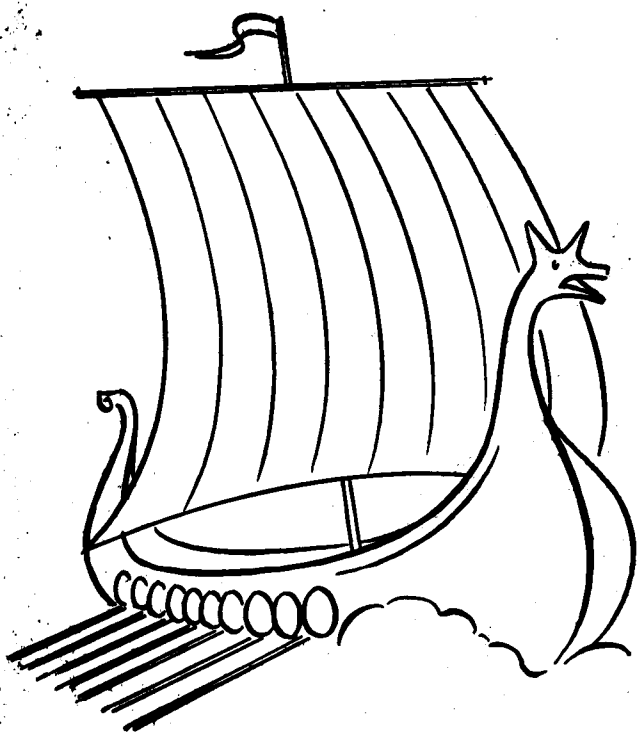


the novocastrian



Newcastle Boys' High School
OCTOBER, 1964

Editorial

WHAT constitutes a school magazine? Is it just another "paper-back"? No! The School Magazine is the heart of the school it represents. Members of the school are invited to reveal hidden talents in attempts at prose and illustration while articles and poetic competitions enable them to give vent to their personal opinions. The school magazine is also a place where the achievements of the school, both in the academic and sporting fields, are displayed for all to see. This is **your** school magazine, the Novocastrian — the magazine of N.B.H.S.

We, the editors, and Mr. Carter, extend a warm welcome to the new members of the school for whom this is their first magazine and bid a farewell to those for whom this is the last.

The numerous contributions received have maintained standards previously set. Indeed it was a difficult task for us to decide the place-getters of the various sections. I feel we owe all of you who have taken any part in the production a vote of thanks and I remind you that it is the fine spirit of co-operation between contributors and editors that makes the magazine what it is.



The Editors (back row) J. Percy, I. Henderson, G. Fry.
(front row) G. Bell, I. Carlin, A. Lawson, J. Paterson. Absent J. Wafer.

Block and page donated by Courtaulds (Australia) Ltd.

Staff at Newcastle Boys' High School

Principal: Mr. L. T. RICHARDSON, B.Sc.

Deputy Principal: Mr. T. P. O'CONNOR, B.Sc.

DEPARTMENT OF ENGLISH AND HISTORY

Master: Mr. A. R. Judd, B.A.

Assist. Masters: Messrs. M. Ashton, T. W. Blunden, B.A.; J. E. Burrows, B.A.; J. E. Carter, B.A.; N. Fardell, B.A.; G. A. Kerr, B.A.; S. Rigby, B.A.; V. P. Rooney.

DEPARTMENT OF MATHEMATICS

Master: Mr. P. C. Maehl, B.Sc.

Assist. Masters: Messrs. D. A. Abraham; W. Galvin, B.A.; J. Neilson, B.A.; T. P. O'Connor, B.Sc.; J. O'Donoghue; J. Shield, B.A.; G. W. Southern, B.A.; E. P. Willmot.

DEPARTMENT OF MODERN LANGUAGES AND CLASSICS

Master: Mr. R. J. Page, B.A.

Assist. Masters: Messrs. M. Caillot, L-es-L; J. Caldwell, B.A.; C. R. Goffet, B.A.; B. A. Jackson, B.A.; L. F. McRae B.A.

DEPARTMENT OF SCIENCE

Master: Mr. S. M. Mudford, B.Sc.Ag.

Assist. Masters: Messrs. G. Dobinson; C. F. Osborne, A.S.T.C.; T. J. Sheedy, B.Sc.; W. J. Parsons; H. E. White.

DEPARTMENT OF COMMERCE, SOCIAL STUDIES AND GEOGRAPHY

Master: Mr. W. James, B.Sc. (Econ.) Lond.

Assist. Masters: Messrs. L. Abell, B.A.; J. Gill, B.A.; G. Sullivan; G. Whalen, B.Sc.; P. Whalan.

DEPT. OF TECHNICAL DRAWING AND WOODWORK

Master: Mr. C. McKenzie, A.S.T.C.

Assist. Masters: Messrs. J. Grainger; K. Hadfield; R. Hunter.

DEPARTMENT OF ART

Miss W. Stokes, A.S.T.C.; Mr. R. G. Judge, D.P.E.

DEPARTMENT OF MUSIC

Mrs. V. M. Hindmarsh, A.Mus.A.

DEPARTMENT OF PHYSICAL EDUCATION

Messrs. R. G. Judge, D.P.E.; R. Schmierer, D.P.E.

Teacher-Librarian: Mr. S. Rigby, B.A.

Sportsmaster: Mr. R. G. Judge, D.P.E.

Careers Adviser: Mr. G. A. Kerr, B.A.

District Guidance Officer: Mr. R. Harland, B.A.

School Counsellor: Mr. R. I. Birrell, B.A.

SCHOOL WELFARE AND SOCIAL SERVICE COMMITTEE, 1964

Chairman: D. WILLIAMSON

Hon. Secretary: I. WOOD

Hon. Treasurer: J. HAWKINS

SCHOOL UNION

Secretary: D. Harvey.

P. & C. ASSOCIATION

President: Mr. P. SINCLAIR

Secretary: Mr. J. DAWE

Treasurer: Mr. J. WRIGHT

LADIES' AUXILIARY 1964

President: Mrs. J. S. CORBETT

Secretary: Mrs. A. S. OAKES

Treasurer: Mrs. L. G. HEARNE

DONATIONS FOR NOVOCASTRIAN:

Mr. G. S. SULLIVAN

CHIEF EDITOR:

J. E. CARTER, B.A.

ASSISTANT EDITORS

G. BELL, I. CARLIN, G. FRY, I. HENDERSON, J. PATERSON, J. PERCY, J. WAFER

SCHOOL SECRETARIES:

Mrs. D. F. BEVAN; Mrs. J. E. JENTSCH

TELEPHONES:

Headmaster: MW1939; Staff MW1330

SCHOOL TRANSFERS, 1964

J. BUCKLAND, Master, Wallsend High.

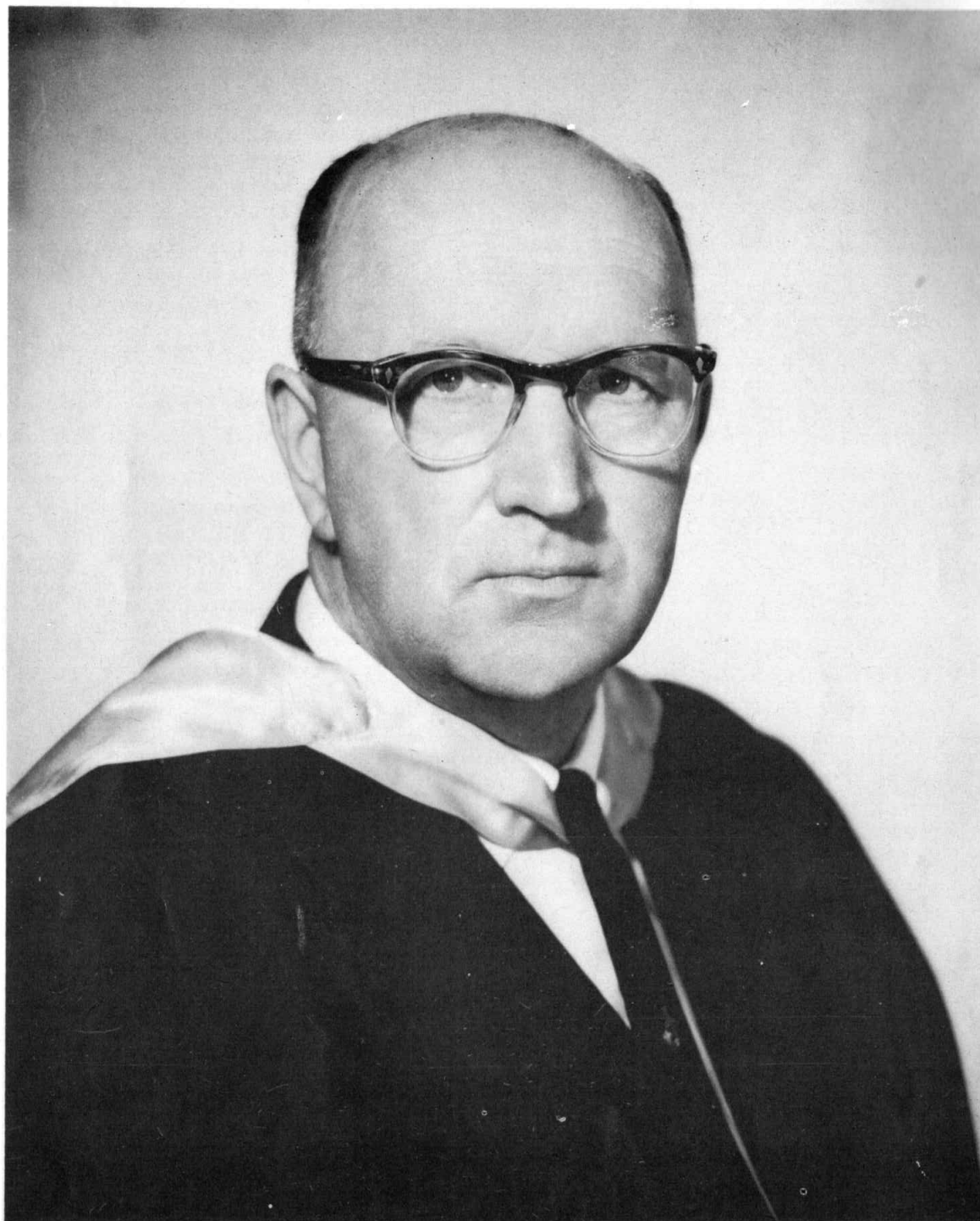
C. McFARLANE, Retired.

J. QUILL, Newcastle Girls' High.

J. SIMPSON, Retired.

A. SMITH, Dubbo.

G. WALSH, Master, Cardiff High.



Principal's Message

1964

TO THE STUDENTS . . .

The aim of a school can be stated in many ways, but to produce an end-product that stands up to the test of modern society with its quickly increasing distractions, is a real achievement. Surely this requires a young man of sound moral values, strong character and some sense of mission. This school has a long record of old boys with distinguished careers in many walks of life. Let us not be satisfied with these past performances—the present and the future are too vital.

Look at the great potential in the school enrolment. What percentage of this enrolment realises its ability level? Every student who under-achieves is a loss to the community and ultimately to the development of Australia. This country needs the full development of the talents of its young people and we must aim at their full realisation.

Have you considered why there is this under-achievement? We are all involved in this problem; parent, student and teacher. Youth is not basically opposed to education, but at the adolescent stage there often comes a disturbing reaction. Why is this so? This question is certainly a challenge to our modern society. Are we too socially secure? Has the instinct of self-preservation been dulled? The adolescent seems to have lost motivation. Without motivation the self-discipline necessary for good study-habits becomes very irksome.

This is a challenge to you too. The solution must be found—Why not by you? The problems of the future generations are your problems! It is obvious that one of the major problems will be the use of leisure. This use of leisure must be such that the vitality of the nation is not lost; if increased leisure means increased inertia, then we shall soon become a decadent race.

However, success in this field can only come at the personal level. The balanced, thoughtful young man can face these facts squarely and you must look to the home and school for preparation. The home can contribute to your spiritual well-being, to your sense of security and, together with the school, can develop characteristics of loyalty, honesty, sincerity, determination and a sense of justice. A young man who benefits from these influences will not under-achieve and the society he builds will not fail.

To the boys of Newcastle Boys' High School, I say—

This can all be attained if you apply the words in your crest—

Remis Velisque.

I wish to say thank you to the Staff for an interesting first year, during which I have felt the strength of your willing support, and to the students for the cheerful outlook that prevails in the school.

L. T. RICHARDSON



THE STAFF, 1964

Back Row: H. E. White, D. A. Abraham, E. P. Willmot, G. Dobinson, G. Whalen, L. F. McRae, G. W. Southern, H. J. Shield.

2nd Row: W. P. Galvin, T. J. Sheedy, B. A. Jackson, J. E. Burrows, M. Caillot, K. Hadfield, C. R. Goffet, P. Whalan, M. F. Ashton, R. Schmierer, J. Gill.

3rd Row: L. Abell, J. Neilsen, V. P. Rooney, J. O'Donoghue, G. Sullivan, J. Caldwell, N. E. Fardell, G. A. Kerr, T. W. Blunden, S. Rigby, R. Hunter, J. E. Carter, W. J. Parsons.

Front Row: P. C. Maehl, W. E. James, R. G. Page, Mrs. V. M. Hindmarsh, Mrs. J. E. Jentsch, L. T. Richardson (Principal), T. P. O'Connor (Deputy Principal), Miss W. Stokes, Mrs. D. F. Bevan, A. R. Judd, S. M. Mudford, C. McKenzie, R. G. Judge, C. F. Osborne.

Photo by McRae Studios

Block donated by J. J. Truscott, Chemist, Georgetown

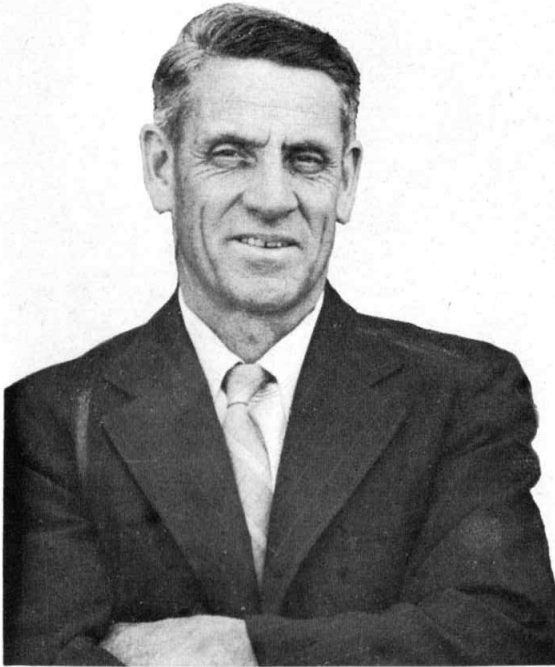
Recent Retirements

This is the last year at the school of two esteemed members of the manual staff, Mr. McKenzie (Master) and Mr. Hadfield.

Mr. McKenzie has taught at the school for twenty eight years, having joined the staff in 1936. He and Mr. O'Connor started soccer in this school not long afterwards. He has also taken an active interest in swimming, at the school, and in organisations in Newcastle. He is an examiner of the Royal Life-Saving Society, and was the Northern District breast-stroke champion for many years.

Mr. Hadfield has been at the school four years, since 1960. We hope that he will enjoy many days in the swimming pool and on the greens of Lambton Bowling Club in the years ahead.

We wish Mr. McKenzie and Mr. Hadfield good luck in their retirement.

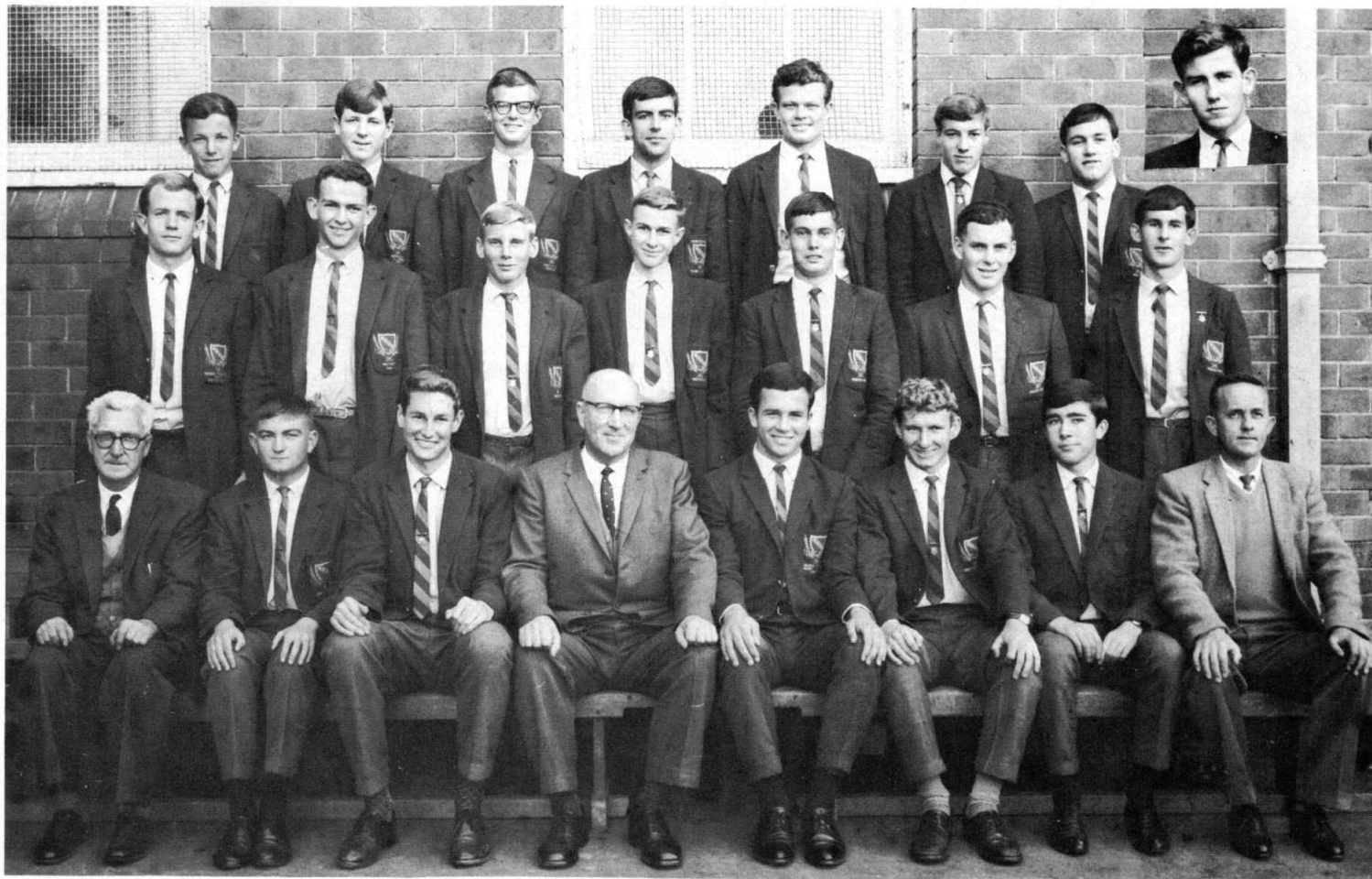


Mr. McKenzie taught at

Glebe (Sydney)
Hurstville
Auburn
Dubbo
Cardiff
Wagga
Plattsburg
Newcastle Junior High
Newcastle Boys' High
Maitland
Newcastle Boys' High

Mr. Hadfield taught at

Broadmeadow Junior Tech.
Temora
Cootamundra
Kyogle
Broken Hill
Grafton
Casino
Newcastle Junior High
Wallsend
Newcastle Technical High
Newcastle Boys' High



PREFECTS, 1964

Back Row: B. Mathieson, C. Traill, R. Jarvie, C. East, G. Leach, T. Dunnicliff, C. Slater.

Second Row: B. Prideaux, G. Cocking, A. MacNeill, P. Browne, B. Wilson, P. Knox, A. Briggs.

Front Row: Mr. O'Connor, B. Jones, R. Hough, Mr. Richardson, D. Williamson, D. Harvey, M. Broughton, Mr. Maehl.

Inset: E. Traise.

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PREFECTS, 1964

Captain: Darrell Williamson.

Vice-Captain: Richard Hough.

Allan Briggs, Michael Broughton, Peter Browne, Glenn Cocking, Trevor Dunningcliff, Colin East, Dennis Harvey, Robert Jarvie, Brent Jones, Phillip Knox, Geoffrey Leach, Bruce Mathieson, Alexander MacNeill, Barry Prideaux, Colin Slater, Charles Traill, Eric Traise, Bruce Wilson.

PREFECTS-ELECT FOR 1965

Captain: Grant Harrison.

Vice-Captain: Ian Wood.

Leigh Derwin, Bruce Bastian, Gregory Bell, David Cairns, Anthony Evans, Gary Fry, William Garden, Ian Henderson, Brian Hicks, David Hicks, Robert Humby, Eric Kolatchew, Alan Lawson, Philip McLeod, Paul Smith, John Taylor, David Timbury, Grahame White.

PREFECTS' PLEDGE

I solemnly and sincerely promise to discharge faithfully the duties of Prefect of Newcastle Boys' High School, to strive to set the highest example to the boys of the school, and to lead them in all that will enhance the school's efficiency, reputation and service to the community.

INDUCTION OF PREFECTS - 1964

The annual Induction of Prefects, a solemn occasion in the School's year, was held once again in the City Hall, on the 24th February, with the staff, pupils and many visitors in attendance.

Fittingly, this important ceremony commenced with the solemn reiteration of the School Pledge, after which the chairman of the afternoon's programme, Mr. T. P. O'Connor, B.Sc., welcomed the official guests and apologised for those unable to be present.

Mr. P. Maehl, the prefects' master, then introduced the prefects-elect who took the Prefects' Pledge together.

Our new Headmaster, Mr. L. T. Richardson, delivered his address, which, naturally, was his first at such an occasion at our School. After the Headmaster had spoken, he invested the captain and vice-captain, who then invested the remaining prefects. This method of investiture was new to our School, but served to demonstrate that the prefects would work together for our School.

The Rev. H. G. Peffer offered a prayer for the occasion and Mrs. V. Hindmarsh led the School in the School Song.

Then followed congratulations to the prefects; the Lord Mayor, Ald. F. J. Purdew, spoke on

behalf of the City of Newcastle; Mr. W. A. Gelfius, B.A. congratulated the prefects on behalf of the Education Department and Mr. P. P. Sinclair, President of our P. and C. Association, spoke on behalf of that organisation. Finally, Alan Lawson of 4A offered his congratulations on behalf of the School. He stressed both the qualities already demonstrated by these boys and their responsibilities during this year, and pledged full support to the prefects on behalf of the School.

The new captain, Darrel Williamson, replied to the congratulations, and the vice-captain gave a vote of thanks to those responsible for arranging the occasion. Proceedings were fittingly terminated by the rendering of the National Anthem.

— IAN HENDERSON, 4A

CAPTAIN'S MESSAGE

Every boy's goal on entering High School is a good pass at the Leaving Certificate. Some do not obtain the same good results as others at examinations, however this should not dampen their enthusiasm and they should try harder and harder, for every boy at Newcastle Boys' High has the ability to obtain a good pass.

He should begin his "campaign" in First Year and continue it through to Fourth Year. The fifth year passes quickly and if a boy has not secured a good understanding of his work by then he will find much difficulty in the final year.

However, he should be a participant in the sporting as well as the academic field, and must also learn to combine sport and school work in the right proportions. By competing in sport we obtain an idea of sportsmanship and fair play. Remember, the best loser is the best sportsman, and the enjoyment in sport is not in winning but in competing, (although a win now and again does boost up the spirit).

May I take this opportunity on behalf of the prefects to sincerely thank Mr. Richardson, Mr. Maehl and other members of the staff for their advice, encouragement and co-operation in helping to make this year a memorable one for us.

The co-operation that I have received convinces me that a teacher is always anxious to help provided the boy takes the initiative and explains his problems.

I would like to offer my thanks to the prefects, particularly Richard Hough and Dennis Harvey who have worked hard during the year and have made my task easier. Phillip Knox and Barry Prideaux deserve much credit also for their organisation of the prefects' dance which was a complete success.

May I conclude by saying that our school has a great tradition, a tradition handed down through the years. When we have gone the tradition will remain. It is yours to uphold and honour. All that I have said is summarised in the School Pledge which every boy should try to keep as his guide on the road to achievement.

— D. WILLIAMSON

Page donated by Waratah Bowling Club

P. & C. LADIES AUXILIARY

ANNUAL REPORT, 1963-64

Once again another year of happy and interesting work by the Ladies' Auxiliary draws to a close. It has been a most satisfying year both financially and socially and all members seem to have enjoyed the friendship at all functions.

We have had many gatherings this year but the three outstanding features I feel I should mention first are Mr. Harold Beard's farewell, Area Sports Day and the Annual Fete. These were all outstanding successes due to very efficient organisation by Mrs. McGarry who handled Mr. Beard's farewell, and Mrs. Corbett, our very capable President, who have the brunt of Sports Day. Much help was offered and the co-operation of the ladies was at all times absolutely magnificent.

It gave us much pleasure at the beginning of the year to welcome Mr. L. T. Richardson, our new Principal, and may his years at Newcastle Boys' High be long and fruitful. Mr. Richardson introduced a new feature to the school in the form of Parent-Teacher nights, where parents with problems regarding their boys could speak to teachers individually. The ladies served supper at these nights and the response and attendance was most heartening.

Other functions we have held to raise funds have been car drives, a Yoga demonstration, an apron parade, beauty demonstration, Mothers' Day stalls and our Annual Luncheon which was a luncheon and Mannequin Parade. As this year has been termed Text Book Year, the money we have raised will be well spent. The book-binding ladies have continued their usual good work and have enjoyed every minute of it, I am sure.

The Executive wishes to thank all members for their sterling support throughout the year, also others who have given generous donations. To every mother who could, but does not support their boy's school, I can only say we think they are missing an opportunity and an honour to add some small contribution to their son's participation in an exciting new world.

M. HEARNE, Hon. Secretary

BURSARIES

On the results of the External Intermediate Examination of 1963, quite a number of boys have been successful in either gaining or retaining a bursary or bursaries.

Those who gained bursaries for the first time are: J. Allison, G. Bell, R. Boyd, P. Coulter, G. Harrison, I. Henderson, E. Kolatchew, A. Lawson, T. Mears, P. Smith, P. West.

Retentions: P. Chard, R. Green, G. Hudson, M. O'Brien, J. Ross, I. Wood.

Special Bursaries: I. Henderson (Eddy Memorial Bursary), I. Wood (Eddy Memorial Bursary, Shell Bursary).

— I. WOOD, 4A

THANKS, BEN!

Again our thanks go to Ben and his persevering assistants in the tuck shop for another year of fine catering service to the school. Thanks, Ben, for a job well done.

HONOURS POCKETS

General Comments:

Special Consideration will be given to regular members of a sport team who are injured and prevented from playing their full quota of games as stated in the conditions for sport awards.

The award of H.P.'s is to be confined to members of 1st grade teams approved by the union and to pupils of 4th and 5th year.

Conditions governing inscriptions on Honour Pockets:

1. All H.P.'s are to be worn on the left breast pocket of the school blazer.

2. No inscription (except where the wearer is a prefect) is to be made in the upper part of the H.P.

3. Lettering is to be silver in colour and the maximum height is to be '1".

4. The approved forms of wording for H.P. inscriptions are: 1st XI Cricket, 1st XIII, 1st XI Soccer, Senior Swimming, Senior Athletics, Debating, School Service, 1st Tennis, CNDHS Tennis, CNDHS Cricket.

5. In (4) above, the wording is to be followed by the year — e.g. Debating 1964.

Members of school teams that win premierships may place a label to that effect in red letters '1" high on the left breast pocket of the school blazer underneath the school badge. If the wearer of such a label is awarded an Honour Pocket, then the premiership label must be transferred to the lower left pocket. This is the only addition permitted to the school blazer.

THE SCHOOL PLEDGE

I promise to be loyal to my Queen, my Country, and the wider Commonwealth of Mankind; to do all in my power to uphold the Good Name of my School; and to strive to be just and honourable in all that I do.

SCHOOL SPORTS' UNION

The School Sports' Union met several times throughout the year. The Union consists of Mr. Richardson (chairman), Mr. Judge (sportsmaster), together with a teacher and a boy (usually the team captain), representing every sport played during the year at the school.

The Blues qualifications adopted last year were again accepted this year, two new sports, Australian Rules and Golf, being included.

These qualifications are:—

1. Blues can be awarded in any sport which reaches 1st Grade open standard.

For 1964 these sports are Rugby League, Cricket, Soccer, Tennis, Athletics, Swimming, Australian Rules and Golf.

2. (I) The Blues committee consist of—the Headmaster (or his deputy), the Sportsmaster, the coaches of the blues teams, the school captain and the school vice-captain.

(II) This is the only body empowered to nominate awards for blues.

3. The nominations for blues be accepted or rejected by the school union.

4. In team sports awards be recommended only to boys of outstanding ability and performance in that team, or in representative performances arising from membership of that team. Such boys must also display sportsmanship to qualify.

5. In athletics, swimming and similar individual sports, blues be awarded for outstanding performances in relation to time and distance under the existing conditions, at Area or C.H.S. Sydney level in 16 years or open events. Sportsmanship and contributions to team effort should also be considered in these awards.

The Blues Committee then met to consider blues for 1964. The Union voted accordingly.

—D. HARVEY, 5A.

NEWCASTLE BOYS' HIGH SCHOOL UNION ACCOUNT as at 7th OCTOBER, 1964

Total receipts to date:—		£6933
Textbooks	2174	
Sports Union	491	
General A/c	1044	
School Activities	1089	
Library	309	
S.W.A.S.S.C.	209	
Science Fund	266	
Biology	14	
Contra Items	1291	
Canteen Deposit	46	
Total payment to date:—		£4037
Text books	1070	
Sport	335	
General A/c	600	
School Activities	503	
Library	157	
S.W.A.S.S.C.	115	
Science	123	
Biology	13	
Contra Items	112	
Balance as per Cash Book	2896	
Add unrepresented cheques	129	
	3025	
Less Outstanding Deposits	25	
Credit Balance Commonwealth Bank Waratah	£3000	

SPEECH NIGHT, 1964

Speech Night, recognised as the most important event in the School's calendar was held this year on 28th May at the Town Hall. It was well attended by visitors as well as boys and their parents.

The evening began with the School orchestra playing introductory music after which the Headmaster officially welcomed visitors and asked the Lord Mayor to take the chair.

Students then sang the School song and were led by their captain in the School Pledge.

Following the chairman's remarks the Headmaster presented his annual report in which he made special mention of outstanding scholastic and sporting achievements. Adoption of the report was moved by Mr. P. P. Sinclair, President of the Parents and Citizens' Association and seconded by vice-president, Mr. S. Morris, representing the Old Boys' Union.

Mr. W. A. Gelfius delivered the greetings from the Board of Education after which the prizes were awarded to boys for success in school and sport.

The Captain then moved a vote of thanks and, on behalf of the School thanked all those who had helped make the function a success.

The evening ended with the singing of the National Anthem.

— A. BURFORD, 2A

1964 S.W.A.S.S.C. REPORT

The year 1964 has been quite a reasonable one for S.W.A.S.S.C., although the amount so far to hand is not as much as hoped. The year was started with a balance of 2/11, which was carried over from 1963, and up to 20th August, 1964, £87/12/4 had been donated by the school. This amount shows that the majority of the school is right behind S.W.A.S.S.C. and that it is taking an active interest in its own committee.

During 1964, S.W.A.S.S.C. has donated £20 to the annual Mothers' Day "Flannel Flower Badge" Appeal, and many boys have made generous donations of clothing to the Lord Mayor's Community Service Appeal. The amounts to be donated to Newcastle's Sub-Normal Children's Welfare Association, Smith House and Stewart House are yet to be decided.

On behalf of the committee, I would like to thank Mr. Richardson for the active support and helpful advice which he has given throughout the year. I would also like to thank the executive members for their support. The executive consists of Chairman, Darrell Williamson; Vice-President, Richard Hough and Treasurer, John Hawkins.

I hope that 1965 will be an even more successful year than 1964 and that the school will give its whole-hearted support to S.W.A.S.S.C.

— I. Wood, 4A, Secretary

Mr. PARKER and CLEANERS

Once again we must thank Mr. Parker and his helpers for a wonderful job during the year in keeping our classrooms and School in good order. Efficiency is always noticed but even better is the cheerful co-operation of all the cleaning staff.

4th YEAR PRIZE LIST

1. Peter Browne.
2. David Mills.
3. Glenn Cocking.
4. Robert Jarvie.
5. Allan Fenwick.
6. Peter Johnston.

First in:—

English: Brent Jones, Glenn Cocking.
Latin: Paul March.
French: William Marshall.
German: William Marshall.
Maths I: Alan Fenwick, Darrell Williamson.
Maths II: Darrell Williamson.
Gen. Maths: Kevin Byrnes.
History: John Llewellyn.
Physios/Chem.: Geoffrey Leach.
Physics: Edward Reynolds.
Chemistry: Noel White.
Geography: Paul Simpson.
Economics: Michael Broughton.
Des. Geometry: Trevor Coles.
Accountancy: Leslie Pascoe.

FROM III PRIZE LIST:

Dux: Ian Wood.
2nd: Bruce Bastian.
3rd: Tony Mears.
4th: Eric Gibbons.
5th: Ian Henderson.
6th: Philip McLeod.

P. & C. Prizes for First in:—

English: James Wafer.
Latin: Ian Wood.
French: Ian Wood.
German: Ian Wood.
Maths I: Eric Gibbons, Philip McLeod.
Maths II: Ian Henderson, Steen Kristensen.
History: Alan Lawson, Ross Boyd.
Elem. Science: Bruce Bastian.
Geography: Garry Fry, Phillip Coulter.
Social Studies: Jeffrey Allison.
Business Principles: Paul Smith.
Desc. Geometry: John Debnam.

Ladies' Auxiliary Prizes for First in:—

3A: Ian Wood.
3B: Paul Smith.
3C: Jeffrey Allison.
3D: Gregory Bell.

FORM II PRIZE LIST:

Dux: Peter Herrald.
2nd: David Whitford.
3rd: Barry Kearns.
4th: Paul Hillyard.
5th: David Wells.
6th: Andrew Clark.

P. & C. Prizes for First in:—

English: David Whitford.
Latin: Paul Hillyard.
French: Peter Herrald, Paul Hillyard.
German: Keith Sivyer.
Maths: Barry Kearns.
History: David Wells.
Elem. Science: Laimonis Kavalieris.
Geography: Grahame Edgar.
Social Studies: Russell Craig.
Business Principles: Maxwell Simpson.
Desc. Geometry: Laimonis Kavalieris, Gavin Andrews.

Ladies' Auxiliary Prizes for First in:—

2A: Peter Herrald.
2B: Barry Kearns.
2C: John Myers.
2D: Peter Hollier.

FORM I PRIZE LIST:

Dux: Russell Rigby.
2nd: Roderick Webster.
3rd: Roderick Tiernan.
4th: Mark Pepper.
5th: John Harding.
6th: Ian Simpson.

P. & C. Prizes for First in:—

English: Allan Moffat.
French: Roderick Tiernan.
Maths: Russell Rigby.
Elem. Science: Russell Rigby.
Social Studies: Roderick Webster.
Art: John Harding.
Woodwork: Christopher Eddy.
Languages: Roderick Tiernan.

Ladies' Auxiliary Prizes for First in:—

1A: Peter Sylvester.
1B: Russell Rigby.
1C: Leonard Griffin.
1D: Roderick Webster.

CAREERS ENTERED BY 1963 LEAVING CERTIFICATE STUDENTS

University (Degree) Engineering 14, Science 29, Arts 10, Medicine 4, Pharmacy 2, Architecture 2, Commerce 11, Law 4, Teachers' Uni. 6.

Teachers' College: (2 year) 2.

Tech. College: (Certificate Courses) Commerce or Accountancy 16, Metallurgy 7, Engineering 6.

Trade Apprenticeships: 4. Clerical: 8. Bank: 11. Law: (A/c.) 3. Others: 11.

LEAVING CERTIFICATE EXAMINATION 1963

151 Passes, Honours gained 48.

COMMONWEALTH SCHOLARSHIP WINNERS, 1963

Bowers, C.; Conway, J. E.; Cowling, B. S.; Dyer, G. C.; Fauchon, M.; Gray, A. N.; Hadfield, J. S.; Hall, R. G.; Harman, I. J.; Harrison, G. L.; Heath, R. A.; Iles, J. R.; McKim, A. J.; Mordue, I.; Parsons, K. E.; Phillis, P.; Rawson, R. N.; Seskus, A. P.; Staines, P. J.; Stark, P. L.; Stokes, B. J.; Svirskis, A.; Tandy, P. R.; Taylor, K. L.; Troughear, A. J.; Wisniewski, J.; Zimmerman, D. R.

INTERMEDIATE CERTIFICATE EXAMINATION, 1963

164 Passes, 16 Bursaries.

WILLIAM HARRIS MEMORIAL SCHOLARSHIP

Ian Wood.

MAYFIELD ROTARY CLUB SCHOLARSHIPS

J. Hoskins, G. Gibson, M. Duckworth, J. Llewellyn.

SHELL BURSARY

Ian Wood.

EDDY MEMORIAL SCHOLARSHIP

Ian Henderson.

SCHOOL PRIZES 1963

SPECIALS

- (a) Meikle Memorial Prizes.
(b) Kenneth Sanderson Memorial Prize Mrs. W. Sanderson
(c) Finlay Donald McLeod Memorial Prize for Captain The Principal
(d) Captain John Cleary Memorial Prizes Mrs. Cleary
(e) W. V. Cochrane Memorial Prize Mrs. Cleary
(f) Murree Allen Memorial Prize Mrs. Allen
(g) Jane Warnes' Memorial Prizes Mrs. Allen

OTHER SPECIAL PRIZES—

- (a) Ross Mearns and Basil Helmore Prizes Ald. F. J. Purdue
(b) Allan J. Way Prizes Mrs. J. Corbett
(c) Ladies' Auxiliary Prizes Mrs. J. Corbett
(d) Newcastle Business Men's Club Prizes for Accountancy G. Collins, Esq.
(e) German Consulate Prizes G. Collins, Esq.
(f) Soroptomist Club Prize G. Collins, Esq.
(g) Hunter The Stationer's Prize G. Collins, Esq.
(h) Temple Bookshop Prize G. Collins, Esq.
(i) French Ambassador's Prize N. Million, Esq.
(j) Alliance Francaise Prizes N. Million, Esq.

SPECIALS:

- James Meikle Memorial Prize: Kevin Taylor.
Elizabeth Meikle Memorial Prize: Patricia Bilbie.
Kenneth Sanderson Memorial Prize: Paul Tandy.
Finlay Donald McLeod Memorial Prize: Paul Seale.
Captain John Cleary Memorial Prizes:
L.C. English: Aldis Svirskis.
L.C. History: Keith Parsons.
W. V. Cochrane Memorial Prize:
L.C. Chemistry: Alan McKim.
Murree Allen Memorial Prize:
L.C. Combined Physics-Chemistry:
Geoffrey Gibbs.
Jane Warnes's Memorial Prizes:
L.C. Geography: Alexander Wostrel.
L.C. Economics: Alan Watt.
Ross Mearns Prize: Paul Seale.
Basil Helmore Prize: Grant Harrison.
Allan J. Way Prizes:
L.C. Physics: William Ainsworth.
4th Year Physics: Edward Reynolds.
4th Year Chemistry: Noel White.
Ladies' Auxiliary Prizes:
L.C. Maths I: Kevin Taylor.
L.C. Maths II: Kevin Taylor.
L.C. General Maths: Aldis Svirskis.

Newcastle Business Men's Club Prizes:
L.C. Accountancy: Douglas Zimmerman.
4th Year Accountancy: Leslie Pascoe.

German Consulate Prizes:

5th Year: Leo Hillman.
4th Year: William Marshall.
Form III: Ian Wood.
Form II: Keith Sivyer.
1A: Gary Hocking.
1B: Roderick Tiernan (1st in Form I).
1C: Ronald O'Hearn.
1D: Dallas Cooper.

Soroptomist Club Prize for L.C. German:
Leo Hillman.

Hunter The Stationer's Prize for L.C. Desc. Geom. and Drawing: Brian Hooker.

Temple Bookshop Prize: Peter Browne.
French Ambassador's Prize: L.C. French: Lawrence Welyczko.

Alliance Francaise Prizes: First in 2nd and 4th Years French: Paul Hillyard and Peter Herrald (Form II), William Marshall (4th Year).

Yearly Examinations: Junior: Barry Kearns, Mervyn Curran, Roger Graham, Keith Sivyer, David Whitford, Richard Johnson, Phillip Harman, Alan Brady, Brian Harris, Gregory Gilmour, Gary Wilson, Edward Wykman.

Contributions to School Magazine:

Best Poetry: Senior: Nigel Perkins; Junior: Denis Dart.

Article: Warren Brown.

Art: Colin Bowers.

Best Original Prose: Senior: Graeme Harrison; Junior: Graham Simmons.

Public Speaking: Senior: Phillip Knox; Junior: James Wafer, Stephen Box.

School Service: David Marriott, Geoffrey Marriott, Alan McKim, Leslie Pascoe, Ross Caddy, Ross Gittins (Library), Lauchlan McIntosh, James Coleman, Richard Heath, William Reichert, Phillip Davis, Phillip Amour (Music), William Kerton (First Aid), Robert Caddies (Magazine), Peter Sladen (Cadets), Marvin Heaston (Prefects).

Aust. Air League Trophy: N.B.H.S. 21 Flight.
Smith's Aircraft Instrument Trophy, 1963 Award: C.U.O. McGee.

Best Passes at Leaving:

1. Kevin Taylor.
2. Paul Tandy.
3. Algis Seskus.
4. Paul Seale.
5. Richard Heath.
6. Graeme Harrison.

First in L.C. Latin: James Coleman.

Current Affairs:

4th Year: Peter Browne.
Form III: Ian Wood.
Form II: Geoffrey Morley.
Form I: Noel Connors, Desmond George, Stuart Hearne, Alan Kamprad.

LEAVING CERTIFICATE, 1963

1. KEVIN TAYLOR. 4. PAUL SEALE.
 2. PAUL TANDY. 5. RICHARD HEATH.
 3. ALGIS SESKUS. 6. GRAEME HARRISON.
 Ainsworth, W. D., Allen, R. A., Allen, R. M.,
 Amour, P. A., Andrew, C., Archibald, J. M., Askey,
 G. L., Aus, R. J.
 Barnett, M. G., Beach, W. J., Benson, P. C.,
 Booth, J. K., Bowen, R. B., Bowers, C. J., Brien,
 L. A., Bright, M. A., Brogden, W. J., Brown, R. L.,
 Brown, W. M., Brugman, D. J.
 Caddy, G. L., Carr, D. G., Cathcart, B. S.,
 Chambers, A. C., Chard, R. J., Coleman, J. V.,
 Conway, J. E., Cooke, A. M., Cooper, C. F., Cowling,
 B. S.
 Dart, P. A., Davis, P. J., Downie, R. D., Drink-
 water, P. W., Dyer, G. C., Dyjak, B.
 Eltis, W. D., England, P. A.
 Fauchon, M. J., Fenerty, A. J., Flynn, E. G.,
 Fraser, C. L., Fryer, H. B.
 Garland, W. A., Gibbs, G. A., Gibson, B. P.,
 Gibson, B. S., Goodenough, S. J., Gray, A. N.
 Hadfield, J. S., Hall, R. G., Hallinan, G. A.,
 Hankin, D., Hansen, R. G., Hardy, G. L., Harland,
 N. C., Harle, G. J., Harman, I. J., Harrison, G. L.,
 Heaston, M. L., Heath, R. A., Hillman, L., How-
 land, B. J.
 Iles, J. R.
 Jackson, A. J., Johnson, B., Jones, G. N.

Kentish, J. E.
 Laidler, T. F., Lee, A. A., Lee, C. P., Lenham,
 S. W., Lewer, P., Lewis, R. G., Lloyd, S. A., Locker,
 D. B.
 McGeachie, D. F., McGee, D. W., McIntosh,
 J. L., McKim, A. J., McWhinney, R. Q., Macleod,
 N., Marchoni, D. L., Marriott, D. J., Marshall,
 J. D., Marshall, P. A., Maskell, C. C., Mason, I. D.,
 Merrilees, W. J., Milgate, G. W., Mojsza, L.,
 Montgomery, R. D., Moore, P. G., Mordue, I.,
 Morgan, O. I., Morris, G. K., Moxey, F.
 Nelmes, J. H., Noble, G. C., Norton, D. J.,
 Nowland, K. M.
 Oakes, W. J., O'Neill, S. G.
 Page, P. G., Parsons, K. E., Phillis, P.
 Ramage, T. G., Rawson, R. N., Reeves, K. W.,
 Reichert, W. E., Reynolds, J. R., Ross, A. J.
 Sampson, J. R., Seale, J. P., Seskus, A. P.,
 Simm, W., Sladen, P. R., Smith, G. H., Smith, P.
 M., Sneddon, D. G., Staines P. J., Stark, P. L.,
 Stedman, M. A., Stephenson, C. G., Stewart, G. C.,
 Stewart, G. A., Stokes, B. J., Svirskis, A.
 Tandy, P. R., Taylor, K. L., Taylor, M. A.,
 Thursby, C. J., Tickle, G. R., Tonks, I. T.,
 Troughear, A. J., Troughear, R. H., Turnbull, M.
 J.
 Van de Werken, W. J., Vero, A. D.
 Watson, B. R., Watt, A. D., Wells, A. H.,
 Welyszko, J. K., Whitside, D. I., Williams, D. R.,
 Wisniewski, J. K., Worth, G. D., Wright, R. N.
 Yeomens, D. J., Yeung, T. K., Zimmerman,
 D. R.



DUX AND SECOND IN YEAR

Back Row: B. Bastian, D. Mills, P. Browne, I. Wood.
 Front Row: P. Herral, D. Whitford, R. Webster, R. Rigby.

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INTERMEDIATE PASSES, 1963

Allen, A. W., Allison, J. G., Anderson, A. J.,
 Armstrong, T., Attwater, D. W., Austin, B. M.
 Barratt, R. J., Bastian, B. C., Bell, G. S.,
 Bennett, J. L., Bennetts, J. M., Berka, S.I., Bird,
 W., Box, S. J., Boyd, R. D., Brien, G. F., Brown,
 D. W., Brown, M. J., Bryde, G. J., Bucknell, R. A.,
 Bull, G. F., Bull, J., Busteed, S. J.
 Caddies, D. W., Cairns, D. R., Caldwell, B.,
 Campbell-Jones, S., Carlin, I. R., Chard, P. M.,
 Cheetham, J. T., Coomber, S. M., Coulter, P.N.,
 Cowan, G. W., Crowhurst, P. J.
 Davey, D. P., Davies, W. J., Debnam, J. R.,
 Derwin, L. M., Donkin, R. W., Duncanson, P.,
 Duck, J. E., Dyer, R. L.
 Eastham, P. J., Edwards, N. J.
 Feenan, J. M., Fisher, W. H., Foster, G. M.
 A., Fry, G. C., Fry, S. J., Fryer, D. J., Furner, I.
 R. W.

Gain, R. N., Gander, W. J., George, N. D.,
 Gibbons, E. G., Gibbs, D.C., Gower, P. K., Green,
 I. J., Green, R. J., Green, R. W., Groth, J. L.,
 Grugeon, H. R.
 Hallett, L. M., Halton, G. H., Hancock, D. J.,
 Harrison, G., Harrison, G. N.

Hawkes, G. D., Henderson, I. D., Herbert, J.
 W., Hetherington, D. R., Hicks, B. L., Hillard, R.
 B., Hodges, J. R., Hogan, I. A., Hoye, W. R.,
 Hudson, D., Hudson, G. S., Humby, R.

Jackson, P. F. O., Jacobs, T.

Kemp, E. D., Kentish, G. A., Kirby, G. G. D.,
 Kolatchew, E., Kristensen, S. E.

Lawrie, C. J., Lawson, A. J., Lee, N. J., Lewis,
 K. M., Ling, G. A., Littlewood, F.

McAlpine, J., McLeod, P. K., Mackie, I. S.,
 Maher, L. F., Mansfield, J. E., Mears, T. R., Mel-
 meth, P. O., Menzies, D. W., Mieszala, F. J.,
 Milburn, F. M., Morante, P. R., Morel, M., Morris,
 G. A., Morrison, N. A., Morrow, C. B., Morrow,
 C. J.

Neal, R. M., Neat, G. F., New, R. J., Norton,
 R. L.

O'Brien, M. J., Oliver, D., Ormerod, G. R.,

Parker, D. W., Paterson, C. J., Percival, A.
 K., Percy, J. P., Pierce, D. R., Pitt, T. J., Player,
 J. M., Porter, N., Pullar, R. E.

Rampton, G. R., Read, K. E., Reinhard, L. W.,
 Rennie, E. W., Richards, P. G., Ritchie, G. J.,
 Roach, S. C., Ross, J. E., Russell, J. R., Ryan, R.
 D., Saunders, B. A., Scott, I. N., Semple, R. S.,
 Sharp, W., Sheldon, G. B., Shepherd, I. H.,
 Smith, P. L., Smith, R. F., Snedden, G. W., Spence,
 B. T., Stace, J. L., Storck, A. J., Stow, C. B., Strong
 C. K., Sutton, G. A.

Taylor, J.W., Thomas, R. M., Threlfo, J. W.,
 Turnbull, A. R., Tyler, T. W.

Valentine, N. Wafer, J. W., Wallace, T. W.,
 West, P. S., White, G. E., Willis, N. H., Wilson,
 E. H. T., Wilson N. W., Withers, J. F., Wood, I. R.

INTER-SCHOOL CHRISTIAN FELLOWSHIP

"The Bible—Fact or Fiction?" was the theme of the I.S.C.F. tent display at the Fete this year. Much time was put into preparing and editing to display the mountains of evidence in fulfilled prophecy, archaeological discoveries, and phenomenal distribution which prove conclusively that the Bible is God's Book; that it is fact and that it is worth reading.

We pray that through our efforts many of our schoolmates will be led to consider this matter and that they will benefit as a result.

Throughout the year we were very privileged to have at our meetings a number of interesting speakers including Keith Walsham, the Rugby Union player and Mr. Ron Gibbons, a lecturer at Newcastle University.

Many camps, specialising in such things as sailing, arts, skiing and even agriculture are organised during the holidays by our Movement. However at our school the most popular camp is the Sports Camp held during the August holidays. Many sports are played, including cricket, rugby, soccer, basketball and athletics. Coaching is given by experts.

Other activities such as our annual tennis tournament with Hunter High I.S.C.F., a week-end house-party, and a one day car trip to Budgewoi were enjoyed. A pleasing feature of the attendance at these functions is the predominance of non-I.S.C.F.'ers. So do not be afraid, watch the notice board next year, and join in the fun!

No collections are taken up at I.S.C.F. meetings, and there is no fee for membership, but once each year regular members are asked to contribute to the work of Scripture Union in South East Asia. This year we were successful in raising over £20.

The committee for 1964 was comprised of Ross Gittins (Leader), Ian Henderson (Assistant Leader), Alan Lawson (General Secretary) as well as Max Simpson, Greg Brien, Graeme Ormerod, John Paterson, Wesley Bradford, Graham Watson, Russell Spinks, Greg Frost and Paul Stocks.

I would like to thank our Counsellor, Mr. Boyd Bradford for his continued self-sacrifice in the interests of I.S.C.F.

ROSS GITTINS, 5th Year

WINNERS OF FETE POSTER COMPETITION

1st D. HEWITT 1C.

2nd R. COLEMAN 3C.

3rd M. RANDLE 3D.

PRIZES FOR LITERATURE AND ART

Junior Poetry "PIONEERS" J. Scott 3A.

Senior Poetry "TO TRANQUILITY" C. North 4A.

Junior Prose "THE AGELESS STORY" M. Pavlovic 2C.

Senior Prose "A DISSERTATION ON A BICYCLE" I. Henderson 4A.

Best Article "NOVAE" M. Morel 4B.

Art "OLD AGE" P. Burgess 4A.

THE AGELESS STORY

The cold, black emptiness of space stretched through infinity, presenting one with the same atmosphere it would have presented to you a billion years ago, the same atmosphere it might present to you a billion years from now.

Black and foreboding, dead but menacing, ageless and secret, changing ever changing - but always the same . . . its mocking laugh echoing and vanishing into its myriad suns as it watched frozenly at the efforts of puny man.

Dead, dead space.

Life! An insignificant point lost in the universe and its swirling galaxies, but nevertheless a small spark catching at the fringe of space, throwing its flimsy light into the staring void.

Man.

Thus man takes his first faltering steps into the universe, and thus man begins vaguely to understand the secret of secrets . . . the ageless story.

—MILORAD PAVLOVIC, 2C

A DISSERTATION ON A BICYCLE

Many of our modern methods of transportation we take for granted, although when we see a great modern aeroplane soaring through the clouds or a long express locomotive hurtling almost recklessly around a steep curve we often find time to marvel at modern inventions. But, never, seemingly do we spare a thought for the inexpensive, comparatively slow, humble bicycle.

We may well wonder how the average boy of the pre-bicycle era managed to get about. On the whole, unless he possessed a horse, he did not.

Just imagine having to chase your bicycle before going to school or having to put it out into a paddock to indulge in the deglutition of its food. It would be a little inconvenient, to say

the least, to have to groom one's bike each week. Yet, this was the situation encountered quite often, indeed, each day, by numerous boys, all who had a horse for the purpose of riding it, in the "Pre-Bicycle Age."

Nevertheless, such things as horses are useful at times, even if only to introduce a far more illustrious contrivance. The story is related how a certain Farmer Brown, on one cold, rainy night was thrown, with his semi-demolished cart, into a neighbouring moat after his speedy Pegasus had bolted. Being a do-it-yourself man he preferred to solve his problem with the materials on hand, rather than borrow a cart from the knight into whose moat he had so ignominiously precipitated himself. Thus, with two wooden wheels and a few conveniently broken pieces of wood he had contrived a rather cumbersome piece of apparatus by means of which he travelled the last quarter of a mile to the village, in which he lived, in broad daylight.

Needless to relate, his invention, described in an old manuscript as "a sheaf of sticks holding together a couple of wheels about three feet apart," attracted quite a deal of attention in the daily papers, and news of it soon spread until even the inhabitants of the castle adjacent to the scene of the invention were moved to place a plaque commemorating the momentous occasion near the moat, the actual spot being covered by new mud.

Now, this description gives little indication of the nature of the invention and we have little notion of the actual form it took, because the absence of a Patent's Commission allowed many enterprising businessmen to capitalise on it and each to add his own special refinements until it reached the shape it has now attained.

Surely you will agree that the writer to whom is attributed the immortal words "Equi sunt obsoleti" was referring to this great invention of a bicycle, and we can only express our gratitude to him for so finely expressing our feelings.

— IAN HENDERSON, 4A

TO TRANQUILITY

O, sweet tranquility wo do thee love.
Thy cloak of peace, a fortress to the old.
A stout defence against Time's wrackful siege,
A realm of rest, a sea of sleep untold.
So when the twisting trail of tiresome toil
Comes to an end, and restful peace is wont,
Into a pond of tranquil peace I plunge
And drink my fill from life's most perfect font.
And thus can any sage or sinner be
Refreshed, relaxed, revived, renewed, relieved.
For through time spent in tranquil thought and bliss
The fervent lust of youth, again retrieved.
So fear no more of death, eternity
Will give to all supreme tranquility.

—C. NORTH, 4A

PIONEERS

A raging, little country stream,
Flanked by banks, covered in green.
But now the stream now longer flows,
Along the banks grass no longer grows.
Now it is a dried river bed,
Its banks are scorched to a rustic red.

Water of life, flowing through a bore,
Water to the cattle, who yearn for more.
A bent and twisted Squatter's bore,
The clear, clean water, flows no more.
The cattle have died long ago,
Death by thirst. Oh, so slow.

The rich green paddocks where the drover camps
his herd,
Where the bellowing of cattle could always be
heard.

The grass has withered in years gone by,
And now in the paddock all the cattle die.
And the winds blow through grass so dry,
Where the bleached bones of cattle also lie.

Squatters and drovers, Pioneers of old.
Because of their hardships are equal to gold.
They endured great dangers, all without fuss,
Went without riches, all this for us.

— J. SCOTT, 3A

NOVAE

If there is any field of observational astronomy in which the amateur observer has proved to be of great assistance to the professional astronomer, then that field is the observation, investigation and recording of variable stars.

Variable stars are stars which, at either regular or irregular intervals, fluctuate in the amount of visible light they emit. Eclipsing binaries are, as their name suggests, stars consisting of two component stars which revolve around one another in a matter of days, or even hours, and in doing so they regularly eclipse one another, with consequent fluctuations in the brightness of the system. Other classes of variable stars are the pulsating stars, stars which expand and contract in size, long period variables, irregular variables and the novae.

A nova is a normally faint star which suddenly flares up in brightness by as much as one hundred thousand times, although the typical nova increases in brightness by between seventy and eighty thousand times. Although a dozen or

more novae may be detected in a year, most of them photographically, only occasionally does one attain sufficient brightness to be seen by the naked eye. This occurred recently, in 1963, when a moderately bright star appeared suddenly on the border between the constellations of Lyra and Hercules. There was some discussion as to which constellation should claim the stranger, but finally the International Astronomical Union ruled in favour of Hercules and the "new" star was designated Nova Herculis 1963.

Records of novae go back as far as the Christian era when Chinese astronomers observed one between Alpha and Beta Centauri. The name "nova" was given by ancient astronomers who lived before the invention of the telescope in 1609, and who took the stars to be "new" ones, literally "popping" into life! Although these objects are termed "new" stars, the name fits them as badly as the adjective "temporary," which is frequently used in connection with them.

The main characteristics of a nova are a sudden increase in intrinsic brightness, a period of a week or more in which the star shines at maximum brilliance and then a longer period in which the slowly fading star returns to obscurity. Nova Aquilae 1918, for instance, increased in brightness by almost fifty thousand times in two-and-a-half days to become the brightest star in the sky apart from Sirius. (Since the nova appeared in Aquila, the eagle, and because the eagle figures in both the coats-of-arms of Germany and the U.S.A., both sides in World War 1 seized upon the star's sudden appearance for its propaganda value and both sides pronounced the event as a portent of victory!) The decrease in brightness of DQ Herculis 1934 was at times irregular and at one time was much fainter than it was originally. DQ Herculis has been studied closely during and after its outburst thirty years ago. It has been found to have repeated the characteristics of T Aurigae 1891, and, as well as having been found to be a short-period eclipsing binary, it is the only nova to have had its distance calibrated with any certainty - some 740 light years.

Unfortunately only one nova - Nova Aquilae 1918 - has had its spectrum studied before its outburst. It was found to have an A-type spectrum, which places the star among the white-hot stars. After its short lived brilliance, Nova Aquilae 1918 returned to its previous dimness, apparently none-the-worse for its experience. This can also be said for most other novae.

What causes a nova to flare up? The answer probably lies in the balance of the forces which maintain the star's size. If the outer layers of a star become slightly cooler and hence denser than normal then the pressure of pent-up radiation will become strong enough to blow off the outer layers, mainly hydrogen, into space. There will be an increase in brightness of the star as the shell of incandescent gas hurtles outward at a velocity of up to 2000 km/sec. The amount of matter thus expelled is really quite small, amounting to not more than one-hundredth of one per cent of the total mass of the star. These out-



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bursts probably represent a point in the star's development where the star is required to expel its little remaining hydrogen before it can proceed to the next stage in its evolutionary path. The star will, therefore, have to undergo several outbursts in order to completely rid itself of excess hydrogen. Indeed, expanding shells of gas were observed for some years around both Nova Persei 1901 and Nova Aquilae 1918. Nova Persei 1901 was another very bright nova, being only slightly inferior at maximum brightness to Nova Aquilae 1918.

Allied to the novae are the recurrent novae and the pseudo-novae. Of the recurrent novae, one of the most interesting examples is T Coronae Borealis, T Cor. Bor. for short. This star has suffered outbursts in 1866 and 1946. Normally a faint star, well beyond the limit of detection by the naked eye, it has, on those two occasions, achieved the prominence of 2nd magnitude - quite a big leap in brightness. The spectrum of this star has a great many unusual features and was consequently labelled "peculiar." R S Ophiuchi, another very inconspicuous star, has suffered outbursts in 1898 and 1933, while T Pyxidis has had the misfortune to explode four times in the past seventy years.

The best example of a pseudo-nova is Eta Carinae in the constellation Carina, the keel, formerly part of the ship Argo. On a map of 1677, Eta Carinae was a faint, naked-eye star of 4th magnitude. By 1837, however, it had increased in brightness until it was second only to Sirius. Thereafter, it began to fade and by 1868 it was no longer visible to the naked eye. It is now strictly a telescopic object, although fluctuations in brightness suggest that Eta Carinae may in the future repeat its earlier performance. The spectrum of Eta Carinae is also classed as "peculiar" and, surrounding the star itself, is a nebula of glowing gas, presumably expelled from the star.

The observation and reporting of novae is one field which the amateur astronomical groups have to themselves. The professional astronomer is too busy with other studies to have time for idle star-gazing. Amateur observers, being familiar with the constellations, quickly notice the change wrought by the appearance of a strange star, and thus prove themselves to be of value to the professional.

Much rarer than the novae, however, are the "supernovae." Potential novae and supernovae are always very faint objects in our skies for the simple reason that they are extremely remote. Whereas a nova may outshine our sun one hun-

dred thousand times at maximum, a supernovae may, at maximum, exceed our sun one hundred million times. Supernovae are so rare that only three have been observed by man in the past thousand years in our own galaxy, although about fifty have been observed in external star systems.

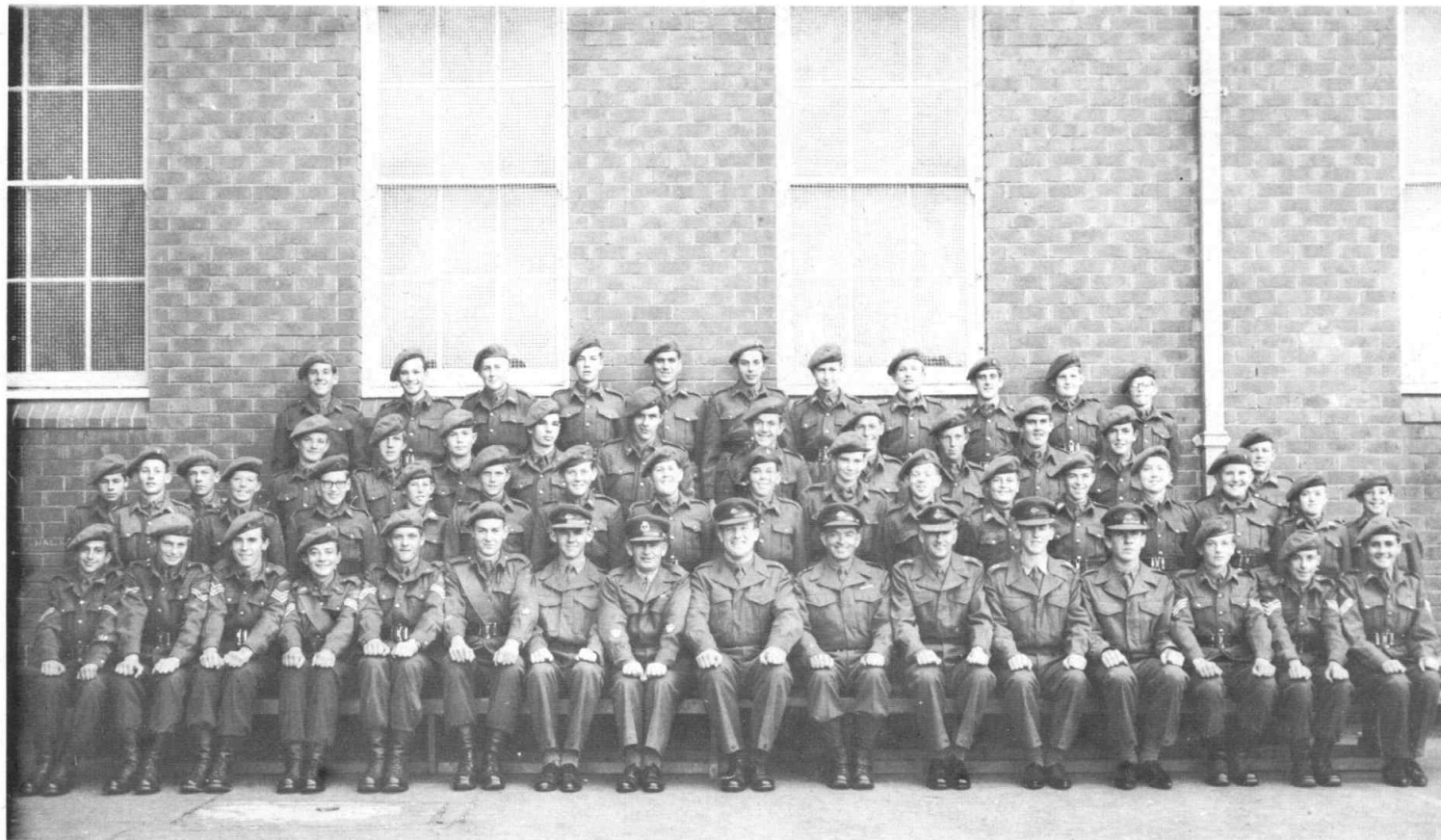
The basic difference between a nova and a supernova is that in the case of the supernova, the star has reached the end of its evolution, has become unstable and has, quite literally, exploded. A supernova loses so much mass in the explosion that it cannot ever return to its former size or brightness. The three supernovae of A.D. 1054, 1572 and 1604 all brightened up to become the most brilliant objects in the heavens. However, their splendour was short-lived and they all faded from view in less than a year-and-a-half.

Of the three, only the supernova of 1054, the most violent, has left any visible remnants. In the constellation Taurus there is a curious gas patch which has been attributed to the explosion of 1054. This nebula is quite luminous and is still expanding outward from the old explosion centre. The nebula is also an unusually strong transmitter of radio waves, a fact which led several scientists to suggest that the original explosion created a certain amount of "anti-matter," which is now in the process of being annihilated with normal matter. At the centre of this nebula, which has a diameter of about seven light-years, there is a very faint sixteenth magnitude star of the type known as "white dwarf" with a spectrum that suggests a surface temperature of 500,000 deg. Centigrade! The gases of the nebula are streaming outward at a speed of 1000 km./sec., a rather slow rate for a supernova explosion.

In 1885 a supernova was observed in the neighbouring spiral galaxy known as M 31. For a short time the star equalled two hundred million suns in brightness. In 1937 an even more violent explosion was observed in the irregular galaxy IC. 4182, when a star shone for a while with the equivalent of three hundred-and-fifty million suns.

Undoubtedly much can be learnt about star development and evolution from the study of novae and supernovae. Unfortunately we are unlikely to have the opportunity of studying at close hand a nova or supernova, as the nearest nova (DQ Herculis) is 740 light-years away and the nearest supernova, of which the "Crab Nebula" in Taurus is the remains, 4000 light-years away.

— M. MOREL, 4B



ARMY CADETS

Back Row: Cdts. P. Briggs, W. Grabda, P. Budden, P. Hainey, P. Kobier, S. Lambert, A. Callow, R. Jackson, T. Bussell, J. Beddoe, R. Beasley

Third Row: L/Cpl. K. Bohatko, L/Cpl. G. Schott, Cpl. G. Wicks, L/Cpl. M. Alcock, L/Cpl. G. Morrow, L/Cpl. G. Frost, L/Cpl. D. Timbury.
Cdts. B. Paterson, J. Stanger, R. Jamieson, B. Gibson, Cpl. L. Groom, Cpl. E. Wykman.

Second Row: Cdts. J. Strickland, G. Jones, K. Dove, A. Kamprad, R. O'Hearn, A. Davidson, R. Mathieson, G. May, P. Warner, P. Meredith,
P. Karanges, S. Pearce, L/Cpl. G. Warner, Cdts. K. Power, J. Ebbott, B. Grainger.

Front Row: Cpl. G. Melick, Cpl. R. Krempin, Sgt. D. Graham, Sgt. R. Craig, Sgt. D. Hancock, W.O. S. Dawe, C.U.O. J. McLeod, W.O. B. Baxter,
Lt. V. Rooney, Cpt. R. Judge, Lt. J. Gill, C.U.O. E. Kolatchew, C.U.O. G. White, Sgt. R. Graham, Sgt. P. Hillyard, Sgt. G. Andrews.

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Club Reports

CADET REPORT, 1964

Again Newcastle Boys' High Cadet Unit can look back on a year of interesting activity and achievement.

Our annual camp was once again held at Singleton. Here the cadets were given valuable training in the arts of warfare and they had the opportunity to exercise this new-found knowledge on "Operation Holdfast"—an advanced exercise introduced only this year. The way in which our unit carried out its task brought much praise from the Regular Army Officers and Instructors.

During the camp all the cadets had the opportunity of firing either the rifle, the Bren Light Machine Gun or the Vickers Medium Machine Gun. All these activities combined to make this camp an instructive and enjoyable one.

Other activities throughout the year included: a weekend bivouac held at Fort Wallace, where the new recruits received their initial training; two field-days, where advanced instructions in the weapons of the Regular Army was given; and two range practices at Stockton Rifle Range.

The unit this year was, for the first time, under the command of Captain Judge and evidence of his good work can already be seen.

The efficiency of the unit has greatly increased since Lt. Gill, an officer in the C.M.F. took over control of the administration. His work, together with that of Lt. Rooney, Unit Training Officer is greatly appreciated.

The Combined Cadet Dance was again organised by the Senior Cadet Unit and it proved very successful. An efficient Guard of Honour was supplied by members of the Senior Cadet Unit and the A.T.C.

As usual the display at the Fete was held and in addition to our own equipment much was supplied by C.M.F. units in Newcastle making it a first class exhibition.

Finally the thanks of the unit must go to Captain Judge, Lt. Rooney, Lt. Gill and Sergeant Major Baxter, our full time Instructor, for their leadership, understanding and guidance throughout the year. Our sincere thanks also go to Mr. Richardson for his support and interest in the unit.

C.U.O. G. WHITE



Block and page donated by Mr. J. Borthwick, Chemist



A.T.C. CADETS

Back Row: L.A.C.'s G. Hocking, D. Seales, G. Nicholas, K. Marsh, J. Ford, R. Sommerville, G. Virtue, B. Benson, C. Newton, I. Brooks, F. Valencich, N. Randall.

Second Row: L.A.C.'s P. Burns, G. Noakes, G. Hunter, B. Field, P. Norman, T. Morgan, D. Patrick, K. Tranter, W. Rushford, R. Johnson, R. Holmes, J. Taylor.

Front Row: L.A.C.'s G. Simmons, G. Cowan, Cpl. R. Hillard, F/Sgt. S. Busteed, F/Lt. Waters, F/Lt. Rigby, Cpl. Cornish, F/Sgt. B. Bastian, Sgt. S. Roach, Cpl. G. Priest, L.A.C. P. Lindus.

Photo by McRae Studios

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This year has truly been an eventful year in the history of 21 Flt. A more interesting and appropriate training programme has been successfully introduced.

Some new changes include instructional films which are shown every two weeks, shortening of the basic stage of training to enable cadets to receive a more rapid promotion and specialist subjects which include a detailed study of modern weapons (including missiles), radio communications and survival (including nuclear weapons, protection from nuclear explosion, desert and jungle survival).

Contrary to the thoughts of the students, 21 Flt. may easily be the most active cadet unit in Newcastle. This is shown by the following activities in which we have participated this year: the Anzac and Commonwealth Day marches, a two-day bivouac at Williamtown's dropping zone, a one-day manoeuvre at Glenrock Lagoon, a two-week camp at the following bases selected by the cadets in January: Richmond, Fairbairn and Wagga, a ten-day camp at Richmond and a two-week camp at either Richmond or Bankstown. Besides this long chain of events we have many activities to complete before the end of the year, including a combined A.T.C. - Army cadet rifle shoot, the annual Inter-Squadron rifle shoot and drill competition, the passing-out parade and two or three weeks of camps during the Christmas vacation at Richmond, Wagga, Bankstown and Fairbairn. (From the above list of events it can easily be seen that we are not a "moth-ball" unit.)

During the camps held this year we earned many distinctions, Flt. Sgt. Bastian upholding our tradition by coming third in the State in his senior course; Flt. Sgt. Busted, Cpl. Hillard and Cpl. Priest successfully completing their senior courses while Cpl. Chegwidden (left) and L.A.C.'s Benson, Lindus and Simmons successfully completed their courses.

Camps have now been increased to interstate bases including Pearce (West. Australia) and Townsville, giving the cadets a wonderful opportunity to see Australia and above all to obtain a greater knowledge of the R.A.A.F. - the service in which I feel sure that many of our cadets will become potential officers and airmen.

Finally, along with the N.C.O.'s and cadets I wish to express my sincere thanks to the C.O. Flt. Lt. Rigby, the Training Officer Flt. Lt. Waters, the W.O.D. Flt. Sgt. Schofield, Sgt. Burges and Cpl. Cornish for their endless support.

— Flt. Sgt. S. BUSTEED

On Thursday, 29th October, the school again witnessed the combined Passing Out Parade of the Air Training Corps and Army Cadets. Being organised this year by the A.T.C., the parade was reviewed by Group Captain R. T. Susans D.F.C. D.S.O., Commanding Officer of Williamtown RAAF Base.

Other official guests present were: the Commanding Officer of 12 Cadet Battalion, Major Exton; the Deputy Commander of 2 Battalion Royal N.S.W. Regiment, Col. J. A. Fox and Alderman Dalton representing the Lord Mayor.

After Group Captain Susans had inspected both units, a march past took place in which he took the salute. The headmaster, Mr. L. T. Richardson then gave a speech of welcome to the Inspecting Officer, Official Guests and parents and an invitation for the Inspecting Officer to address the assembly was given. In his address, Group Captain Susans complimented the units on their fine dress and bearing.

Next followed the presentation of trophies and awards. The Memorial Trophies awarded to the No. 21 Flight A.T.C. were: Pilot Officer John Crossman Trophy for most outstanding Junior Cadet to L.A.C. K. Tranter; Warrant Officer Frank Sherriff Trophy for Leadership to Flight Sergeant B. Bastian; Fred Smith cup for most Outstanding Cadet to Flight Sergeant S. Busted; and the Air League Trophy for runners-up in N.S.W. Drill Competition to Corporal G. Simmons on behalf of No. 21 Flight.

The passing out Cadets were awarded with certificates; these were: L.A.C. J. Taylor; L.A.C. C. Newton; L.A.C. P. Melmeth.

Trophies for the Cadet Unit, presented by Group Captain Susans were: Cadet Lt. Barrie Miller Senior Efficiency trophy to W.O.2 S. Dawe; Junior Efficiency trophy to L/Cpl. D. Timbury; 2 Cadet Brigade Promotion Course for 1st place in Unit and 3rd place in Brigade to Sgt. R. Craig; and Markmanship trophy to Sgt. R. Graham.

The Passing Out cadets were awarded certificates and record of service books. These were: C.U.O. J. McLeod; W.O.2 S. Dawe; Cpl. R. Krempp; L/Cpl. S. Wade; L/Cpl. G. Warner; L/Cpl. M. Alcock; Cdt. T. Bussell; Cdt. B. Gibson; Cdt. G. Johns; Cdt. D. Knight; Cdt. J. Moore; and Cdt. S. Lambert.

All the Passing Out Cadets then officially departed from their Units and were given a salute by the rest of the parade in their march past. This concluded the formal part of the ceremony and the official party retired to the library for afternoon tea.

The excellent performance of the cadets, together with the accompaniment of the newly formed band, which considerably brightened the proceedings, made the 1964 Passing Out Parade a highly successful one.

— C.U.O. E. KOLATCHEW



SCHOOL CHOIR

Back Row: G. Sneddon, P. Hillyard, P. Gower, P. Sketchley, S. Archer, G. Ritchie, D. Menzies, L. Colless, R. Ryan, W. Purcell, P. Hofman
G. Screen, J. Stewart, G. Morley, J. Milligan, J. Todd.

Fourth Row: R. Johnson, J. Taylor, J. Clark, D. Caldwell, R. Whitelaw, G. Wellham, P. Stocks, K. Bohatko, G. Kveics, D. Davies, J. Henderson,
P. Spencer, S. Pead, P. Harman, J. Pepper, P. Sandy, R. Shand.

Third Row: R. Edwards, M. Cross, C. Campbell, P. Archer, K. Hull, C. Millin, L. Griffin, P. Bensley, G. Warner, B. Miller, R. Grandidge,
P. Smith, A. Davidson, S. Hearne, P. Hobson, M. Hannaford.

Second Row: B. Sweeney, P. O'Hearn, G. Parrott, H. Cribb, J. Layman, W. Bramble, T. Taylor, C. Knott, T. Dalby, T. Jinks, M. Gresham,
M. Smith, D. Williamson, L. Abrams, G. Sattler, S. Pratsch.

Front Row: L. Sandy, R. Campbell, J. McIntosh, P. Torpy, D. Cole, J. Bowden, K. Hoffman, P. Herrald, B. Powell, S. Pearce, A. Croft

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CHOIR REPORT

This year has been one of great success for the choir and one of great satisfaction to the members.

As usual, our year's activities commenced with the singing of four pieces at Speech Night—"The Cuckoo" and "The Girl I Left Behind Me", both English Airs, "I Heard a Forest Praying" by de la Rose and "Sing a Song of Six pence" by Diack. The standard attained this year was higher than in previous years.

There were two appearances in July. The first was the non-competitive Choral Festival when the choir, accompanied by the orchestra, sang "Roses of the South" by Johann Strauss, arranged by Mrs. Hindmarsh. Later in the month, we came second to Newcastle Girls' High at the Mayfield Lions' Club Eisteddfod where we sang "I Heard a Forest Praying" and "Old Winter's Voice", another English Air.

The climax to the year was the participation in the City of Sydney Eisteddfod where we were third to Belmore High and Fort Street Boys' High. We sang "In These Delightful Pleasant Groves"—Purcell and "All Holy Lord"—16th Cent. The 100 boys who went to Sydney visited either General Motors or Garden Island after they had sung.

This was not, however, the finish of choral activities, for the choir is now singing popular ballads which shall be sung later in the year when the choir visits the Senior Citizens' Homes.

Thanks are extended to Mrs. Hindmarsh for her excellent tuition and to Messrs. Nielsen and Schmierer who accompanied us to Sydney. We would also like to thank Mr. Richardson for his co-operation throughout the year.

S. ARCHER, 5B

LIBRARY CLUB REPORTS

CLUB LEADERS' REPORT:

The F. H. Beard Library has now been open for twenty months and the Club is fully settled into its new quarters.

The number of books to be prepared has increased greatly since the beginning of the year, but Club members have worked well and many of these books are now ready for release.

Our membership (at the end of July) this year was 16, the members being:

5th year: Ross Gittins, Jeff Marriott, Les Pascoe, Ross Caddy.

3rd Form: Richard Johnstone, Bruce Jenkins, John Scott, Doug Flynn, Brian Harris, David Whitford.

2nd Form: Les and Alan Croft, Clive Gregory Paul Meredith, Kevin Williams.

1st Form: David Cocking.

Since the end of July there have been several alterations to membership.

This year the members are divided among five different departments: Library, Displays, Book Preparation, Magazines and the Reading Room Committee.

Since there are no 4th year members, one of the 3rd Form boys mentioned above will become the Club Leader next year.

I would like to thank the two Deputy Library Leaders (Jeff Marriott and Les Pascoe) for their continued support and co-operation throughout the year.

For the first time in the new Library, the Club put up an Education Week Display. This display consisted mainly of posters from the Central Office of Information, London. In addition, the staff had a display featuring many examples of the students' class work for the parents to inspect.

Last, but not least, I would like to thank Mr. Rigby for his help and advice during the year.

— ROSS CADDY, Library Club Leader

LIBRARY REPORT:

This year commenced with approximately half the new books in use. During August four new shelves were installed and several hundred additional new books were released. There are now only about one hundred more books to be released.

For the first time at this school a reasonably efficient service for reserving books was operated during the year.

A very welcome change this year is the number of cases of overdue books. So far this year there has been no more than thirty cases of overdue books, whereas last year there were over one hundred cases.

During the year I have had the willing assistance of David Cocking. He has usually been in charge of the "changing desk" and the reserved books section.

I would also like to thank Mr. Rigby, Mr. Burrows and Mr. Judd for their help in supervising the operation of the Library at lunch.

— LES PASCOE, Librarian.

BOOK PREPARATION DEPARTMENT:

This group has done much fine work during the past year in processing new books and repairing old ones.

Before the books can be put on the shelves they must be painted, lettered, covered with clear plastic, filed and pocketed.

My thanks go to Ross Caddy, Ross Gittins and Bruce Jenkins for their fine work in this group.

— J. MARRIOTT

DISPLAYS DEPARTMENT:

During the year we have received much new material for our Library displays.

I would like to express my appreciation of the assistance given to me by John Scott and David Whitford in the preparation of various displays.

— R. A. JOHNSTONE

MAGAZINES DEPARTMENT:

I would like to thank all the boys who have helped me prepare and file the magazines. They are Les and Alan Croft, Paul Meredith, Clive Gregory and Barry Elsley.

— KEVIN WILLIAMS

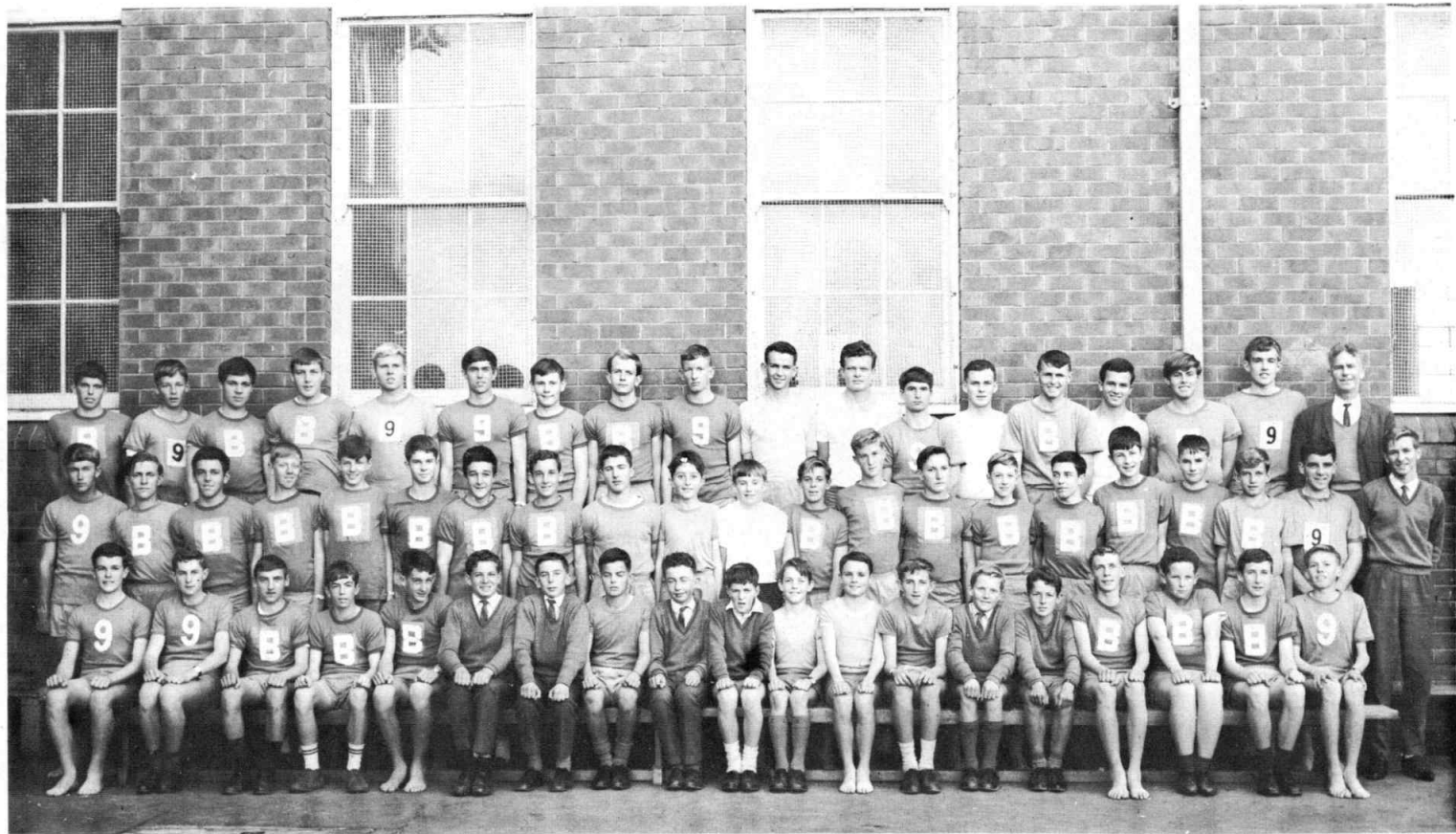
READING ROOM COMMITTEE:

In June, the Library Club opened a new section turning the Library annexe into a Reading Room which now contains hundreds of magazines and pamphlets from all over the world.

I am very pleased to say that it has been quite a success.

My thanks go to Brian Harris and to Bruce Jenkins who assisted greatly to get the Reading Room started.

— DOUG FLYNN



ATHLETICS, 1964

Back Row: G. Ling, B. Frost, A. Evans, M. Bright, I. Parsons, N. Ryder, G. Tyler, B. Prideaux, I. Forrester, G. Cocking, G. Leach, G. Sisely
P. Knox, D. Cairns, D. Williamson, J. Borthwick, D. Bowman, Mr. Goffet (Coach).

Second Row: G. Neat, W. Hitchcock, J. Groves, P. Wright, D. Lindsay, D. Flynn, P. Henshaw, G. Yarrow, G. Edgar, A. Alcock, G. Sneddon
S. Bland, D. Bewley, G. Bryde, A. Percival, A. Lawson, J. Hawkins, D. Wells, S. Reeves, M. Simpson, G. Jones.

Front Row: G. Vero, P. March, S. Fleming, D. Knight, R. Walker, A. Moffat, C. Gregory, A. Smith, G. Mackie, J. Groom, A. Bailey, P. Clark,
G. Gilmore, S. O'Hearne, P. Hawkins, G. Taylor, P. Bennet, I. Simpson, R. New.

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ATHLETICS REPORT

The over-all competition results this year were rather disappointing, but there were some outstanding individual performances.

Because of two innovations, N.B.H.S.' 58th Annual Sports Meeting promised to be more interesting than usual. In an attempt to beat the awful weather usually met with in August, we changed the date of our Carnival to April—and struck one of the few wet days for months, with the result that the afternoon programme had to be postponed and conducted in bits and pieces during various lunch hours.

The second innovation, however, had happier results. Most events were run off in graded divisions, and this meant that we had the largest number of genuine participants even seen in our carnival.

Shortland House won the Arthur Shield from Hannell, Hunter and Smith.

The Age Champions were: Senior, N. Ryder and B. Prideaux, equal. 16 years, E. Reynolds. 15 years, G. Edgar. 14 years, J. Hawkins. 13 years, D. Lindsay. 12 years, P. Hawkins.

Record-breakers were: N. Ryder, Senior Discus, 116ft., 9½ins., and Senior Shot Put, 47 ft. P. O'Hearn, 12 years, High Jump, 4ft., 4ins., S. Bland, 12 years Shot Put, 31ft., 11ins.

At the Zone B Carnival, Lintott Cup, we came second in the Aggregate, second in the Senior, second in the Junior, and second in the Juvenile Divisions.

Our senior champions, Norman Ryder and Barry Prideaux performed brilliantly. Ryder's three records were: Senior Shot, 50ft., 1½ins., Senior Discus, 114ft. 8ins., and Senior Javelin, 165ft. 2½ins.

Prideaux made new records in the Senior 100, 10 secs., and the Senior 220, 22.6 secs.

Other N.B.H.S. winners were D. Lindsay, J. Hawkins, G. Edgar, P. Wright, S. Bland, D. Fryer, N. Willis, F. Mieszala, P. Knox, P. Henshaw, J. Groves, A. Lawson, R. Walker, D. Graham, G. Neat, D. Wells, E. Reynolds, G. Ling and C. Lawrie.

The performances of these athletes and our numerous place-getters gave us high hopes for the Area Carnival, but although they did well, there was not sufficient depth in our team, and the best we could do was to come fourth in the Aggregate, second in the Senior, fourth in the Junior, and fourth in the Juvenile Divisions.

Once again, Norman Ryder and Barry Prideaux broke records.

Peter Wright equalled the record, 5ft., 6ins., in the 15 years High Jump, and David Fryer equalled the record, 5ft. 7in., in the 16 years High Jump.

Other winners were A. Lawson, G. Neat, J. Groves, D. Graham, J. Hawkins, R. Lindsay and P. Hawkins.

One of the highlights for N.B.H.S. at this carnival was the remarkable courage shown by Allan Moffatt to go down narrowly in the 13 years 880.

Alan Lawson has been awarded a Blue for his outstanding performances, and Barry Prideaux and Norman Ryder have been awarded bars to the Blues they already hold.

We wish to thank all those who helped the athletes during their season, and in particular, of course, the Ground Staff at Waratah Oval.

Mr. C. GOFFET

HINTS ON RUNNING 100 YARDS

There is far more in sprinting 100 yards than merely waiting for the gun to go off, then running madly for the finishing line. In fact, to become a successful sprinter, three main techniques must be mastered — the start, the first thirty yards and finally, the finish. Owing to lack of space these can only be discussed very briefly.

First and perhaps foremost is the start, which can not only be an asset but also a handicap in sprinting. The medium start and the bullet start are, I would say, used most frequently. On the order "on your marks" the runners get down ready for the "get set", then the "gun." Each runner adapts himself to the type of start which he can best handle. The basic rule, however, that sprinters must remember while "on the mark" is to relax. One's thoughts must be completely occupied with anything else other than the race which one is about to run. The next order by the starter will be "get set." This is the time to become tense, as all one's concentration must be centred on the race only. The runner will rise slightly from his former "on the mark" position with his back almost parallel to the ground and his shoulders as far forward as possible. The leaning forward will enable the runner to get a greater thrust and hence start faster. Intense concentration must be maintained at this stage, while the sprinter waits for the "gun."

The first thirty yards of 100 yards running are very critical. A race is often won by the athlete who can learn to properly master the first stages of the event. The key to success is reaching one's maximum speed in as short a distance as possible. As soon as the gun is fired the sprinter should lean out at an angle between 40 and 60 deg., and four to six very short steps will enable the athlete to reach his normal sprinting pace much quicker and to gain the correct sprinting angle of about 80 deg. All these different steps should be overcome within the first thirty yards so that the next sixty-five yards may be run at maximum speed.

You will note that the final five yards of the race have yet to be discussed. The finish is another important factor in successful sprinting and needs to be studied carefully. Many athletes adopt poor styles and movements when running under extreme stress, especially so when finishing a race. Quite often the arms are far-flung or the runner is looking skywards — these actions are wasteful of energy and tend to unbalance the runner. To overcome this, the athlete, without stresses and strains, must run straight through the tape, just as if he were still at the eighty yards or so, mark. Thrusting the chest forward is also helpful at the finish, but in doing so, the runner must not become unbalanced.

As a result, to gain supremacy and success over 100 yards, or any sprint race for that matter, a detailed study and development of technique must first be acquired.

Useful books on the techniques of sprinting can be found in almost any good library. Some of these are listed hereunder:

How to become a champion - Percy Cerutti
Athletics for schools - Dyson and Edmundson
Track and field athletics - H. Chapman
Athletics - Training Olympic champions in track and field events - J. Weber.
Athletics - F. N. S. Creek

PAUL MARCH, 5A