; Henry Wicksted
7. Paterson; John
8. Bourdillon; Edmund
9. Haupt; Albert P.
10. Shaw; Archibald Mitchell
11. Gropp; A. (Port Elizabeth.)
12. Little; Edward Delanoy. (Port Elizabeth.)

Second Class:

1. English; Arthur
2. Reitz; Francis W.
3. de Smidt; Henry
4. Brooke; Richard
5. Ely; Frederick Howe

Second Class Law:

1. de Villiers; Jacob Isaac
2. Carlisle; Sydney
3. Kennerley; William Robert

Saturday, 23<sup>rd</sup> January, 1864. Eleven o'clock  
Judges' Chambers.

At a meeting of the Board of Public Examiners  
were present:

Mr. Justice Watermeyer, in the Chair.

Dr. Dale

Dr. Champain

Rev. Canon Lidge

Sir Tho. Maclear

Dr. J. Ross Dines

Rev. G. F. Childs.

The Minutes of the last meeting were read and  
confirmed.

Dr. Dale brought to the notice of the meeting  
that Mr. Brooke, a Candidate for the Second  
Class Certificate in Literature and Science, had  
handed him a paper containing ~~some~~ answers  
to some of the questions in the Sophocles paper,  
which he had, by accident, placed in his pocket,  
instead of handing it in with his other papers.  
He did not discover his mistake till the evening  
of the day on which it was committed.

It was decided that Mr. Brooke's paper  
could not be received.

The Examiners in Law and Jurisprudence  
reported that the three Candidates who had presented  
themselves for the Second Class Examination in  
Law and Jurisprudence were entitled to the  
Certificates of the Board. Their names, in  
order of merit, are

Sydney Carlisle;

William Robert Kennerley; } Equal

Jacob Isaac de Villiers

The marks awarded were as follows:

	Roman Law. 1 <sup>st</sup> paper - 2 <sup>nd</sup> paper	English Law.	Dutch Law.	Notarial Practice.	Total	
Carlisle,	178 . 208	204 .	216 .	180 .	986 .	
Kennerley,	156 .	174 .	160 .	156 .	112 .	758 .
De Villiers	174 .	148 .	130 .	166 .	140 .	758 .

The Literary and Scientific Sections reported that the following Candidates for the  
**Second Class Examination**  
 were entitled to the Certificate of the Board :-  
 2<sup>nd</sup> Order of Merit

Henry de Smidt;  
 Frederick Howe Ely;  
 Francis William Reitz;  
 Arthur English.

∴ 3<sup>rd</sup> Order of Merit  
 Richard Brooke.

The marks assigned were as follows:

	Literature	Math <sup>s</sup> .	Phys. Science.	Total
de Smidt,	1010	1223	440	2673
Ely,	965	823	326	2114
Reitz,	1056	708	325	2089
English,	1278	451	305	2034
Brooke,	640	993	270	1903

It was decided that the Bursary of Fifty Pounds, tenable for Three years, should be awarded to Henry de Smidt; the first prize of Twenty-five Pounds to Frederick Howe Ely; and the second prize of Twenty Pounds to Francis William Reitz.

The Scientific Section reported that the following Candidates for the Examination in the Theory of

Trigonometrical Surveying were entitled to the Certificate of the Board

Edward Delaney Little; (Port-Elizabeth.)  
 John Paterson;  
 Edmund Bourdillon;  
 Archibald Mitchell Shaw;  
 Gert Joël Hoffman;  
 Henry Wicksteed Powrie;  
 James Struther Brown; (Port-Elizabeth.)  
 Matthew James Adams.

The marks assigned were as follows:

	<u>Ar. Alg. &amp; Geom.</u>	<u>Trigon.</u>	<u>Astr. &amp; Geodesy.</u>	<u>Total</u>
Little,	442	642	527	1611
Paterson,	438	520	636	1594
Bourdillon,	358	325	379	1062
Shaw,	350	291	357	998
Hoffman,	336	260	363	959
Powrie,	332	278	300	910
J. S. Brown,	321	305	239	865
Adams,	253	280	326	859
Haupt,	297	166	286	749
Heavyside,	219	236	172	627
C. E. Brown,	183	225	153	561
Gropp	152	195	113	460

The last four Candidates were not entitled to the Board's Certificate.

The Literary and Scientific Sections reported that the following Candidates for the

## Public Service

were entitled to the Certificate of the Board:

3<sup>rd</sup> order of Merit

Ireton Willis,

Isaac Jacques Jean Henri de Villiers,

George Alexander Reynolds

William Fredrik Overbeck

The marks assigned were as follows:-

	Liter.	Math.	Ph. Science	Total
I. Willis, -	213	186	83	482
J. J. J. H. de Villiers, -	154	242	77	473
G. A. Reynolds, -	152	211	94	457
W. F. Overbeck, -	170	168	80	418
P. Batchelor, -	137	189	73	399
J. Z. de Villiers, -	130	180	66	376
H. J. Stokes, -	139	138	46	323

The last three Candidates having failed to reach the minimum number of marks (400) were not entitled to the Board's Certificate.

The Examiner in Modern Languages reported that Peter Batchelor had also failed in French, - the minimum number of marks allowed for a pass being 30.

E. Waterman

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Saturday, 6<sup>th</sup> February, 1864.  
Supreme Court Chambers. -

At a Meeting of the Board of Public Examiners  
were present:

Mr. Justice Watermeyer, in the Chair

Dr. Dale

Rev. Canon Sudge

Sir Tho: Maclaur

Dr. Jones

Rev. G. F. Childs

The Minutes of the last Meeting were read  
and confirmed.

The Members of the Board proceeded to sign  
the Certificates to which the passed Candidates  
for the several Examinations held in January  
were entitled.

The President read a letter from Mr. Gill,  
~~Mathematical~~ Professor <sup>of Classics</sup> at the Graaff Reinet College,  
submitting the case of a pupil who had been absent  
from the College for 10 weeks during the past year,  
and who was therefore, by the Rules, precluded  
from having his name noted as a Candidate  
for the July School Prizes.

It was decided that there should be no  
departure from the Rule which requires continuous  
attendance, - except in properly attested cases of  
illness.

Mr. Gill also suggested in his letter that  
some definite name should be given to the School  
Prizes.

It was decided that for the present "Board  
of Examiners' School Prizes" ~~should~~ be the most  
appropriate

appropriate term.

Dr Innes handed in papers that he had prepared for the School Examinations in Arithmetic and Algebra.

It was decided that 900 marks should be allotted to the papers in Literature and 900 in Mathematics, and that  $\frac{4}{9}$  should be the minimum number that would entitle a Candidate to receive a prize or to be "honourably mentioned".

E. P. Waterhouse