

27

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BEING THE SEMI-ANNUAL SUPPLEMENT TO THE REPORT OF
THE SUPERINTENDENT OF EDUCATION FOR

NOVA SCOTIA

APRIL, 1916.



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II.—The *JOURNAL*, which is the Semi-annual Supplement of the Education Report, will be furnished gratuitously, according to law, to each Inspector, Chairman of Commissioners and Board of Trustees; and will be supplied to other parties wishing it at the rate of **ten cents** a copy.

III.—Each Secretary of Trustees is instructed and required to file and preserve the successive numbers of the *JOURNAL* for the benefit of his fellow Trustees and the Teacher or Teachers of his section, and their successors, and to inform his associates in office, and the Teacher or Teachers, of its receipt, so soon thereafter as may be convenient.

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To Teachers employed in the Public Schools for the half year ended, 30 June, 1916.

	Number of Teaching Days employed.	Am't paid to Teachers from Provincial Treasury					
ANNAPOLIS.							
Dill, George W.	102	105	00	Trenholm, Olga T.	102	60	00
Ruggles, Lenfest	102	105	00	Wheelock, Mildred E.	20	11	76
Crowell, Deborah C. H.	102	75	00	Whitman, Annie S.	20	11	76
Thorne, Alice Evelyn	102	75	00	Adams, Mildred	102	45	00
Woodbury, Ada M.	102	75	00	Banks, Ida Blanche	102	45	00
Young, Marguerite E.	102	75	00	Brooks, Blanche Eva	102	45	00
Balcom, Irene C.	102	60	00	Buckler, Alma	102	45	00
Banks, Beriah S.	102	60	00	Burke, Mary S.	102	45	00
Banks, Wilford E.	102	60	00	Covert, Stella M.	102	45	00
Buckler, Kathleen R.	102	60	00	Downie, Helena G.	102	45	00
Bustin, H. L.	102	60	00	Fralic, Elsie	102	45	00
Chipman, Emma W.	102	60	00	Gaul, Ethel	102	45	00
Chipman, Mary L.	102	60	00	Harris, Lillian Blanche	102	45	00
Chute, Flossie H.	102	60	00	Hudgins, Minerva	102	45	00
Connell, Mary Marguerite	102	60	00	Jackson, Annie L.	102	45	00
Crawford, Lillian E.	102	60	00	Knox, Perry McG.	101	44	56
Fitz Randolph, Mary F.	102	60	00	Lambertson, Minnie	102	45	00
Franey, Mary Janet	102	60	00	Margeson, Hanna L.	102	45	00
Fulmer, Vola Amelia	102	60	00	Marshall, Ida M.	102	45	00
Gesner, Phoebe Agnes	44	25	88	Mills, Hattie S.	44	19	40
Graves, Laura	102	60	00	Mussells, Dora R.	93	41	01
Gunn, Hazel C.	102	60	00	McBride, Bessie	53	23	37
Hall, Agnes Mae	82	48	23	McBride, Beulah	101	44	56
Harris, C. Louise	102	60	00	McCullum, Alberta M.	101	44	56
Hutchinson, Gladys	101	59	41	MacMichael, Myrtle P.	102	45	00
Jackson, Gladys M.	102	60	00	Reagh, Fannie O.	101	44	56
Jacques, Violet D.	102	60	00	Roy, Maud E.	53	23	37
Lloyd, Constance	102	60	00	Schaff, Margaret A Mills	102	45	00
Longley, Annie M.	99	58	23	Simpson, Lizzie M.	82	36	16
Longley, Hilda M.	102	60	00	Spinney, Laura Blanche	101	44	56
Mills, Emily J.	102	60	00	Spurr, Annie M. W.	102	45	00
Morrison, Myrtle A.	102	60	00	Spurr, Hortense V. B.	102	45	00
McCormic, A. E.	102	60	00	Watson, Annie S.	99½	43	88
McGill, Flora M.	102	60	00	Whitman, Minnie C.	101	44	56
Neily, Pauline A.	102	60	00	Winchester, Dora M.	102	45	00
Nichols, Allison C.	102	60	00	Zwicker, Lulu deBlois	102	45	00
Palfrey, Mary M.	102	60	00	Apt, Evelyn Belle	102	30	00
Parker, Bessie M.	90	52	94	Balcom, Hazel Eva	102	30	00
Poole, Vera M.	102	60	00	Brown, Georgie M.	102	30	00
Potter, Mary E.	102	60	00	Buddle, Frances L.	102	30	00
Reagh, Mildred L.	102	60	00	Burbridge, Hazel M.	102	30	00
Ritcey, Adelaide	102	60	00	Eisenhaur, Hilda P.	88	25	89
Roney, Annie Irene	102	60	00	Fairn, Henrietta	101	29	71
Ruggles, Florence L.	102	60	00	Fairn, Julietta P.	100	29	41
Spinney, Theodore H.	102	60	00	Fox, Edith H.	97	28	53
Tibert, Walton K.	97	57	06	Gould, Muriel	102	30	00
Thurber, Ronald E.	102	60	00	Harnish, Lloyd L. (Mrs.)	102	30	00
Tompkins, Grace	102	60	00	Hunt, Gladys	20	5	88
				Jackson, Lena May	102	30	00
				Jones, Estelle A.	102	30	00
				Lantz, Grace Muriel	102	50	00
				Morgan, Elizabeth E.	102	30	00
				McCulloch, Alice Evelyn	102	30	00
				McFadden, Pearl N.	102	30	00
				MacInnis, Emma	85	25	00
				Ogilvie, Gertrude	102	30	00
				Oickle, Sadie Pearl	102	30	00
				Parker, Hettie E.	102	30	00
				Parker, Ewart Gladstone	102	30	00
				Payson, Laura Mae	102	30	00
				Phinney, Annie M.	82	24	12
				Reinhardt, Gladys M.	102	30	00
				Sanford, Eva H.	90	26	47
				Sawler, Winifred	102	30	00
				Smith, Marguerite Irene	102	30	00
				Smith, Pauline	102	30	00

Wamboldt, Myrtle O.	86	25	30	Chisholm, Sarah C.	102	45	00
Ward, Helena W.	102	30	00	Chisholm, Florence	102	45	00
Whitman, Eva May	77	22	65	Dunn, Florence C.	102	45	00
Whitman, Laura Belle	102	30	00	Floyd, Alice	99	43	66
Wood, Ruby Alma	102	30	00	Homer, Catherine C.	102	45	00
Poor Sections.				Mullins, Annie J.	101	44	56
Adams, Alice Ellen	46	17	35	McAskill, Jessie M.	99	43	66
Banks, Flora Leona	80½	30	40	Macdonald, Catherine M.	100	44	11
Bent, Helen Lucy	92	34	72	Macdonald, Margaret M.	102	45	00
Berry, Ella M.	77	29	07	Macdonald, Cassie	102	45	00
Buckler, Laura J.	71	26	81	Macdonald, William J.	100	44	11
Buckler, Nellie M.	102	38	50	Macdonald, Catherine	102	45	00
Cooke, Hattie A.	102	38	50	Macdonald, Mary Ann	102	45	00
Kelly, Laura	102	38	50	Macdonald, Mary	99	43	66
Mailman, Gladys V.	88	33	23	Macdonald, Angus G.	102	45	00
Marshall, Carrie O.	58	21	90	Macdonnell, John	102	45	00
Mason, Helen	86	32	48	McDougall, Mary Agnes	102	45	00
Miller, Birdie G.	78	29	44	McEachern, Penelope	102	45	00
Mosher, Margaret A.	91	34	36	McIsaac, Jean	99	43	66
Roach, Dorothy M.	102	38	50	McKenzie, Gertrude.	102	45	00
Rogers, Florence A.	73	27	57	McKeaugh, Annie	102	45	00
Sanders, Jane Olivia	20	7	56	McLean, Josephine	102	45	00
Saunders, Ruth H.	68	25	68	McLellan, Mamie	102	45	00
Simpson, Mary E.	49	18	49	O'Connell, Bridget	102	45	00
Slocomb, Vera Marie	102	38	50	Sister St. Hugh	97	42	78
Swallow, Jessie Pearle	101	38	15	Sr. St. Mary Matilda	24	10	58
Wile, Lillian Hazel	69	26	05	Sister M. Pelagia	87	38	36
Wright, Dennis B.	102	38	50	Sister St. Walburga	97	42	78
Upshaw, Beatrice V.	39	14	72	Boyd, Mary Marcella	61	17	94
Annuitants.				Campbell, Mary	102	30	00
Shaffner, S. C.	198	53		Cameron, Annie	102	30	00
Brown, A. D.	60	00		Cameron, Mary Belle	88	25	89
McGill, Geo. B.	60	00		Cameron, Allan D.	69	20	29
Munro, Henry	50	00		Chisholm, James W.	91	26	77
Richardson, Mrs. R. A.	60	00		Crispo, John T.	89	26	18
Vidito, Helen A.	60	00		Dunlavy, Jennie	97	28	53
Jones, Watson C.	45	00		Hogan, Catherine H.	42	12	35
Saunders, Arthur W.	45	00		Levandier, Helena J.	15	4	41
Assistant.				Macdonald, Annie	102	30	00
Neily, Mina M.	102	20	00	Macdonald, Florence	102	30	00
ANTIGONISH.				Macdonald, Harriett F.	102	30	00
Boyle, James	83	73	23	Macdonald, Mary Ellen	89	27	36
Coady, Moses M.	83	85	44	Macdonald, Mary C.	93	30	00
Sr. St. Thomas des Anges	97	85	59	Macdonald, Mary E.	102	30	00
Doane, William	102	75	00	Macdonald, Henrietta	87	30	00
Ricker, Annie L.	97	57	06	Macdonald, Mary C.	102	25	59
Sister St. Margaret	60	44	11	Macdonald, Sarah M.	87	30	00
McAmis, Katie	102	60	00	Macdonald, Angus A.	102	30	00
Macdonald, Annie May	58	34	12	Macdonald, Laura Belle	102	30	00
Macdonald, Sadie	102	60	00	Macdonald, Anna M.	102	30	00
McEachern, Stella	15	8	82	Macdonald, Annie Belle	102	30	00
McInnis, Annie	102	60	00	Macdonald, Vernie	102	30	00
McLean, William	101	59	41	Macdonald, Mary F.	102	30	00
Somers, Alexander M.	88	51	76	McDaniel, Mary J.	102	27	94
Stropole, Stella M.	102	60	00	McGillivray, Teresa	95	30	00
Sister M. Leonora	102	60	00	McIsaac, Mary	102	5	88
Sister St. Mary Paula	97	57	06	Sister St. Mary Beatrice	20	30	00
Boyd, Effie Ann	101	44	56	Watkins, Isabel	102	30	00
Chisholm, Teresa	93	41	01	Poor Sections.			
Chisholm, Catherine M.	102	45	00	Chisholm, Mary Cecelia	98	38	43
				Grant, Isabel	102	35	68
				Gillis, Isabel	91	31	76
				Kennedy, Rebecca	81	40	00
				Macdonald, Mary	102		

Macdonald, Mary	20	7	84
Macdonald, Catherine	45	17	64
McDaniel, Margaret E.	86	33	72
McGillivray, Mary M.	102	40	00
McIsaac, Catherine M.	92	36	08
McIsaac, Louise A.	102	40	00
McLean, Catherine A.	102	40	00
McLellan, Addean	78	30	59

Special Poor Section.

College Grant, John Wadden	88	25	88
Sec.			

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Georgeville, A. Gillis, Sec.	102	30	00
West River, D. McMaster	94	27	65
West River, D. McMaster	94	27	65

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Macdonald, Angus L.	83	40	68
Macdonald, Hugh John	83	16	27

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Gillis, Angus	60	00	
Boyd, Angus A.	45	00	
Cameron, William D.	45	00	
Chisholm, Dan. M.	45	00	
Fraser, William	45	00	
McPherson, John A.	45	00	
Martin, Helen	30	00	

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Archibald, John T.	102	90	00
Bingay, James	102	105	00
Creelman, William A.	102	105	00
Davidson, Milton D.	102	105	00
Dodds, Agnes A.	102	90	00
Ellis, Russel	102	90	00
Haverstock, W. Ernest	102	105	00
Oulton, Charles A.	102	90	00
Trask, J. Logan	101	89	11
Boyle, Thomas O'R.	102	75	00
Brehaut, Charlotte E.	88	64	70
Colquhoun, Elizabeth	102	75	00
Ellis, Mary A.	102	75	00
Fownes, Ella M.	102	75	00
Keefe, Agnes C.	102	75	00
LeVatte, Myrtle H.	102	75	00
Lindsay, Harriet L.	102	75	00
MacKay, Georgina M.	94	69	11
McKinnon, Christine	102	75	00
McNeil, Vincent	97	71	31
McNutt, Orpha M.	102	75	00
O'Brien, Mary E.	95	69	84
Phillips, Otto B.	101	74	26
Sister M. Camilla	97	71	31
Sister M. Vincent	102	75	00
Stephens, Gladys	73	53	66
Underwood, George R.	99	72	79

Anderson, Isabella M.	97	57	06
Au Coin, Lucy	101	59	41
Bearse, Esther R.	102	60	00
Bissett, Clara V.	97	57	06
Bown, Eleanor F.	102	60	00
Bown, Violet E.	102	60	00
Boyd, Christina	97	57	06
Brown, Elizabeth C.	102	60	00
Bruce, Anna M.	101	59	41
Bruce, Bessie W.	101	59	41
Burke, Domatilla	101	59	41
Cameron, Janet F.	102	60	00
Campbell, Flo. D.	97	57	06
Campbell, Lizzie M.	97	57	06
Chisholm, William J.	97	57	06
Crowdis, M. Eureka	20	11	76
Crowell, Annie E.	101	59	41
Crowell, Wilfred R.	97	57	06
Davis, Kathreen	102	60	00
Dorsay, Sadie A.	102	60	00
Douceti, Alma M.	101	59	41
Edgecombe, Ethel L.	87	51	17
Egan, Anna M.	102	60	00
Elderkin, A. Laura	14	8	23
Ferguson, Lillian M.	102	60	00
Fife, Annie M.	100	58	82
Fraser, Gertrude C.	101	59	41
Fraser, Greta B.	102	60	00
Fulton, Elora A.	101	59	41
Gannon, Mary J.	97	57	06
Gates, Lena M.	102	60	00
Gillis, Mary D.	102	60	00
Goode, Myrtle M.	102	60	00
Greenwell, Bertha L.	102	60	00
Gunn, Annie	102	60	00
Hartigan, J. Helen	102	60	00
Harvey, Orpha	102	60	00
Hayford, Albert C.	101	59	41
Holmes, Brenton M.	29	17	05
Holmes, Laura V. I.	97	57	06
Howard, Clarence E.	101	59	41
Ingraham, Grettie I.	102	60	00
Israel, Doris	102	60	00
Johnston, Joan	100	58	82
Kay, Mary E.	102	60	00
Knox, S. Edna	102	60	00
Lantz, Helena M.	102	60	00
Lawley, James H.	102	60	00
LeVatte, Emily J. E.	102	60	00
Macaulay, Katherine	97	57	06
McDonald, Annie C.	94	55	30
McDonald, Margaret K.	102	60	00
Macdonald, Mary B.	102	60	00
MacDougall, Jean	102	60	00
Macintosh, Anna B.	102	60	00
McIntosh, Grace A.	101	59	41
McIntyre, Mary E.	102	60	00
MacKenzie, Josephine	102	60	00
McKinnon, Christine	102	60	00
McKinnon, Jessie M.	101	59	41
McKinnon, Mary	102	60	00
McLean, Dolena	102	60	00
McLean, Edna	97	57	06
MacLean, Eleanor C.	66	38	82
McLean, S. Agnes	97	57	06
McLellan, Stella I.	99	58	23

McLennan, A. Josephine	102	60	00	Chisholm, Christine	101	44	56
MacLeod, Christine	101	59	41	Chisholm, Marguerite	102	45	00
MacLeod, Roger S.	102	60	00	Chisholm, Sadie	102	45	00
MacMillan, Katherine	102	60	00	Collins, Sadie C.	102	45	00
Macneil, Jennie E.	102	60	00	Costello, Georgina	102	45	00
MacNeil, Kate	73	42	94	Currie, Teresa	102	45	00
McNeil, Sarah Ann	95	55	88	Daley, Annie S.	102	45	00
Madower, Henrietta J.	102	60	00	Devoe, Pearl D.	99	43	66
Maguire, Gertrude J.	101	59	41	Dickie, Mabel B.	102	45	00
Matheson, Maude H.	94	55	30	Doyle, Agnes C.	101	44	56
Moore, Edith F.	102	60	00	Farquharson, Annie	101	44	56
Moreshead, Mary A.	102	60	00	Foster, Lillian	102	45	00
Munn, Ella M.	97	57	06	Fyfe, Magdalen M.	102	45	00
Munn, Nina A.	97	57	06	Fyfe, Nora	59	26	01
Nicholson, Mary	96	56	47	Gouthro, Alice	102	45	00
O'Keefe, Margaret M.	93	54	71	Gouthro, Lillian E.	99	43	66
Ouellette, Lena M. A.	101	59	41	Grant, Bertha A.	102	45	00
Patterson, Mary E.	102	60	00	Hamilton, Agnes E.	102	45	00
Peck, M. Emily	93	54	71	Holmes, Jessie K.	97	42	78
Ritcey, Edith A.	101	59	41	Kavanagh, Eva C.	92	40	57
Ritcey, Geraldine O. E.	91	53	53	Kerr, Annie F.	97	42	78
Ross, Annie M.	102	60	00	Kyte, Angela E.	102	45	00
Sampson, George F.	102	60	00	MacAulay, Ida H.	95	41	90
Schurman, Sadie	102	60	00	Macaulay, Nina J.	79	34	84
Sister Agnes Maria	97	57	06	McCormick, Katherine	102	45	00
Sister M. Ambrosia	81	47	64	MacDonald, Cassie	97	42	78
Sister M. Andrea	97	57	06	MacDonald, Daisy F.	102	45	00
Sister M. Annette	97	57	06	Macdonald, Florence C.	101	44	56
Sister M. Chrysostom	97	57	06	McDonald, Genevieve	97	42	78
Sister M. Clarissa	102	60	00	MacDonald, Joanna	102	45	00
Sister M. Cleophas	97	57	06	McDonald, Loretta	102	45	00
Sister M. Isidore	97	57	06	McDonald, Mary	73	32	19
Sister M. Josita	97	57	06	McDonald, Mary A.	73	32	19
Sister M. Margaret	102	60	00	Macdonald, Nellie	97	42	78
Sister M. Ursula	102	60	00	MacDonald, Norman	19	8	37
Sister St. Bernard	102	60	00	Macdonald, Sarah	102	45	00
Sister St. Jean	102	60	00	McDonald, Sarah Belle	29	12	79
Sister St. John	102	60	00	Macdonald, Theresa	97	42	78
Sister St. Mary	102	60	00	McDougall, Helen	97	42	78
Sister St. M. Michael	101	59	41	McDougall, Mabel	97	42	78
Sister St. Osmond	101	59	41	McDougall, Mary	97	42	78
Sister Teresa Joseph	102	60	00	MacEwen, Mary C.	102	45	00
Smythe, Philomena	97	57	06	McIsaac, M. Catherine	32	14	11
Somers, Bernadette	97	57	06	McIsaac, Margaret	102	45	00
Stalker, Elizabeth J.	102	60	00	MacIsaac, Margaret	93	41	01
Strachan, Katherine	78	45	88	MacIsaac, Margaret	102	45	00
Stropole, Gwladys	102	60	00	McKay, Ethel J.	97	42	78
Sullivan, Marie	102	60	00	McKay, Jean	97	44	11
Sutherland, Mary	94	55	30	MacKergan, Christine	100	45	00
Vickers, Matilda M.	102	60	00	MacKenzie, Jessie	102	45	00
Watson, Annie M.	102	60	00	MacKinnon, Alice B.	70	30	87
Weatherbe, Ava B.	101	59	41	MacKinnon, Jessie M.	102	45	00
Woodbury, Harold C.	102	60	00	MacKinnon, Katie	101	44	56
Woodill, Arthur W.	102	60	00	McKinnon, Sayde E.	96	42	84
Young, William H.	102	60	00	MacLean, Christine V.	97	42	78
Baxendale, Annie	102	45	00	Maclean, Rachael I.	97	44	56
Bird, A. Vera	102	45	00	McLeod, Cecilia I.	101	45	00
Boutilier, Alice	101	44	56	McLeod, Teresa	102	31	81
Boyle, Emma	102	45	00	MacNeil, Florence	71	45	00
Boyle, Mary J.	29	12	79	MacNeill, Loretta	102	42	78
Broderick, Annie	101	44	56	MacNeil, Margaret S.	97	44	56
Brown, Sara	102	45	00	MacNeil, Mary C.	101	42	78
Browner, Vivien	97	42	78	MacNeil, Stella M.	102	45	00
Burke, H. Beatrice	54	23	81	Martin, Catherine C.	102	45	00
Cameron, Christina	102	45	00	Moore, Elizabeth	102	45	00
Cash, Elizabeth J.	102	45	00	Morrison, Lottie M.	102	45	00

Morrison, Margaret	102	45	00	Howie, Georgie I.	102	30	00
O'Connell, Mary A.	48	21	16	Johnson, Sara	102	30	00
Pettipas, Walter A.	102	45	00	Johnstone, Annabel	102	30	00
Phalen, Annie J.	101	44	56	Johnstone, Annie	96	28	24
Phelan, Bertha M.	102	45	00	Keats, Mary R.	101	29	71
Power, Winifred L.	102	45	00	King, Alice B.	102	30	00
Read, Pearl B.	37	16	31	Ling, Ethel G.	40	11	76
Robinson, Hattie L.	72	31	75	MacAulay, Christie	102	30	00
Simpson, Margaret J.	102	45	00	Macaulay, Josephine	97	28	55
Sister M. Ambrose	102	45	00	McCormick, Mary	102	30	00
Sister M. Camillus	97	42	78	MacCuish, Catherine G.	102	30	00
Sister M. Dionysia	102	45	00	Macdonald, Alice H.	20	5	88
Sister M. Eulalia	102	45	00	MacDonald, Christina	102	30	00
Sister M. Lucina	102	45	00	Macdonald, Mary	97	28	53
Sister M. Oswald	102	45	00	McDonald, Mary A.	102	30	00
Sister M. Stephen	97	42	78	Macdonald, Mary J.	102	30	00
Sister M. Thomas	97	42	78	Macdonald, Teresa B.	101½	29	86
Sister M. Veronica	97	42	78	MacGillivray, Margaret A.	102	30	00
Sister M. Wilfrid	5	2	20	MacInnis, Annie	102	30	00
Sister St. Aldric	102	45	00	MacInnis, Margaret	97	28	53
Sister St. Alexander	102	45	00	McIntosh, Mary E.	88	25	89
Sister St. Augustine	102	45	00	McIntyre, John	95	27	94
Sister St. Casilda	102	45	00	McKenzie, William D.	40	11	76
Sister St. Frances	102	45	00	McKenzie, William D.	88	25	89
Sister St. Henedine	102	45	00	McKinnon, Annie F.	100	29	41
Sister St. John C.	102	45	00	McKinnon, Elizabeth A.	91	26	77
Sister St. Marcella	101	44	56	MacKinnon, Etta	102	30	00
Sister St. Marie	101	44	56	McLean, Mary J.	101	29	71
Sister St. M. Agatha	102	45	00	MacLean, Myrtle L.	101	29	71
Sister St. Pancratius	102	45	00	McLellan, Freda	101	29	71
Sister St. Reginald	102	45	00	McLellan, Mary	97	28	53
Sister St. Roseline	102	45	00	McLellan, Mary A.	101	29	71
Slaven, Elizabeth M.	102	45	00	McMullin, Elizabeth A.	102	30	00
Smith, Catherine	102	45	00	McNaughton, Margaret	97	28	53
Smith, Mary C.	102	45	00	McNeil, Katie J.	101	29	71
Spencer, Dora H.	97	42	78	McNeil, Mary	99	29	12
Spencer, Mildred M.	102	45	00	MacRae, Mary I.	102	30	00
Stevens, Maude A.	102	45	00	Mann, G. Fred	102	30	00
Trask, Elizabeth B.	97	42	78	Matheson, Florence M.	89½	26	33
Wentzell, Lois E.	95	41	90	Meagher, Stella	101	29	71
Anderson, Edith	97	28	53	Moffatt, Bessie G.	74	21	76
Armstrong, Minnie K.	102	30	00	Morrison, John F.	88	25	89
Battersby, Ethel E.	102	50	00	Morrison, Perle T.	100	29	41
Beaver, Lena M.	101	29	71	Mullins, Katherine A.	95½	28	09
Boutilier, Lily	95½	28	09	Munroe, Teresa M.	81	23	82
Burchell, Alice E.	97	28	53	Nicholson, Katie	91	26	77
Burke, Rosie T.	82	24	12	Nickerson, Margaret	97	28	56
Campbell, Florence M.	102	30	00	O'Handley, Joan	102	30	00
Campbell, Jessie	91	26	77	Orr, Isabel M.	90	26	47
Campbell, Margaret	102	30	00	Pembroke, Maggie	94	27	65
Carlin, M. Margaret	43	12	64	Power, Elizabeth M.	102	30	00
Carmichael, Jessie	100	29	41	Ratchford, James M.	94	27	65
Coady, Margaret A.	19	5	59	Reid, Annie E.	102	30	00
Costello, C. Gertrude	95	27	94	Roach, Mary	96	28	24
Crowdis, Marjorie A.	29	8	52	Robson, Matilda E.	83	24	41
Currie, Mamie	101	29	71	Sampson, Clara M.	97	28	53
Currie, Mary L.	87	25	59	Scott, Christine	101	29	71
England, Emma	102	30	00	Sister F. Paula	96	28	24
Ferguson, Fred	91	26	77	Sister M. Aloyse	97	28	53
Forbes, Florence	102	30	00	Sister M. Jeromina	102	30	00
Fraser, Josephine	102	30	00	Sister M. Seresina	102	30	00
Gillis, Mary E.	4	1	17	Sister St. Ann	72	21	17
Gillis, Mary Josephine	102	30	00	Sister St. Gregory	102	30	00
Gillis, Seraphina	93	27	36	Sister St. Mary	102	30	00
Gough, Edna F.	78	22	94	Smith, Katherine M.	97	28	53
Grant, Thelma R.	37	10	88	Smith, Mary A.	97	28	53

Somers, Elizabeth C.	100	29	41	Baltzer, Adelaide	102	60	00
Spencer, Greta M.	99	29	12	Bishop, Margaret	102	60	00
Sullivan, Kathryn	102	30	00	Daniels, Agusta	102	60	00
Trask, Marion S.	56	16	46	Morgan, Sarah	47	27	64
Verner, Annie A.	97	28	53	Phillips, Janet R.	101½	59	70
Poor Sections.				Bambrick, Lena	102	60	00
Bagnell, Percy O.	95	34	86	Bishop, Josephine	102	60	00
Bagnell, Viola M.	67	24	58	Blackmore, Evelyn	102	60	00
Bell, Hannah P.	97	35	59	Custance, Sarah B.	102	60	00
Campbell, Irene J.	80	29	35	Cox, Amelia J.	102	60	00
Fraser, Mabel	80	29	35	Chivers, Gladys P.	102	60	00
Gillis, Margaret E.	102	37	42	Creelman, Laura	102	60	00
Gillis, Mary C.	91	33	40	Cunningham, Laura	102	60	00
Gillis, Mary J.	71	26	05	Dickson, Hattie D.	97	57	06
Gillis, Minnie	100	36	69	Fulton, Beatrice	64	37	64
Hull, Frances	65	23	86	Fulton, Olive J.	102	60	00
Kehoe, Clara	82	30	08	Goodwin, Alberta	102	60	00
Kehoe, Eliza E.	9	3	29	Hines, Jennie A.	102	60	00
Macdonald, Eva	101	37	06	Lake, E. Pauline	102	60	00
MacDonald, Mary	66	24	29	Lockhart, Bessie B.	78	45	88
MacDougall, Catherine B.	96	35	23	Lodge, Myrta C.	102	60	00
MacGillivray, Jessie	34	12	44	Mingo, Irene E.	102	60	00
McInnis, Christine	91½	33	58	Moore, Ralph	11	6	47
McKenzie, Christena	64	23	56	McCurdy, A. Evelyn	102	60	00
McKenzie, Mary	100	36	69	McDonald, Jean C.	102	60	00
MacKinnon, Ethel R.	23	8	43	McKenzie, Sylla	82	48	23
McNeill, Mabel E.	87	31	92	McKay, Eva	102	60	00
Matheson, Flora C.	93	34	13	McLaughlin, Erma K.	102	60	00
Miller, Mary E.	20	7	33	McLean, Margaret	70	41	17
Nearing, Theresa	84	30	81	McLennan, Florence	20	11	76
Nicholson, Jessie A.	70	25	67	McLeod, Elsie	102	60	00
Nicholson, Mary E.	97	35	59	McWilliams, Janie	102	60	00
Penny, Beatrice I.	94	34	49	Nelson, Ermina	102	60	00
Consolidated Sections.				Ogilvie, Phoebe	102	60	00
The Meadows	95½	28	09	Rafuse, Neta	102	60	00
Ocean View	91	26	77	Simpson, Elsie	102	60	00
East Bay	102	90	00	Smith, Alice C.	102	60	00
Eskasoni	102	46	56	Strople, Janie I.	101	59	41
Annuitants.				Tupper, Francis	20	11	76
Gillis, Ronald	60	00		Turner, Flora	102	60	00
McDonald, Joseph	60	00		Vance, Flora	94	55	30
Currie, Donald J.	45	00		Waddell, Dorothy	102	60	00
Currie, Michael D.	45	00		Whitman, Carrie	102	60	00
Garrett, Charles V.	45	00		Wright, Jessie	82	48	23
McDougall, Daniel J.	45	00		Archibald, E. Elsie	92	40	57
McDougall, Philip	45	00		Brennan, Maude	82	36	16
McKenzie, Archibald J.	45	00		Clarke, Janet G.	102	45	00
COLCHESTER SOUTH				Cox, Sarah E.	102	45	00
Davis, D. G.	102	105	00	Cox, Jean R.	10	4	41
Murray, Annie L.	97	85	58	Crowe, Martha D.	10	4	41
Richardson, L. A.	86	75	88	Creighton, Jessie M.	102	45	00
Rudolf, Mary A.	97	85	58	Cruikshanks, M.	102	45	00
Cameron, Guy	95	69	84	Doane, Fanny	102	45	00
Fitch, J. H.	97	71	31	Fraser, Bertha	102	43	66
Mosher, Chesley G.	97	71	31	Fulmore, Della	99	44	56
Smith, M. Lois	102	75	00	Graham, Laura L.	101	44	56
				Johnson, Hattie R.	102	44	01
				Langille, Cora E.	93	41	01
				Langille, Ada C.	102	45	00
				Leck, Leah M.	102	3	97
				Logan, Stella M.	9	3	97
				Logan, Mary D.	99	43	66
				Lynch, Marion E.	102	45	00
				Morgan, Edith	102	45	00
				McCully, Velma V.	102	45	00

Rutherford, Elva C.	16	7	05
Turner, Josephine	102	45	00
Treen, Lulu B.	78	34	40
Bradley, Susie L.	99	29	12
Christie, Stella S.	18	5	29
Creighton, Majorie C.	83	24	41
Creelman, Murdena	97	28	53
Dickie, Ada B.	102	30	00
Fisher, Vivian E.	102	30	00
Fullerton, Janet M.	99	29	12
Gray, Annie E.	102	30	00
Hill, Belle J.	82	24	12
Harrington, Ada W.	81	23	82
Johnson, Laura M.	102	30	00
Johnson, Florence N.	101½	29	86
McEwin, Edith May	102	30	00
McNutt, Gladys E.	102	30	00
Phillips, Atarah	102	30	00
Selig, Genevieve	102	30	00
Stevens, Minerva	85	25	00
Vance, Ruby A.	42	12	35
Wright, Bertha	82	24	12

Poor Sections.

Bayer, Olivia	100	39	21
McRea, Beatrice C.	102	40	00
Densmore, L. Olive	96	37	64
Hayman, Mary J. (Summer Term)	15	5	88
Lindsay, Winnifred	102	40	00
Sibley, Mary B.	102	40	00
Goodwin, Minnie G.	102	40	00
Dunlop, Jean	100	39	21

COLCHESTER NORTH.

Freeman, Annie	102.	60	00
Heighton, Anna B.	102	60	00
Sillers, Violet A.	102	60	00
Thompson, Libbie M.	102	60	00
Urquhart, Gertrude	88	51	76
Zwicker, Flora M.	102	60	00
Harris, Mattie T.	102	45	00
Matheson, Georgie C.	102	45	00
Murray, Grace A.	102	45	00
McKay, Minnie	101	44	56
McKay, Anna	102	45	00
McKinnon, Margaret	99	43	66
McKinnon, Isabel	102	45	00
McLeod, Marion	102	45	00
McNutt, Elsie	102	45	00
Upham, Flora	102	45	00
Wilson, Edith S.	102	45	00
Cavanagh, Muriel	102	30	00
Hayman, Janetta	102	30	00
Laurie, Reta M.	102	30	00
Malcolm, Janie M.	102	30	00
McIntosh, Annie B.	102	30	00
McKay, Elizabeth M.	102	30	00
McLean, John Osler	102	30	00
Ross, Varina	102	30	00

Poor Sections.

Phillips, Grace	86	33	72
Purdy, Janie M.	101	39	61
Sutherland, Lillian	92	36	08
Weatherby, Hattie E.	102	40	00

COLCHESTER WEST.

Caddell, Ottillie	101	74	26
Bryson, Sadie J.	102	60	00
Calder, Marie E.	102	60	00
Campbell, Margaret	99	58	23
Fulton, Lillian	102	60	00
Morehouse, Walter B.	100	58	82
Morse, Edna C.	102	60	00
McCully, Iola E.	102	60	00
McCallum, Elizabeth	102	60	00
Smith, Mary B.	102	60	00
Weldon, Georgie	102	60	00
Bryson, Seldon C.	102	45	00
Carter, Hattie M.	102	45	00
Crowe, Adelaide G.	102	45	00
Fullerton, Irene	102	45	00
Miller, Agnes M.	102	45	00
Miller, Mary A.	102	45	00
Morrison, Ida M.	102	45	00
McDonald, Elizabeth	97	42	78
O'Connell, Marjorie	102	45	00
Roberts, Susie	102	45	00
Smith, Ada E.	102	45	00
Bulmer, Marjorie	102	30	00
Cail, Debora B.	87	25	59
Clarke, Edith	102	30	00
Corbett, Minnie	102	30	00
Cottam, Hazel	102	30	00
Crittenden, Edith A.	102	30	00
Edward, Elsie A.	102	30	00
Fishe, Georgina	102	30	00
Forbes, Margaret	88½	26	04
McKay, Jennie M.	102	30	00
McLaughlin, Charlotte	102	30	00
Patriquin, E. Muriel	102	30	00
Spencer, Katheryn E.	102	30	00

Poor Sections.

Broderick, Myrna	95½	37	44
McLean, Christina	97	38	04
McLellan, Ada J.	64	25	10

CUMBERLAND.

Campbell, Jessie B.	102	90	00
Lay, E. J.	102	105	00
Morehouse, F. G.	102	90	00
Muise, J. B.	102	90	00
Chapman, Annie	102	75	00
Mahoney, Gertrude	102	60	00
Matheson, Laura	78	57	34
McCabe, J. M. S.	102	75	00
McInnis, Edith S.	102	75	00

McLean, Viola B.	20	14	71	Brundage, Kate	100	44	11
McLelan, Hazel	102	75	00	Chandler, Nellie	101	44	56
McMillan, Leonis N.	102	75	00	Cook, Leona M.	102	45	00
Bartheaux, Florence	102	60	00	Craig, Muriel E.	102	45	00
Blanche, Julia	102	60	00	Crossman, Edna	102	45	00
Boss, Maud	102	60	00	Crowley, Madeline	102	45	00
Brannen, W. E.	102	60	00	Davies, Bertha H.	82	36	16
Brenton, Bessie	101	59	41	Davidson, Enid R.	101	44	56
Brown, Delia J.	20	11	76	Davidson, Thelma	102	45	00
Brownell, Grace	102	60	00	Davison, Nina E.	102	45	00
Campbell, Helen J.	102	60	00	DeMings, Isa C.	101	44	56
Carter, Lillian G.	102	60	00	DeWolfe, Hazel	102	45	00
Chandler, Isabel	96	56	47	Fauld, Lulu	96	42	34
Chisholm, Florence	68	40	00	Gallager, Adelaide	102	45	00
Conway, Isabel	96	56	47	Gray, Ethel	99	43	66
Cossitt, O. von B.	96	56	47	Harrington, Lottie	102	45	00
Craig, Jean E.	102	60	00	Hatherly, Freda	102	45	00
Fraser, Lulu	102	60	00	Henderson, J. Aileen	102	45	00
Freeman, Grace D.	102	60	00	Hennesey, Elva G.	102	45	00
Giles, Estella	102	60	00	Hunter, Augusta	102	45	00
Glennie, Edith	102	60	00	Jeffers, Myrtle R.	102	45	00
Hall, B. R.	99	58	23	Langille, Hilda	89	39	24
Hawboldt, A. G.	102	60	00	Langille, Mabel	102	45	00
Hennigar, Bertie	102	60	00	Lewis, Harriett B.	102	45	00
Knickle, Jennie T.	102	60	00	Lowther, Elizabeth	102	45	00
Landells, Helen	97	57	06	Matheson, Ada B.	24	10	58
Lavers, Winnifred	53	31	18	Matheson, Nellie	101	44	56
Mattinson, Bertha	102	60	00	Milner, Mildred	102	45	00
McDonald, Jean B.	102	60	00	McDonald, Mary	96	42	34
McLeod, Jean	95 $\frac{1}{2}$	56	17	McEachren Katharine B.	101	44	56
McNutt, Lucy D.	102	60	00	McFadden, L. Beryl	83	36	60
McPherson, LeEtta	82	48	23	McInnis, Alice E.	102	45	00
McSavane, Annie	96	56	47	McIntosh, Laura B.	102	45	00
Melanson, L. G.	29	17	05	McKay, Jean E.	97 $\frac{1}{2}$	43	00
Morris, Annie	101 $\frac{1}{2}$	59	70	McKim, Rachel	102	45	00
Morris, Harry S.	101 $\frac{1}{2}$	59	70	Murray, Pauline C.	102	45	00
Moss, Alva	97	57	06	Nelson, Nancy	102	44	56
Moss, Winnie	96	56	47	Newcombe, Hattie	101	44	56
Mott, Effie F.	102	60	00	O'Brien, Agnes	102	45	00
Murchie, G. Alice	101	59	41	Parsons, Annie	100	44	11
Murray, Lexie	96	56	47	Pugsley, Mary L.	102	45	00
Newman, Carolyn	96	56	47	Ripley, Jennie	101	44	56
Noiles, Alfretta	96	56	47	Ripley, Ada E.	102	45	00
O'Rourke, Mary	96	56	47	Ripley, Lella M.	100	44	11
Pearson, Ralph O.	102	60	00	Roach, Bessie H.	78	54	40
Peppard, Ruth	100	58	82	Roach, Lena L.	102	45	00
Sinclair, Willena	102	60	00	Roberts, Katharine B.	101	44	56
Stevens, Christina	102	60	00	Rogers, Lena B.	102	45	00
Sutherland, Elaine	102	60	00	Smith, Mannie G.	101	44	56
Tabor, Gladys	96	56	47	Tabor, Clara	96	42	34
Taggart, Evelyn N.	102	60	00	Thompson, Gertrude	20	8	82
Tait, Nellie E.	102	60	00	Vance, Stiles	102	45	00
Thompson, Nellie	102	60	00	Watt, Daisy	96	29	41
Thompson, Margaret	102	60	00	Angevine, Catharine I.	100	30	00
Trerice, Ruth	102	60	00	Archibald, Violet	102	30	00
Watt, Beatrice	96	56	47	Baird, Gladys	48	14	11
Webb, Hattie M.	102	60	00	Beaton, Olga R.	102	30	00
Beaton, Henrietta	96	42	34	Beattie, Barbara A.	101	29	71
Beaton, Margaret E.	102	45	00	Brownell, Jessie C.	102	30	00
Bell, Hettie	102	45	00	Brownell, Alice M.	102	30	00
Berry, Sadie L.	101	44	56	Bird, Elsie	102	30	00
Berry, Ethel M.	101	44	56	Cameron, Mary	96	28	24
Bigney Clara E.	95	41	90	Campbell, Lulu	96	28	24
Blenkhorn, Ethel F.	54	23	81	Canning, Mary	93	27	36
Boss, Marjorie	102	45	00	Chapman, C. B.	96	28	24
Brownell, Etta M.	100	44	11	Chapman, Edith	102	30	00

Chapman, Emma L.	98½	28	98
Chapman, Marjorie	102	30	00
Chapman, Georgina	79	23	23
Clarke, Helen N.	102	30	00
Craig, Winnifred	88	25	89
Creighton, Jean G.	102	30	00
DeWolfe, Emma	101	29	71
Dickinson, Carrie C.	100	29	41
Daw, Sadie	100	29	41
Drysdale, Mary	101	29	71
Fage, Lillie L.	54	15	87
Farrell, Annie	101	29	71
Fullerton, Sadie L.	101½	29	86
Gilroy, Jennie	96	28	24
Gordon, Lyde B.	100	29	41
Gray, L. B.	102	30	00
Hall, Susie	28	8	23
Harrison, Irene E.	101	29	71
Hickey, Lizzie F.	102	30	00
Hunter, Winnifred P.	102	30	00
Hunter, Eva	102	30	00
Jackson, Ha	102	30	00
Kennedy, Mary L.	101	29	71
Lamberton, Pearl E.	101	29	71
Lawson, Edith M.	102	30	00
Leslie, Pearl H.	102	30	00
Lorrimer, Minnie	96	28	24
Lawerson, Erica	23	6	76
Lowther, Lettie	96	28	24
McCabe, Marion	97	28	53
McCabe, Alice J.	102	30	00
McCormick, May	102	30	00
McCully, Florence	98	28	83
McDonald, Annie	96	28	24
McMillan, Mary	102	30	00
McNab, Kate	102	30	00
Myers, Catharine	102	30	00
Paul, Gertrude	96	28	24
Peers, Eva M.	86	25	30
Reid, Wilfina M.	102	30	00
Reid, Ethel L.	101	29	71
Ripley, Myrtle	54	15	87
Robinson, Caroline	101	29	71
Roble, Harriett	99	29	12
Roney, Lottie	96	28	24
Shipley, Bessie	102	30	00
Simpson, Winnifred C.	97	28	53
Smith, Minerva G.	102	30	00
Smith, E. M.	102	30	00
Soley, Mary L.	101	29	71
Sutherland, Jean	102	30	00
Tabor, Grace	102	30	00
Teed, Ruby E.	100	29	41
Trerice, Gladys	101	29	71
VanBuskirk, Florence	102	30	00
Wells, Mary E.	101½	29	86
Whitman, Annie E.	102	30	00

Poor Sections.

Blenkhorn, Ida	102	40	00
Brown, Rose	102	40	00
Brown, Ada M.	102	40	00
Campbell, Margaret J.	96	37	64
Crossman, Evelyn	73	28	63
Crowe, Ida	69	27	06

Gilbert, Mary J.	98	38	43
Keith, Ethel	102	40	00
McCallum, Martha G.	67	26	27
McDonald, Annie J.	102	40	00
Thompson, Luella	101	39	61
Thompson, Lila M.	59	23	13

Annuitants.

Charman, Mary E.	60	00	
Charman, Eliza G.	45	00	
MacLeod, Georgiana	45	00	
O'Brien, R. B.	45	00	
Phinney, Josephine W.	45	00	

PARRSBORO.

Foster, M. C.	102	105	00
Martin, O. McNutt	102	75	00
Jennison, Mary I.	102	75	00
Clarke, M. Olive	102	60	00
Crowe, Pauline	102	60	00
Elliott, Edna G.	102	60	00
Hatfield, Mary	102	60	00
McInnis, Julia	102	60	00
McDonald, Hilda	76	44	76
Nelson, Mary B.	102	60	00
Nodwell, Crandall	102	60	00
O'Mullon, Mary	102	60	00
O'Regan, Ellen A.	102	60	00
Troop, Beatrice	102	60	00
Clay, Jean B.	97	42	78
Elderkin, Winnifred M.	102	45	00
Kerr, Minnie G.	102	45	00
Lent, Georgie A.	102	45	00
Lent, F. Marion	101	44	56
Lockhart, Annie J.	20	8	82
Newcombe, Lauris J.	102	45	00
Nickerson, Leslie C.	97	42	78
Ward, Cora	102	45	00
Ward, Nema	102	45	00
Welsh, Rexie	98	43	22
Allen, Vera M.	102	30	00
Ballantyne, Agnes	102	30	00
Black, Annie R.	82	24	12
Brown, Bessie B.	102	30	00
Canning, Minnie	26	7	64
Hartling, Lottie F.	102	30	00
Knowlton, Eva	102	30	00
Layton, J. Osborne	102	30	00
Morris, Lucy	102	30	00
Newcombe, Erma J.	102	30	00
Quinn, Dora	101	29	71
Roberts, Vivian	102	30	00
Robinson, Alice A.	101½	29	86
Salter, Carolyn H.	102	30	00
Seavey, Elizabeth H.	102	30	00
Yorke, Nellie A.	102	30	00

Poor Sections.

Canning, Hazel	64	25	10
Duffy, Marie	102	40	00
Yorke, Lillian	89	34	90

Consolidated Sections.

Advocate	30	00
Wentworth	30	00

DIGBY.

Coulter, Christina S.	102	90	00
Belliveau, Marie Anne	100	58	82
Belliveau, Willie J.	102	60	00
Cecile, Sr. M.	102	60	00
Crawford, Florence M.	82	48	23
Crowell, Gladys R.	102	60	00
Denton, B. Mildred	101	59	41
Eaton, Vera H.	95	55	88
Finigan, Malcolm Daley	102	60	00
Hogg, N. W.	102	60	00
Holmes, Margaret E.	102	60	00
Longley, Ronald S.	102	60	00
Madeleine, Sr. M.	102	60	00
Melanson, F. E.	102	60	00
Munro, Cora Mac	99	58	23
MacCallum, Mabel W.	102	60	00
McNeill, Bessie J.	102	60	00
Norbert, Sr. M.	102	60	00
Powell, Lillian	102	60	00
Ring, Myra	102	60	00
Robertson, Gertrude	102	60	00
Ruggles, Annie B.	102	60	00
Surette, Henry P.	102	60	00
Tibert, Melda Greta	102	60	00
Tosh, Ivy I.	102	60	00
Turnbull, Bessie B.	102	60	00
Wambolt, Gertrude	102	60	00
Young, Ermina Vesta	102	60	00
Amirault, Ambrosine J.	101	44	56
Anthony, Sr. Mary	102	45	00
Babin, Laura	101	44	56
Belliveau Marie Antoinette	102	45	00
Belliveau, Mary Zeta	102	45	00
Bingay, Honoria G.	83	36	60
Bourneauf, Marie Emma	93	41	01
Bruce, Grace L.	102	45	00
Comeau, Anna E.	96 $\frac{1}{2}$	42	56
Comeau, Annie Esther	102	45	00
Comeau, Artemise	102	45	00
d'Entremont, Victoria I.	102	45	00
D'Eon, Laura F.	102	45	00
Deveau, Mary Ellen	102	45	00
Doucet, M. Adele	102	45	00
Harris, Nellie M.	47	20	72
Higby, Helena Mae	102	45	00
Holland, Sophie Beryl	36	15	87
Lane, Stella Lee	102	45	00
LeBlanc, Ann Elizabeth	99	43	66
LeBlanc, Marie Rose	102	45	00
LeBlanc, Mary Lucy	102	45	00
LeBlanc, Marie Annie	102	45	00
LeBlanc, Marie Eulalie	102	45	00
LeBlanc, Marie E.	102	45	00
Marshall, Anna Mitchell	102	45	00
Melanson, Rose A.	102	45	00
Modesta, Sr. Mary	102	45	00
Moore, Maude	102	45	00
McNeill, Winifred	101	44	56
O'Brien, Cassie M.	102	45	00
Outhouse, Hattie I.	19	8	37

Philippa, Sr. Mary	102	45	00
Robichaud, Marie	102	45	00
Sabeau, Ina E.	101	44	56
Saulnier, Laura E.	102	45	00
Thibodeau, Beatrice	101	44	56
Thimot, Marie Elee	102	45	00
Walsh, Grace B.	102	45	00
Westcott, Anna P.	102	45	00
Amirault, Celestine M.	102	30	00
Berry, Florence M.	102	30	00
Blackford, Lillie D.	102	30	00
Churchill, Helen Louise	102	30	00
Comeau, Margaret M.	102	30	00
Condon, Kathryn	102	30	00
Cossaboom, Annie F.	101	29	71
Crowe, C. Beatrice	102	30	00
Elliott, Mabel Irene	102	30	00
Geddy, Mary F.	101	29	71
Haines, Viola V.	102	30	00
LeBlanc, Madeline	102	30	00
LeBlanc, Symphorien	102	30	00
Melanson, Mary Mae	102	30	00
Melanson, Nellie M.	102	30	00
Miller, Bessie B.	102	30	00
Mullen, Evangeline Lane	102	30	00
MacKay, Grace D.	102	30	00
Neiley, Marjorie G.	101	29	71
Prime, Lenetta	102	30	00
Pugh, Maude L.	102	30	00
Rice, Olive A.	15	4	41
Ritchie, Florence M.	102	30	00
Robbins, Mildred F.	102	30	00
Robichaud, Eveline	86 $\frac{1}{2}$	25	15
Robichaud, Mary Eva	102	30	00
Saulnier, Pauline M.	102	30	00
Thibeau, Cordelia R.	102	30	00
Theriault, Symphorien	102	30	00
Thimot, Marie Elise	102	30	00
Thurber, Bessie G.	102	30	00
Welch, Fannie A.	102	30	00
Wentzell, Mildred	100	29	41
Young, Alva Jane	102	30	00

Poor Sections.

Bowlby, Cora Mae	83	32	55
Bowlby, Eva T.	83	32	55
Campbell, Irma B.	102	40	00
Chute, Mary Ann	88	34	51
Crawford, Annie Mae	102	40	00
DeForest, Ethel Viola	97	38	04
D'Eon, Elite Rose	99	38	82
Doty, Floris G.	97	38	04
Eldridge, Reta J.	102	40	00
Hutchinson, Welthie R.	102	40	00
Parker, Ida May	102	40	00
Robichaud, Marie Lea	90	35	29
Thibodeau, Catherine M.	102	40	00
Sabeau, Millie	68	26	67

Annuitants.

Goodwin, Mrs. Emma M.	45	00
Sister M. Ursula	45	00
Sulis, Mrs. Lila A.	45	00
Smallie, Mary I.	30	00

GUYSBORO.

Hemeon, M. DeW.	102	105	00
Lowther, Anna H.	72	52	93
McGregor, Edith Jean	102	75	00
Wells, Cora A.	102	75	00
Barss, Muriel J.	102	60	00
Buckley, Hilda E.	102	60	00
Chisholm, Christina	102	60	00
Hunt, Blanche	102	60	00
Kavanagh, Florence E.	102	60	00
King, Alice	102	60	00
Lawlor, Rose Frances	101	59	41
McGillivray, Amelia	102	60	00
McKenzie, Sadie V.	102	60	00
Oxley, Gertrude O.	99	58	23
Rafuse, Vera Grace	102	60	00
Barss, Annie D.	102	45	00
Baker, Ella P.	95	41	90
Blanchard, Annie J.	97	42	78
Boudreau, Evangeline E.	102	45	00
Cox, Josephine	102	45	00
Crittenden, Ida May	102	45	00
Canavan, Annie E.	102	45	00
Callahan, Maud H.	102	45	00
Chisholm, Ethel M.		6	48
Ehler, Minnie E.	102	45	00
Ehler, Minnie E.		6	48
Girroit, Beatrice E.	102	45	00
Irish, Helena Grace	102	45	00
Johnson, Agatha	102	45	00
Kirk, Gertrude B.	101	44	56
LeBlanc, Thomas	102	45	00
LeBlanc, Margaret H.	102	45	00
Levandier, Mary I.	102	45	00
Luddington, Phebe	96	42	34
Mason, Erma F.	102	45	00
Macdonald, Celia May	100	44	11
O'Brien, Evelyn Maud	102	45	00
Rogers, Mary Ellen	102	45	00
Sparks, Elora J.	102	45	00
Scott, Katherine L.	102	45	00
Callahan, Augusta W.	102	30	00
Fraser, Hilda	102	30	00
Grady, Sadie B.	101	29	71
Hadley, Sarah I.	102	30	00
Jameson, Roberta	102	30	00
Kennedy, Lena	102	30	00
Kenny, Margaret	102	30	00
Kelly, Mary	102	30	00
Lowe, Katherine M.	69	20	29
Lumsden, Gertrude S.	102	30	00
Laurie, Mary Ann	102	30	00
Laydon, Ella Louise	93	27	36
Lawlor, Hilda L.	98	28	83
Lukeman, Blanche E.	102	30	00
Miller, Mary C.	102	30	00
Miller, Florence A.	91	26	77
Myers, Marion S.	102	30	00
Macdonald, Clara	78	22	94
McPherson, Catherine A.	91	26	77
Rogers, Isabel	102	30	00
Silver, Gracie B.	92	27	06
Strumm, Emma May	102	30	00
Strahan, Mary A.	102	30	00
Stetson, Mabel L.	98	28	83

Tobin, Hilda M.	102	30	00
Walsh, Lauletta K.	102	30	00

Poor Sections.

Cresine, Hattie Maud	80	31	37
Delaney, Julia T.	59	23	13
Giffin, Susie L.	32	12	55
Hart, Augusta M.	102	40	00
Kenny, Katherine B.	91	35	68
Laurie, Lola Viver	68	26	67
Murphy, Elizabeth C.	84	32	94
O'Connor, Margaret E.	88	34	51
O'Connor, Gladys	100	39	21
Reynolds, Bertha	39	15	29

Special Poor Sections.

Lakedale, H. McLean, sec.	91	26	76
Yankee Cove, E. W. Peitzsch, sec.	32	9	41
Lundi, Rev. A H Cormier, Sec.	59	17	35

Consolidated Section.

Roman Valley, Martin L. Doyle, Sec.	102	30	00
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Annuitant.

Hanifen, Maggie	30	00	
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ST. MARY.

Cook, Leda Beatrice	82	48	23
Hamilton, Ada Julia	102	60	00
Manson, Agnes C.	102	60	00
McLeod, Annie May	101	59	41
Paget, Edith C.	101	59	41
Cruikshank, Alice P.	84	37	04
Fisher, Clara I.	99	43	66
Howard, Ruth W.	100	44	11
Inglis, Clara M.	102	45	00
Jollotta, Edna M.	86	37	92
Kinney, Georgina	102	45	00
Lent, Donald S.	99	43	66
Lowe, Elizabeth A.	102	45	00
Mitchell, Marion J.	99	43	66
Archibald, George H.	83	24	41
Archibald, Edmund	78	22	94
Baker, Eva J.	98	28	83
Bonsfield, Rosa B.	101	29	71
Fisher, Leo G.	87	25	59
Murdoch, Lillian	102	30	00
Sutherland, Gladys	99	29	12
Wilson, Florence	101	29	71

Poor Sections.

Bray, Mary	33	12	94
Chisholm, Mary Doull	91	35	68
Garrison, Goldie	102	40	00
McLean, Anna Bruce	83	32	55

Special Poor Sections.					
Cheggoggin, Charles Mail-					102 60 00
man, Sec.	98	28 82			102 60 00
Union, S. W. Mack, Sec.	33	9 70			102 60 00
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HALIFAX CITY.					
McKay, A.	77	79 26	Bishop, R. A.		102 60 00
Blackwood, E. F.	102	90 00	Blackman, W.		102 60 00
Blois, H. H.	102	90 00	Bowden, I. M.		102 60 00
Brunt, H. D.	102	90 00	Bowden, L. J.		102 60 00
Butler, G. K.	102	90 00	Brimms, M. C.		102 60 00
Cummings, E.	102	90 00	Brodie, I.		102 60 00
Huggins, G. M.	102	90 00	Burgoyne, A. V.		102 60 00
Inglis, R. E.	22	19 41	Carmel, Sr.		102 60 00
MacKintosh, S. K.	102	90 00	Cecelia, Sr.		102 60 00
Marshall, G. R.	102	90 00	Clark, E.		102 60 00
Matheson, D. J.	102	90 00	Conapta, Sr. M.		102 60 00
Matheson, D. M.	102	90 00	Colquhoun, L. W.		102 60 00
Morton, S. A.	102	90 00	Conrad, E. M.		102 60 00
Murray, Mme.	102	90 00	Cunningham, A. M.		102 60 00
O'Hearn, P.	102	90 00	Dempsey, I. B.		102 60 00
Rosaire, Sr.	102	90 00	Dempster, M. W.		102 69 00
Trefry, J. H.	102	90 00	Denton, H. A.		102 60 00
Agnes, Sr. R.	49	36 02	Dolorita, Sr.		102 60 00
Armitage, H. D. A.	102	75 00	Dwyer, M. I.		102 60 00
Bigney, E. M.	102	75 00	Edwina, Sr.		102 60 00
Blackie, E. M.	102	75 00	Ernestine, Sr.		102 60 00
Campbell, J. P.	102	60 00	Ethelbert, Sr.		102 60 00
Cecelia, Sr. F.	102	75 00	Florence, Sr.		58 34 12
Clark, L. G.	102	75 00	Flowers, E. M.		102 60 00
Concepta, Sr. Marion	102	75 00	Flowers, H. L.		102 60 00
DeChantal, Sr. F.	102	75 00	Freeman, N.		87 51 17
Dexter, E. H.	102	75 00	Fry, B. E.		102 60 00
Distant, M. L.	102	75 00	Gerald, Sr.		102 60 00
Douglas, H. G.	102	75 00	Graig, L. C.		102 60 00
Ethelred, Sr.	102	75 00	Harlow, A. O.		102 60 00
Finn, Mme.	102	75 00	Ignatia, Sr.		102 60 00
Francis, Sr.	102	75 00	Kelly, Mme.		102 60 00
Gillen, Mme.	102	75 00	Kenney, M. D.		102 60 00
Haverstock, A. M.	102	75 00	Laracy, A. X.		102 60 00
Henrion, C.	102	75 00	Leontine, Sr.		102 60 00
Holder, E. G.	102	75 00	Lockward, G. E.		102 60 00
Lyons, M.	102	75 00	McCurdy, M. J.		102 60 00
Marshall, L. E.	102	75 00	MacDonald, A. A.		102 60 00
Macdonald, H. M.	102	75 00	MacKay, R.		102 60 00
Maria, Sr. S.	102	75 00	McManns, Mme.		35 20 38
Nicoll, M. W.	102	75 00	Mason, B. E.		102 60 00
Phelan, F. J.	102	75 00	Maxwell, J. M.		102 60 00
Reeves, R. D.	102	60 00	O'Brien, M. A.		102 60 00
Sibley, G. M.	102	75 00	Pace, J. I.		102 60 00
Teresa, Sr. J.	102	75 00	Palmer, G. L.		102 60 00
Vickery, H. B.	102	75 00	Peart, A. H.		102 60 00
Vincent, Sr. A.	102	75 00	Peters, F. A.		102 60 00
Vincent, Sr. M.	102	75 00	Phelan, M. I.		102 60 00
Vincent, Sr. T.	102	75 00	Pius, Sr.		102 60 00
Wilson, B. C.	102	75 00	Publicover, L. D.		102 60 00
Agnes, Sr. M.	102	60 00	Pye, E. C.		102 60 00
Allen, M. E.	102	60 00	Rankine, A. B.		102 60 00
Aquinas, Sr.	102	60 00	Ross, E. J.		102 60 00
Archibald, S. M.	102	60 00	Saunders, A. C.		102 60 00
Baldock, O. M.	102	60 00	Shields, E. G.		102 60 00
Bernard, Sr.	102	60 00	Sims, S. A.		102 60 00
			Smith, S. B.		102 60 00
			Sullivan, Mme.		102 60 00
			Theakston, H. S. F.		102 60 00
			Thompson, F.		102 69 00
			Trefry, E. C.		102 60 00
			Tulloch, M. E.		102 60 00
			Tynan, J. C.		102 60 00
			Umlah, A. L. B.		102 60 00
			Vincent, Sr. R.		102 60 00
			Wakely, A. C.		102 60 00

Miller, Katherine F.	102	60	00	Conrad, Hazel B.	102	30	00
McPhail, Annie L.	102	60	00	Cooke, Nettie	102	30	00
Noonan, Gertrude	102	60	00	Coney, H. Mae	102	30	00
Schnare, Annie C.	102	60	00	Dechman, Lottie E.	102	30	00
Scott, Catherine M.	101	59	41	Dickie, Maude	102	30	00
Silver, Effie S.	102	60	00	Dillman, Clara	102	30	00
Smith, Marion R.	102	60	00	Erskine, Alexandra	91	26	77
Stevens, Verna B.	97	57	06	Etter, Florence E.	102	30	00
Webber, Myrtle E.	102	60	00	Ellis, Gertrude Jean	102	30	00
White, J. Mabel	97	57	06	Fahie, Lydie	95	27	94
Wolfe, Jessie A.	102	60	00	Fougere, Timothy A.	95	27	94
Bentley, Bessie C.	100	44	11	Fraser, Lulu Jean	102	30	00
Boudreau, Rose M.	33	14	55	Gardiner, Mossie B.	25	7	35
Boudreau, Theresa M.	32	14	11	Gaetz, Florence E.	42	12	35
Boutilier, Adelaide C.	102	45	00	Geddes, Aubrey K.	95½	28	09
Brown, Jessie M.	102	45	00	Graham, Alice Muriel	102	30	00
Bruce, Carrie L.	90	39	69	Hall, Clarence	72½	21	32
Campbell, Verna	61½	27	12	Hawkins, Ora W.	98½	28	98
Christie, Ruth M.	97	42	78	Hyson, A. E.	102	30	00
DeVan, Eilcen	102	45	00	Hawkins, Vera A.	73	21	47
Faulkner, Melissa	102	45	00	Havill, Ruth B.	69	20	29
Foley, Arley M.	92	40	57	Hiltz, Reta E.	97	28	53
Findlay, Sadie	102	45	00	Hubley, Irene G.	88	25	89
Garrison, Vera G.	102	45	00	Higgins, Elvie M.	92	27	06
Harpell, Cora M.	102	45	00	Hawboldt, Ida E.	102	30	00
Harris, Mildred L.	102	45	00	Hilchey, Nellie M.	102	30	00
Havill, Maizie B. S.	89	39	24	James, Cora V.	102	30	00
Hilchie, Stella B.	102	45	00	Johnson, Eva C.	102	30	00
Hume, Bessie W.	102	45	00	Kearns, Mary E.	67½	19	85
Innis, E. Jean	97	42	78	Kelly, Jennie L.	102	30	00
Kent, C. Winifred	96	42	34	Kennedy, Ella Claire	78½	23	09
Laidlaw, Elizabeth	102	45	00	Kennedy, Irene Lucy	102	30	00
Langille, Jessie E.	102	45	00	Killen, Marguerite E.	98	28	83
Langille, Myrtle B.	89	39	24	Leslie, Alice L.	102	30	00
Manthorne, Flora I.	102	45	00	Leslie, Ester	97	28	53
Maguire, Nola P.	102	45	00	Leslie, Lawrence	97	28	53
Meagher, Adela B.	102	45	00	LeMoine, Adele E.	92	27	06
Morrison, Clara	101	44	56	Logan, Clare Jean	102	30	00
Morrison, Mary	102	45	00	Martin, Kathryn	97	28	53
Moseley, Ruth	102	45	00	Mitchell, Nellie T.	102	30	00
Murray, Bertha F. J.	102	45	00	Moore, Gertrude	102	30	00
MacCarthy, Katherine M.	102	45	00	Morash, Jean Isabel	97	28	53
MacCarthy, Tena J.	102	45	00	Murphy, Winnifred P.	101	29	71
MacKay, Isabel	102	45	00	Murphy, Nina V.	102	30	00
McKenzie, Margaret A.	102	45	00	Meyers, Edna I.	53	15	58
MacKintosh, Mona B.	102	45	00	Meyers, Elvie I.	78	22	94
McLeod, Beatrice	102	45	00	Myra, Blanche M.	101	29	71
Naufts, Minnie R.	83	36	60	MacInnis, Edith Lucy	64	18	82
Rankine, Ella E.	102	45	00	McKeil, Martha J.	102	30	00
Roche, May	102	45	00	McPhee, Elsie G.	79	23	23
Rose, Mary H.	102	45	00	MacQuarrie, Catherine R.	102	30	00
Siteman, Annabel	98	43	22	Parker, Inez Muriel	102	30	00
Siteman, Eva K.	102	45	00	Pye, Ethel Alice	102	30	00
Smith, Isabella	97½	43	00	Reddy, Hilda	94½	27	80
Thomas, Bessie	102	45	00	Reid, A. Edith	85½	25	15
Thompson, Myrtle F.	102	45	00	Russell, Plessah M.	5	1	47
Tulloch, Emily C.	97	42	78	Scott, Kathleen	102	30	00
Webber, Joyce	102	45	00	Smith, Laura E.	94	27	65
Wier, Amelia	82½	36	38	Stoddard, Amy V.	97	28	53
Wolfe, Janet B.	80	35	28	Thompson, Martha J.	102	30	00
Boyle, Lucy E.	98	28	83	White, Edith May	102	30	00
Bonang, Maud	102	30	00	Warner, Mary B.	49	14	40
Burnett, Nellie R.	102	30	00	Yeadon, Annie L.	80	23	53
Burris, Fannie	102	30	00	Zinc, Olive L.	102	30	00

Poor Sections.

Ashe, Mabel L.	94	36	86
Crabbe Margaret E.	82	32	15
Fisher, Ethel	49	19	21
Gibson, Pearl	60	23	53
Greenough, Florence A.	104	40	78
Harris, Catherine J.	102	40	00
Leslie, Gladys	102	40	00
Melvin, Florence M.	89	54	90
MacCarthy, Chadwick	77	30	19
McDonald, Annabell	83	32	55
O'Leary, Mary C.	78	30	59
Parris, Spurgeon	9	5	52
Roche, Agnes D.	102	40	00
Shellnutt, Annie M.	35	12	94
Skerry, Emma	86	55	72
Walsh, Ada M.	108	42	35
Webber, Greta M.	97	58	04
Whalen, Jean May	78	30	59

Annuitants.

Miller, George J.	240	48	
Herdman, W. C.	60	00	
Mary Ann, Sr.	60	00	
Cooke, Mary L.	45	00	
Hume, Mary E.	45	00	
Bacon, Amelia	30	00	
Gibbons, John	30	00	

HANTS EAST.

Moore, Jamesina	102	75	00
Chase, Gertrude M.	102	60	00
Chisholm, E. Katherine	102	60	00
Foote, Elida W.	102	60	00
Frank, Mabel V.	102	60	00
Holesworth, Mabel	101	59	41
Macdonald, Ada H.	102	60	00
Macdougall, Edith M.	102	60	00
MacKenzie, Estelle J.	102	60	00
O'Brien, Annie B.	15	8	82
Ramey, Marie J.	102	60	00
Scott, James P.	100	58	82
Sellers, Pearl	102	60	00
Anthony, Louise B.	100½	44	33
Ballou, Stella M.	100	44	11
Blois, Cassie	97	42	78
Bond, Marion I.	102	45	00
Dechman, Marion	102	45	00
Edwards, Bessie	102	45	00
Fisher, Mildred	102	45	00
Fraser, Ellen J.	52	22	93
Hennigar, Edith	100	44	11
Maxwell, Lilla J.	102	45	00
Mosher, Una H.	102	45	00
McDonald, Donnie	102	45	00
McNeil, Pearl Rogerson	81	35	72
O'Brien, Miles A.	101	44	56
Robertson, Jennie A.	102	45	00
Rose, Maggie C.	102	45	00
Sim, Jennie P.	93	41	01
Sinclair, Margaret	102	45	00

Smith, Lizzie A.	102	45	00
Smith, Nellie A.	102	45	00
Spares, Sadie J.	102	45	00
Wallace, Ellen	97	42	78
Withrow, Adelia	102	45	00
Withrow, Mary	102	45	00
Carr, Enna I. N.	102	30	00
Casey, Gladys B.	102	30	00
Cochrane, Jean C.	84	24	71
Davidson, Rebecca A.	102	30	00
Densmore, Helena	85	25	00
Graham, Alice T.	102	30	00
Greenough, Jennie	102	30	00
Hennigar, Eva M.	95	27	94
Irving, Jessie L.	96	28	24
Laffin, Lillian	102	30	00
Macdonald, Olive	89½	26	33
MacInnis, Eva M.	102	30	00
McKay, Ethel	81	23	82
Shortt, Martha H.	102	30	00
Spares, Muriel	96	28	24
Sutherland, Grace	102	30	00

Poor Sections.

Anthony, Edna B.	102	40	00
Irving, Mabel J.	88	34	51
Meck, Katherine	102	40	00
Murphy, Clara	77	30	19
McCulloch, Lucy M.	102	40	00
McLearn, Elizabeth	73	28	63
Thompson, Ina G.	73	28	63
Withrow, Flossie L.	100	39	21
Woodworth, Elizabeth	102	40	00

HANTS WEST.

Patterson, Mabel G.	97	85	58
Smith, John A.	99	101	91
Lawrence, LeRoy L.	102	75	00
Scott, Agnes B.	100	73	53
Banks, Minnie L.	102	60	00
Brown, Edith S.	102	60	00
Burgess, Nellie H.	102	60	00
Carde, Edna R.	99	58	23
Davies, Kathleen	29	17	05
Douglas, Blanche	102	60	00
Duff, Jessie J.	102	60	00
Foote, Marguerite	102	60	00
Fulton, Elsie L.	102	60	00
Holland, Beatrice	102	60	00
Mosher, Leona B.	100	58	82
McCurdy, Helen M.	102	60	00
McKay, Grace G.	102	60	00
McLellan, Mary	101	59	41
Nunn, Mary E.	102	60	00
Thomas, Blanche E.	102	60	00
White, Jennie M.	100	58	82
Wickwire, Margaret A.	102	60	00
Wright, Nellie C.	102	60	00
Young, Reta M.	102	60	00
Borden, Osee Elmira	97	42	78
Bowes, Viola A.	100	44	11
Campbell, Lena B.	100	44	11

Cochrane, Pearl A.	102	45	00	McDonald, Jessie	102	45	00
Dimock, Annie	100	44	11	Macdonald, Christina	102	45	00
Ennis, Hilda	71	31	31	Macdonald, Mary J.	102	45	00
Fraser, Daisy R.	97	42	78	MacDonnell, Catharine	102	45	00
Kelley, Minnie A.	102	45	00	Maclean, Edgar H.	102	45	00
Lowndes, Vera E.	101	44	56	Rose, Mary Belle	102	45	00
Lynch, Pearl M.	102	45	00	Townshend, Laura H.	102	45	00
Morison, Madge A.	102	45	00	Sister St. Genevieve	102	45	00
MacKay, Hazel G.	102	45	00	Sister St. Olga	102	45	00
McDonald, Katherine	102	45	00	Sister St. Mary	102	45	00
Palmer, Queenie S.	102	45	00	Smith, Margaret	102	45	00
Rose, Annetta M.	99	43	66	Stewart, Catharine J.	102	45	00
Sweet, Annie E.	102	45	00	Withrow, Lizzie H.	97	42	78
Salter, Hattie M.	20	8	82	Withrow, Elsie M.	101	44	56
Underwood, Elizabeth	59	26	01	Beaton, John H.	102	30	00
Underwood, Emma	102	45	00	Cameron, Emily G.	100	29	41
Wickwire, Gladys A.	101	44	56	Cameron, Mrs. J. A.	53	15	58
Wilson, Bertha	102	45	00	Campbell, Margaret	102	30	00
Woodworth, Alfreda	102	45	00	Chisholm, Gregory B.	102	30	00
Brown, Sarah M.	102	30	00	Coady, Mary E.	102	30	00
Casey, Minnie E.	88	25	89	Crispo, Sadie E.	102	30	00
Crockett, Minnie E.	102	30	00	Fox, Rena M.	24	7	06
Davison, Nellie L.	97	28	53	Gillis, Josephine	101	29	71
Laws, Lillian F.	102	30	00	Kennedy, Mary M. A.	83	24	41
Murphy, Lela J.	93	27	36	McArthur, Bridget	102	30	00
MacDougall, Bertha	98 ¹	28	98	MacDonald, Agatha I.	101	29	71
McInnis, Jean	102	30	00	MacDonald, Katie A.	102	30	00
Rose, Laura M.	102	30	00	MacFadyen, Sarah M.	102	30	00
Sanford, Kathleen	102	30	00	MacKichan, Annie B.	102	30	00
Smith, Augusta O.	100	29	41	McKinnon, Katharine M.	102	30	00
Smith, Flossie M.	97	28	53	McLean, Jessie F.	101	29	71
Withrow, Ethel A.	102	30	00	McLellan, Katharine E.	102	30	00
Poor Sections.				MacNeill, Mary A.	102	30	00
Bush, Ethel	101	39	61	Murphy, Frances	102	30	00
Boyd, Lena T.	91	35	68	Sister St. Thomas	102	30	00
Eader, Nellie	82	32	15	Teach, Ellen	102	30	00
Marsh, Florence	102	40	00	Smith, Anna L.	102	30	00
Myers, Leah M.	73	28	63	Beaton, Cecilia	102	22	35
McLearn, Alberta	50	19	60	Gillis, Mary B.	76	22	35
Sanford, Janet L.	102	40	00	Jamieson, Janet	87	25	59
Saunders, Viola P.	102	40	00	Kennedy, Alexander	20	5	88
Annuitants.				McCormick, Mary J.	48	14	11
Burgoyne, Naomi	60	00	00	MacDonald, Tena E.	97	28	53
Scott, Lily A.	60	00	00	MacDonald, Isabel	89	26	18
Smith, Letson M.	60	00	00	MacDonald, Catharine	91	26	77
Bennett, Hannah	45	00	00	Macdonald, John D.	97	28	53
Scott, Annie E.	45	00	00	MacFadyen, Dan A.	68	20	00
INVERNESS SOUTH.				McInnis, Mabel C.	85	25	00
MacLeod, Jeanette	102	105	00	MacKinnon, Florence E.	100	29	41
Martin, Marion	102	75	00	MacLean, Sadie J.	73	21	47
Courteen, Violet	86	50	58	McPhee, Bessie	89	26	18
Hight, Douglas H.	102	60	00	MacQuarrie, Katie S. E.	102	30	00
McLean, Sophia M.	102	60	00	MacRae, Barbara K.	95	27	94
Sister St. Zephyrin	102	60	00	Martin, Cassie A.	102	30	00
Burke, Eva May	102	45	00	Morrison, Florence I.	88	25	89
Campbell, Alexandrina	101	44	56	Russell, Hannah F.	89	26	18
Davis, Catherine M.	79	34	84	White, Ida M.	81	23	82
MacDonald, Catharine	100	44	11	Whittie, Tena M.	95	27	94
Poor Sections.							
				Fraser, Lulu R.	102	37	45
				Langley, Gertrude A.	102	37	45
				McDonald, Mary A.	102	37	45
				MacDougall, Mamie	89	32	68
				McEachen, Jessie A.	101	37	09

McEachern, Annie L.	89	32	68
MacIntosh, Mary M.	88	32	32
McIntyre, Victor J.	55	19	45
MacKay, Alice M.	87	31	95
MacNeil, Catharine	69	25	33
McQuarrie, May C.	86	31	59
Robertson, Mamie	102	37	45

Annuitants.

Chisholm, Duncan	60	00
Davis, Mary	30	00
McQuarrie, Angus	30	00

INVERNESS NORTH.

Boudreau, A. C.	102	60	00
Doucet, Lucy	101	59	41
Gillis, Malcolm	102	60	00
LeBlanc, John	90	52	94
MacLellan, Lewis	102	60	00
MacLellan, Annie	102	60	00
Macleod, Martha	102	60	00
Morse, E. P.	102	60	00
Sister St. Andrew	102	60	00
Smith, Marion	93	54	71
Arseneau, Bessie	102	45	00
AuCoin, James H.	102	45	00
AuCoin, Mary Ann	102	45	00
AuCoin, Charles	102	45	00
Boudreau, P. C.	102	45	00
Cameron, Florence	102	45	00
Chiasson, Ephraim	102	45	00
Chiasson, Lizzie	102	45	00
Chisholm, A. A.	102	45	00
Doucet, Philip	102	45	00
LeBlanc, Annie	102	45	00
LeBlanc, Paul	102	45	00
LeBlanc, Hattie	102	45	00
Ingraham, Mary	102	45	00
Macdonald, Mary C.	102	45	00
Macdougall, Mary Cassie	102	45	00
Macdougall, Agnes	43	18	96
Macdougall, Margaret	102	45	00
McKinnon, Mary Cassie	100	44	11
MacLellan, A. N.	91	40	13
MacLellan, Annie	102	45	00
MacLellan, Cassie	102	45	00
Macquarrie, Annie	102	45	00
Roach, Arsene	102	45	00
Sister Marie du Cenac e	102	45	00
Sister St. Mary	102	45	00
Walker, Katherine	102	45	00
Arseneau, Mathilda	102	30	00
Beaton, Bridget	101	29	71
Cameron, Mary	102	30	00
Ferguson, Susan	102	30	00
Ladd, Helen	102	30	00
LeBlanc, Lucy	102	30	00
LeBlanc, Catherine	102	30	00
LeFort, Michael	102	30	00
Macdonald, Daniel	96	28	24
Macdonald, Josephine	97	28	53
Zacdougall, Mary	102	30	00

Macfarlane, Rose	102	30	00
MacKay, Neil	102	30	00
MacKeigan, Christene	88	25	89
MacKinnon, Archie	86	25	30
MacKinnon, Roderick	102	30	00
Macleod, Duncan	102	30	00
MacLellan, Mary	102	30	00
Maclellan, Anna	101	29	71
Macleod, Lauchina	102	30	00
Macleod, Angus	91	26	77
Macquarrie, Alexande	102	30	00
Macquarrie, Margaret	88	25	89
Sister St. Alexander C.	102	30	00
Sister Margaret Mary	102	30	00
Smith, Clara	91	26	77
Smith, Catherine	102	30	00
Timmons, Maud	54	15	87
Walker, Margaret	91	26	77

Poor Sections.

Beaton, Annie	84	30	84
Campbell, Catherine	90	33	04
Macdonald, Mary Agnes	80	29	37
MacKinnon, Christina	84	30	84
MacLellan, Angus	78	28	63
MacLellan, Christene	102	37	45
Murphy, Alexander	91	33	41
Nelson, G. A.	102	37	45
Nicholson, Catherine	91	33	41
Rankin, Mary	93	34	15
Tompkins, Martha	89	32	68

Consolidated Section.

Eastern Harbor	73	21	47
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Assistant.

Macdougall, Annie J.	77	15	10
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Annuitants.

Macdonald, Teresa	45	00
Macdougall, A. S.	45	00
MacKinnon, Malcolm	45	00

KINGS.

Ford, R. W.	96	98	82
Swanson, P. I.	102	105	00
Webster, Winnifred	102	90	00
Hardwicke, Helen M.	102	75	00
Marsters, Gladys M.	102	75	00
MacGregor, Anna	102	75	00
Osborne, Norman A.	102	75	00
Titus, Elva B.	97	71	31
Walker, Mabel R.	102	75	00
Baker, Dora M.	102	60	00
Balcom, Hilda B.	93	54	71
Beckwith, Florence A.	102	60	00
Bowlby, Alice M.	102	60	00
Bowlby, Jessie I.	97	57	06
Brownell, Louisa V.	102	60	00

Annuitants.

Banks, Alonzo	60	00
Craig, James C.	45	00
Challen, Minnie V.	45	00

LUNENBURG.

McKittrick, B.	102	105	00
Mack, R. T.	102	105	00
Hewitt, M. C.	102	90	00
Hirtle, A. G.	102	90	00
Bishop, Annetta	102	75	00
Bissett, Clarence	102	75	00
Bruhm, Muriel	102	75	00
Backman, May	102	60	00
Bailey, Hazel	102	60	00
Baizley, Abby	102	60	00
Corkum, Mildred	102	60	00
Creighton, Lucy	102	60	00
Ernst, Oressa	102	60	00
Ford, Gertrude	101	59	41
Hayward, Jennie	102	60	00
Hebb, Bessie C.	102	60	00
Heckman, Katie	102	60	00
Hirtle, Bertha	20	11	76
Hirtle, Pearl	102	60	00
Kaulback, Ruby	102	60	00
Keddy, Pearl	102	60	00
Knickle, Kathleen	24	14	12
Lantz, Verta	102	60	00
Miller, Sadie	102	60	00
MacLeod, Annie	102	60	00
Rafuse, Eva	102	60	00
Rudolf, Adah	78	45	88
Shupe, Annie	101	59	41
Veinotte, Alice	102	60	00
Veinot, Murnie	102	60	00
Walters, Muriel	102	60	00
Wentzell, Elsie D.	102	60	00
Wentzell, Elsie W.	102	60	00
Wentzell, Sadie	102	60	00
Wile, Dora D.	102	60	00
Young, Helen	102	60	00
Young, Mary E.	102	60	00
Arenburg, Ethel	102	45	00
Arenburg, Grace	102	45	00
Bolivar, Alma	89	39	24
Bowers, Mary	102	45	00
Bolivar, Minnie	42	18	52
Christopher, Winifred	102	45	00
Conrad, Lottie	102	45	00
Crawford, Florence	102	45	00
Croft, Margaret	79½	35	06
Crouse, Lettie	102	45	00
Crouse, Naomi	102	45	00
Crouse, Viola	77	33	96
Dauphinee, Tessie	102	45	00
Deal, Bernice	102	45	00
Dolliver, Olive	102	45	00
Durland, Gladys	100	44	11
Freeman, Hilda	102	45	00
Godfrey, Bessie	73	32	19
Hawksworth, Eva	102	45	00

Hebb, Leda	102	45	00
Himmelman, Carrie	101	44	56
Hirtle, Mary E.	102	45	00
Holder, Clara	102	45	00
Jewers, Beatrice	102	45	00
Kaulback, Louise	102	45	00
Langille, Edith	102	45	00
Lohnes, Stella	102	45	00
Mader, Ira	90	39	69
Mader, Jessie	90	39	69
Manning, Myra	102	45	00
Mason, Jessie	102	45	00
Rafuse, Lavinia	95	41	90
Romkey, Mary C.	102	45	00
Silver, Florence	102	45	00
Slauenwhite, Muriel	98	43	22
Sperry, Rhoda	102	45	00
Tobin, Ellen M.	102	45	00
Tobin, Mary E.	102	45	00
Veinotte, Genevieve	102	45	00
Warner, Emma L.	100	44	11
Wentzell, Ida H.	102	45	00
Wharton, Zella	101	44	56
Zwicker, Helen	102	45	00
Zwicker, Rhoda	102	45	00
Curran, Flora	102	45	00
Smith, Eva M.	36½	16	09
Albrecht, John	102	30	00
Allen, Christie	102	30	00
Awalt, Florence	101	29	71
Backman, Hilda	102	30	00
Baker, Cora	102	30	00
Bell, Beulah	102	30	00
Bell, Gertrude	102	30	00
Berringer, Mabel	102	30	00
Brooks, Lena	102	30	00
Bushen, Oda	100	29	41
Chesley, Isabel	102	30	00
Conrad, Cora	20	5	88
Conrad, Rhoda	102	30	00
Crookes, Gladys	102	30	00
Crouse, Georgina	101	29	71
Deal, Glengyle	102	30	00
Drew, Nellie	102	30	00
DeMond, Mary	102	30	00
Eisenhauer, Harris	102	30	00
Ernst, Amynella	102	30	00
Ernst, Winifred	97	28	53
Fancy, Elizabeth	101½	29	86
Fancy, Jessie	102	30	00
Feener, Letitia	102	30	00
Fleete, Lois	73	21	47
Frank, Flossie	101	29	71
Freeman, Clara	102	30	00
Hamm, Marguerite	102	30	00
Hebb, Evelyn	96½	28	39
Heckman, Belle	102	30	00
Heisler, Nellie	102	30	00
Hiltz, Ella M.	102	30	00
Hirtle, Gladys	102	30	00
Hirtle, Isabel	102	30	00
Hyson, Grace	102	30	00
Johnson, Mary	102	30	00
Kaulback, Grace	93	27	36
Kaulback, Marjorie	102	30	00
Keddy, Violet	101½	29	86

Lane, Florence	97	28	68	Boylan, Frances	102	45	00
Meisner, Bertha	102	30	00	Conrad, Grace	102	45	00
Morash, Emma	57	16	76	Hirtle, Nora	102	45	00
Morash, Mona	102	30	00	McGinty, Katherine	102	45	00
Morgan, Percy	100	29	41	Webber, Mamie	98	43	22
Nauss, Mamie	82	24	12	Young, Amy	102	45	00
Oxner, Blanche	102	30	00	Bezanson, Annie	99	29	12
Parks, Evelyn	97	28	53	Collicutt, Mildred	92	27	06
Pinneo, Thekla	102	30	00	Corkum, Ethel	102	30	00
Rafuse, Hazel	102	30	00	Corkum, Harold	102	30	00
Rafuse, Myrtle	99	29	12	Corkum, Lola	102	30	00
Richards, Laura	102	30	00	Hiltz, Wilfred	102	30	00
Risser, Maud	102	30	00	Kaulback, Lily	102	30	00
Rodenhiser, Hilda	52	15	29	Millett, Kathleen	102	30	00
Rodendiser, Maysie	78	22	94	Mosher, Carrie	102	30	00
Sarty, Eva L.	102	30	00	MacInnis, Muriel	102	30	00
Sarty, Gordon	102	30	00	Publicover, Evelyn	78	22	94
Slauenwhite, Ethel	72	21	17	Rafuse, Maria	102	30	00
Smith, Ada A.	102	30	00	Skerry, Phyllis	101	29	71
Spindler, Helen	102	30	00	Zinck, Russell	102	30	00
Veino, Lida	97	28	53	Zinck, Sadie	102	30	00
Wessell, Laura	102	30	00				
Westhaver, Muriel	102	30	00				
Whynot, Katie	102	30	00				
Winters, Hazel	102	30	00				
Wolfe, Blanche	102	30	00				
Zink, Edna	97	28	53				
Zinck, Howard	102	30	00				
Zwicker, Gladys	102	30	00				
Schnare, Mabel	57	16	76				

Poor Sections.

DeLong, Rucy	82	31	41
Ernst, Effie	102	39	07
Ernst, Flora	100	38	30
Hall, Leila	102	39	07
Himmelman, Daisy	75	28	72
Lacy, Hattie	101	38	70
Mailman, Ruby	102	39	07
Naas, Mildred	101	38	70
Rafuse, Annie	102	39	07
Sarty, Mabel	83	31	79
Seamone, Effie	83	31	79
Whynot, Luella	83	31	79
Zinck, Olive	102	39	07

Annuitants.

Risser, Daniel	60	00
Heckman, A. D.	30	00
Kaulback, Laura	30	00

CHESTER.

Acker, Hattie	102	60	00
Eldridge, Jennie	98	57	65
Hartley, Ruby	98	57	65
Langille, Ella	102	60	00
Mills, Mary	98	57	65
MacMinn, Georgie	98	57	65
Naas, Blanche	98	57	65
Quinlan, Clara	99	58	23
Zinck, Sydney.	98	57	65

Poor Sections.

Bishop, Helen	90	34	47
DeMone, Mary	88	33	71
Jollymore, Leila	80	30	64
Keddy, Olive	70	26	80
Loneragan, Leila	82	31	41
Robinson, Emma	39	14	94
Vaughan, Hilda	20	7	66

PICTOU EAST.

MacLeod, John T.	102	105	00
Baillie, A. G.	97	71	31
Fraser, Jean	101	74	26
Graham, Janet G.	102	75	00
Larsen, Lida	102	75	00
MacDonald, Eva M.	102	75	00
MacLean, C. Myrtle	101	59	41
MacLellan, Ruth G.	102	60	00
MacQueen, John P.	97	71	31
Phalen, Dorothy	5	3	67
Porter, Mina	102	75	00
Robertson, Edna	102	60	00
Roy, Lida	102	75	00
Sinclair, Nellie	102	60	00
Balcome, Lewis S.	102	60	00
Bannerman, Margaret	102	60	00
Boyle, Susie	102	60	00
Bradshaw, Janet M.	10	5	88
Cavanagh, Isabel	102	60	00
Calder, Elsie	102	60	00
Davis, May T.	102	60	00
Douglas, Irene	82	48	23
Fogo, J. G.	102	60	00
Fraser, Alice	102	60	00
Freeman, Dorothy	20	11	76
Grant, Clara	102	60	00
Gunn, Mary A.	101	59	41
Hadley, Agatha	102	60	00
Harris, Annie E.	102	60	00
Lent, Frank I.	101	59	41

MacLeod, R. H.	96	84	70	MacKenzie, Hazel	85	32	44
Archibald, Greta	96	56	47	Munro, Mary E.	102	38	92
Carter, Rena	86	50	58	Rae, Mary E.	102	38	92
Dunn, Maude E.	102	60	00	Smith, Rose	102	38	92
Kinnie, Mary M.	101	59	41				
MacArthur, Olive	102	60	00	Annuitants.			
MacLeod, Dolenna	102	60	00				
Mowat, Katharine	102	60	00	Fraser, William		60	00
Murdoch, Louise M.	102	60	00	Gollan, John		60	00
Murray, Williamina	90	52	94	MacArthur, Alex		60	00
Robertson, Sarah E.	101	59	41	MacDonald, D. W.		60	00
Bryenton, Katherine	96	42	34				
Cox, Jeannette	102	45	00				
Colter, Mary L.	102	45	00				
Fraser, Annie I.	100	44	11				
Fulton, Mildred	95	41	90				
Hamblen, Jessie	100	44	11	QUEENS SOUTH.			
Haley, Mary	102	45	00				
Hamilton, Mary	102	45	00	Morton, R. F.	102	105	00
Langille, Agnes	102	45	00	Mullins, Jennie E.	102	90	00
MacDonald, Ada	102	45	00	Wetmore, R. H.	102	75	00
MacGregor, Mary B.	102	45	00	Collins, Pearl	102	60	00
MacInnes, Anna	97	42	78	Dexter, Vera	102	60	00
MacKay, Jeannette	102	45	00	Freeman, Nettie	102	60	00
Maclean, Adelaide	102	45	00	Freeman, Wilhelmina	102	60	00
MacLennan, Irene	102	45	00	Harrington, E. B.	102	60	00
MacLellan, Evelyn	102	45	00	Harrington, Georgia	102	60	00
MacLeod, Bessie	102	45	00	Harlow, Jennie	102	45	88
McCara, Mary I.	102	45	00	Keddy, Elva	78	60	00
McCunn, Isabel	101	44	56	Locke, Helen	102	60	00
Moran, Sadie	102	45	00	Rand, Harrietta	102	60	00
Murray, Jennie	97	42	78	Smith, Daisy	102	10	58
Murray, Elizabeth	102	45	00	Bell, Marie	102	45	00
Rose, Jessie F.	102	45	00	Bryden, Alice	102	45	00
Rose, Bessie B.	102	45	00	Christie, Margaret	102	45	00
Sutherland, Laura	102	45	00	Freeman, Allene	102	45	00
Talbot, Goldie E.	102	45	00	MacLeod, Ethel	102	45	00
Baillie, Anna	97	28	53	Parke, Nellie	102	45	00
Blair, Margaret L.	87	25	59	Webber, Ola	102	30	00
Brown, Bessie	102	30	00	Brooks, Jessie	102	29	41
Campbell, Minah	102	30	00	Colp, Mildred	100	25	89
Campbell, Christena	102	30	00	Etherington, Bernice	88	30	00
Currie, Gladys	87	25	59	Gerhardt, Frances	102	30	00
Clarke, Margaret	97	28	53	Godfrey, Marion	102	27	06
Elliott, Bessie	102	30	00	Hanley, Esther	92	30	00
Fraser, Joan	102	30	00	Hiltz, Helen	102	30	00
Gray, Alice M.	101	29	71	Huskins, Opal	102	30	00
Harris, Elizabeth	102	30	00	Lloyd, Irma	102	30	00
MacGregor, Margaret	102	30	00	Meisner, Helen	102	30	00
MacKay, Alice	87	25	59	MacKinnon, Marjorie	99	29	12
MacKenzie, Nina J.	102	30	00	Pierce, Margaret J.	102	30	00
McKenzie, Jessie	102	30	00	Rafuse, Sybil	102	30	00
McCara, Margaret	102	30	00	Smith, Laliah	102	30	00
Munro, Margaret	92	27	06	Van Horne, Marion	102	30	00
Redmond, Ada F.	101	29	71	Warman, Irene	102	28	24
Reid, Catharine	102	30	00	Vogler, Ethel B.	96		
Robertson, Irene	102	30	00				
Sutherland, Margaret	98	28	83				
Tattrie, Jean	102	30	00				
Watt, Annabelle	83	24	41				
				Poor Sections.			
Poor Sections.							
Creighton, Willis	102	38	92	Kaulback, Hazel	88	34	51
Langille, Annie I.	102	38	92	Pierce, Edith	84	32	94
				Ramey, Viola	102	40	00
				Wamboldt, Alice	91	35	68
				Wharton, Winnetta	78	30	59

QUEENS NORTH.

Dalton, Hilda	102	60	00
Feindell, Hilda M.	101	59	41
Freeman, Winnie	100	58	82
Kaulback, Birdie	81	47	64
Mosher, Hilda	102	60	00
Cook, Lulu	102	45	00
Germain, Clyda	102	45	00
Kelly, Cecilia	102	45	00
Patterson, Lulu	101	44	56
Canning, Margaret	97	28	53
Crooker, Charlotte	101	29	71
Dukeshire, Gladys	102	30	00
Fitch, Murray	102	30	00
Joudrey, Lily	83	24	41
Naas, Louisa M.	92	27	06

Poor Sections.

Armstrong, Olive	86	33	72
Cooper, Elizabeth	102	40	00
Cooper, Gertrude	102	40	00
Gillmore, Ada	88	34	51
Hiltz, Beatrice	102	40	00
Martin, Violet	83	32	55

RICHMOND.

Withrow, Helena H.	102	105	00
MacLean, Jessie B.	102	60	00
Boudreau, Martha J.	102	60	00
Etienne, George W.	102	60	00
LeBlanc, Andrew A.	102	60	00
MacKenzie, Mary	102	60	00
MacKinnon, John J.	102	60	00
Macneil, Hilda	102	60	00
Sister, M. Ste. Firmine	102	60	00
Archibald, Ann	102	45	00
Boudreau, Cecile I.	102	45	00
Burke, Hattie A.	102	45	00
Cameron, Mary M.	102	45	00
Coffey, Catherine E.	101	44	56
Coffey, Julia B.	102	45	00
Currie, Jessie	102	45	00
Gillis, Cecilia H.	102	45	00
Hureau, M. Clara	101	44	56
Jackson, Henrietta E.	102	45	00
Johnstone, Ethel	102	45	00
Leslie, Alfreda M	102	45	00
McDaniel, Alice B.	94	41	45
McDonald, Catharine M.	84	37	04
McDonald, Mary Dora	102	45	00
McDonald, Mary	100	44	11
MacKay, David	102	45	00
MacLeod, Catharine M.	75	33	08
Macleod, Marie S.	102	45	00
Macneil, Minnie A.	102	45	00
Macneil, Minnie V.	102	45	00
MacPherson, Mary M.	102	45	00
Mauger, Lina	102	45	00
Monbourquette, May	102	45	00
Monbourquette, Clara	102	45	00

Nelson, J. Scott	102	45	00
Petipas, Zenobia S.	102	45	00
Samson, Edna	102	45	00
Sister St. Hugues	102	45	00
Walsh, Helen	102	45	00
Bagnell, Robert N.	102	30	00
Bissett, Hazel	20	5	88
Boutin, Irene H.	102	30	00
Boyd, Florence C.	100	29	41
Cameron, Henrietta J.	101	29	71
Campbell, Catharine	4	1	17
Campbell, Alexander	100	29	41
Daigle, Joseph	102	30	00
DeRoche, Gertrude	69	20	29
Doucet, Alvina	102	30	00
Embree, Viola	102	30	00
LeBlanc, Marie E.	100	29	41
Lavandier, Mary I.	102	30	00
MacInnis, Mamie C.	102	30	00
McKinnon, Catharine	67	19	70
MacIachlan, Annie M.	91	26	77
Martel, Mary C.	102	30	00
Mauger, Agnes J.	102	30	00
Poirier, Jeffrey H.	100	29	41
Poirier, Annie	100	29	41
Richard, Mary E.	102	30	00
Rily, Ada	100	29	41
Samson, Mary L.	29	8	52
Shannon, Mary M.	38	11	17
Shannon, Mary M.	102	30	00
Sister M. St. Prudent	102	30	00
Tate, Katharine A.	97	28	53
Campbell, Peter J.	91	26	77
Doyle, Johanna C.	86	25	30
Fougere, Hattie J.	102	30	00
Kemp, Donald	98	28	83
LeBlanc, Jeffrey D.	17	5	00
McKay, Tena J.	86	25	30
MacPherson, Barbara	102	30	00
O'Toole, M. Alberta	102	30	00
Ross, Ella C.	91	26	77
White, Teresa	87	25	59

Poor Sections.

Cameron, Mary M.	83	32	55
Kyte, Viola	102	40	00
LeLacheur, Ida J.	102	40	00
MacKichan, Esther L.	88	34	51
MacLeod, Margaret	102	40	00
MacNeill, Martha	101	39	61
McPherson, Bertram	91	35	68
Mauger, Tina	102	40	00
Ross, Lydia J.	102	40	00
Sutherland, Don. A.	101	39	61

Consolidated Sections.

Louisdale	30	00
West Arichat	10	00

Annuitant.

MacLeod, Malcolm	60	00
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YARMOUTH.

Macdonald, Angus T.	100	44	11		
Macdonald, Katie	95	41	90		
Macfadyen, Florence	74½	32	85	Blackadar, G. D.	102 90 00
MacIver, Christena	102	45	00	Horner, A. W.	102 90 00
MacKenzie, Margaret	98	43	22	Kempton, W. F.	102 105 00
Macleod, Abbie	102	45	00	McGray, M. W.	102 75 00
Macneil, Annie	102	45	00	Tooker, Beatrice	5 3 67
Macneil, Catherine	102	45	00	Wyman, H. J.	102 90 00
Macneil, Sarah	102	45	00	Allen, E. C.	102 75 00
Morash, Sarah	102	45	00	Jeffrey, Ralph J.	96 70 58
Nicholson, Margaret	102	45	00	McLeod, A. J.	102 75 00
Brown, Annie	20	5	88	Perry, Evelyn A.	10 7 35
Macdermid, Rachel	101	29	71	Ross, Frances	102 75 00
Macdonald, Florence	72	21	17	Spinney, Mary E.	98 72 05
Macdonald, Jessie	70	20	58	Allen, S. B.	102 60 00
Macdougall, W. D.	100	29	41	Allen, Georgic W.	102 60 00
Macgillivray, M. F.	73	21	47	Bellevue, W. H.	102 60 00
MacIver, Mary	102	30	00	Bond, Mary G.	102 60 00
MacIver, Annie	102	30	00	Brooks, Ruth P.	102 60 00
MacIver, Archie	76	22	35	Burrell, Hilda	102 60 00
MacIver, Florence	93	27	36	Churchill, Nelson	101 59 41
MacKay, Agnes	97	28	53	Churchill, G. H.	88 51 76
Mackenzie, Jessie	102	30	00	Durland, Addie W.	102 60 00
MacKenzie, Barbara	102	30	00	Eaton, Leta G.	102 60 00
Maclean, Marjorie	102	30	00	Foulis, A. Jean	99 58 23
Macleod, Georgina	88	25	89	Goodwin, Effie B.	102 60 00
Macleod, Neil	102	30	00	Gray, Eva I.	92 54 12
Macleod, Dolly	78	22	94	Grierson, Jean E.	102 60 00
MacKenzie, Christena	102	30	00	Hines, Nora G.	102 60 00
MacMillan, Katherine	85	25	00	Hines, Gladys H.	99 58 23
MacMillan, Joan	91½	26	99	Hopkins, Anita W.	102 60 00
Macneil, Elizabeth	102	30	00	Hopkins, Marion	102 60 00
Macneil, Winifred	99	29	12	Horner, Nora B.	102 60 00
Matheson, Margaret	102	30	00	King, Fanny	100½ 59 11
Morrison, Josie	102	30	00	Kinney, Laura	4 2 35
Morrison, Neil	74	21	76	Lewis, Winnifred	102 60 00
Morrison, Joanna	88	25	89	Longmuir, Flora C.	101½ 59 70
Nicholson, Christy	86	25	30	McGray, Jean D.	97 57 06
Nicholson, Elizabeth	72	21	17	McMurtery, Mildred	102 60 00
Rice, Annie	101	29	71	Moses, Agnes	102 60 00
Scott, Mary	102	30	00	Moses, Dorothy	102 60 00
Smith, Annie	102	30	00	Perry, E. Caroline	102 60 00
Sutherland, Mary	102	30	00	Perry, C. A.	82 48 23
Sutherland, Andrew	84	24	71	Pitman, Helen V.	102 60 00
				Pitman, Marion V.	102 60 00
				Platt, Bessie H.	102 60 00
				Raymond, Luella	102 60 00
				Ryder, Kathryn A.	102 60 00
				Thurston, H. S.	20 11 76
				Winter, Maude	102 60 00
				Allen, Frances L.	102 45 00
				Brown, Maude S.	101½ 44 78
				Bryant, Arletta	102 45 00
				Corning, Nellie R.	102 45 00
				Delamere, S. P.	102 15 00
				Killam, Gertrude A.	100 44 11
				LeBlanc, Exilda B.	102 45 00
				MacKay, Janet MacP.	102 45 00
				Meuse, J. R.	99 43 66
				Morehouse, Avis R.	102 45 00
				Platt, Ada M.	102 45 00
				Porter, Florence H.	13 5 73
				Reinhardt, Alma	102 45 00
				Seeley, Mary G.	102 45 00
				Travis, S. Winola	102 45 00
				Wetmore, Beryl	102 45 00

Poor Sections.

Macleod, Isabel	102	40	00
Macleod, Mary	94	36	86
Macleod, Jessie	78	30	59
Macneil, Jessie	89	34	90
Morrison, Susie	88	34	51

Special Poor Section.

St. Columba	50	00	
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Consolidated Sections.

Kempt Road	97	28	53
Kempt Head (1915)	17	5	00

Annuitants.

Macdonald, M. B.	60	00	
Macleod, John D.	45	00	

Wyman, C. W.	102	45	00	LeBlanc, Sarah	102	45	00
Burrows, M. Louise	102	30	00	Mius, Marie N.	102	45	00
Crosby, Addie M.	102	30	00	Pothier, Laura I.	100	44	11
Golden, Lola D.	102	30	00	Pottier, Estelle J.	102	45	00
Hamilton, Jessie E.	102	30	00	Purdy, Lennie S.	78	34	40
Hatfield, Laurena	101	29	86	Reeves, F. D.	102	45	00
Hurlbert, Hazel E.	102	30	00	Reeves, E. W.	102	45	00
Jeffery, Marion	102	30	00	Simms, E. M.	102	45	00
Spears, Agnes	102	30	00	Sister M. Seraphia	102	45	00
Treffry, Mamie	75	22	06	Sister M. Eugenie	102	45	00

Poor Sections.

Cann, Hazel E.	102	40	00	Troop, Bessie L.	102	45	00
Earle, Mildred B.	91	35	68	Amirault, Muriel A.	102	30	00
Kinney, Marguerite	85	33	33	Babin, Chantale	102	30	00
Nickerson, Maisie	100	39	21	Babin, Rose A.	102	30	00
Treffry, Elsie P.	93	36	47	Bain, Dorothy	102	30	00

Annuitants.

Goudey, Alice A.	60	00		Belliveau, Mary	102	30	00
Goudey, Theodosia	60	00		Bourque, Helen M.	102	30	00
Huestis, Hannah	60	00		Bourque, Rosie D.	93	27	36
Chipman, A. J.	60	00		Burke, Marguerite E.	102	30	00
Hilton, Mary M.	45	00		d'Entremont, Clara	102	30	00

ARGYLE.

Belliveau, Catherine	100	58	82	LeBlanc, John B.	102	30	00
Comeau, Lucie M.	102	60	00	Pothier, Martha	102	30	00
d'Entremont, Hattie L.	102	60	00	Pothier, Viola	101	29	71
d'Entremont, C. U.	102	60	00	Sister M. Gonzaga	102	30	00
d'Entremont, Rhoda	97	57	06	Smith, Ada M.	92	27	06
Hatfield, Lizzie V.	102	60	00	Surette, Anne E.	102	30	00
Hurlbert, D. A.	102	60	00				
Sister M. Victoire	102	60	00				
Amirault, Estelle	102	45	00				
Amirault, Mary I.	102	45	00				
Amirault, Edith S.	102	45	00				
Bourque, Louise A.	102	45	00				
Bourque, M. A.	102	45	00				
d'Entremont, Edna C.	102	45	00				
d'Entremont, Jeanette	102	45	00				
Goodwin, Mabel	102	45	00				
Hagar, Leora G.	102	45	00				
Hamilton, Stella G.	98	43	22				
Hines, Mildred	102	45	00				

Poor Sections.

Babin, Caroline E.	78	30	59
Babin, Bertha	102	40	00
d'Entremont, I. E.	82	32	15
Hamilton, B. R.	93	36	47
MacDonald, K. G.	102	40	00

ANNUITANTS—GENERAL.

Calkin, J. B.	300	00
Hall, J. B.	300	00
Roscoe, C. W.	300	00
Smith, O. A.	250	00

EDWARD JENNER AND VACCINATION.

By Professor D. FRASER HARRIS, M.D., D.Sc.

Dalhousie University, Halifax, N. S.

We are so exceedingly apt to take our blessings as a matter of course that at the present time a large number of us have quite forgotten, and some of us have never known, what a terrible disease smallpox is and from how much suffering national vaccination has saved us. But even many of us, who may not be included amongst those who know nothing of smallpox, do come within the group of those who know next to nothing of the life and work of Dr. Edward Jenner. A number of persons think he was Sir William Jenner, physician to Queen Victoria.

An infectious or communicable disease is one caused by the admission of some form of living matter into the body of a human being or of a lower animal. All diseases are clearly not communicable in the sense that they are due to the presence of living things. Indigestion, for instance, I can not communicate to my neighbor, however serious my dietetic indiscretions.

Now, while the actual microorganisms causing many of the infectious diseases have been discovered in these recent days thru the agency of the microscope—one of science's most valuable gifts to suffering humanity—a few diseases undoubtedly infectious have, even up to the present time, not had their microorganic causes discovered. Smallpox or variola is one of these. The term variola is from the Latin *varus*, a pimple.

The name Small Pox, which first occurs in Holinshead's "Chronicle" (1571), was given to this disease to distinguish it from the Great Pox or syphilis, the French disease, or *Morbus Gallicus* which attained the proportions of an epidemic in Europe about 1494. The expression "The Pox" in the older medical literature always refers to the *Lues Venerea*. The word "pox" is the plural form of pock; the spelling "pox" is phonetic; "pocks" is the correct form.

¹ Thus the following expression in Galt's "Annals of the Parish" is justified—
"My son Gilbert was seized with the smallpox and was blinded by them for seven-
teen days."

Smallpox is unquestionably a highly infectious or communicable disease, and, in the language of a past day, there is a virus or poison which can pass from the sick to the unaffected; when this transference occurs on a large scale we speak of an epidemic of smallpox. As Sir William Osler truly says, "It is not a little remarkable that in a disease, which is rightly regarded as the type of all infectious maladies, the specific virus still remains unknown." The same, however, is true of the common diseases of scarlatina, measles and chickenpox. Of some diseases, the virus is a bacillus or coccus, excessively minute fungi recognizable only under the microscope; but the bacteriologists are now beginning to speak of viruses so impalpable that they, unlike ordinary bacteria, can go thru the pores of unglazed porcelain filters, and are of ultra-microscopic dimensions. Some authorities conjecture that the virus of variola belongs to the group of filter-passers. The virus of smallpox, however, is very resistant and can be carried thru the air for considerable distances; it clings for long periods to clothes, books, furniture, etc.

I shall not now digress to give the clinical details of a case of smallpox; the eruption may be slight or it may be very extensive. It occurs in three forms, discrete, confluent and hemorrhagic. The most dangerous form of smallpox is the confluent, in which the face and arms particularly are covered with large pustular areas of a most disfiguring appearance.

The disease called chickenpox, or varicella, has no relationship to smallpox and does not protect from it, nor does smallpox protect from chickenpox.

History of Smallpox.

There seems very little doubt that the home of smallpox was somewhere on the continent of Africa, altho it is true that there are traditions pointing to its existence in Hindustan at least 1000 B. C. One Hindu account alludes to an ointment for removing the cicatrices of eruption. Africa has certainly for long been a prolific source of it: every time a fresh batch of slaves was brought over to the United States of America there was a fresh outbreak of smallpox.² It seems that the first outbreak in Europe in the Christian era was in the latter half of the sixth century, when it travelled from Arabia, visiting Egypt on the way. The earliest definite statements about it come from Arabia and are contained in an Arabic manuscript

²Osler thinks the *pesta magna* of Galen was smallpox; Marcus Aurelius died of it.

now in the University of Leyden, which refers to the years A. D. 570 and 571. There is a good deal of evidence that the Arabs introduced smallpox into Egypt at the sacking of Alexandria in A. D. 640. Pilgrims and merchants distributed it thruout Syria and Palestine and along the north of Africa; then, crossing the Mediterranean, they took it over to Italy. The Moors introduced it into Spain whence, *via* Portugal, Navarre, Languedoc and Guienne it was carried into western and northern Europe. The earliest physician to describe smallpox is Ahrun, a Christian Egyptian, who wrote in Greek. He lived in Alexandria from A. D. 610 to 641. The first independent treatise on the disease was by the famous Arabian physician, Rhazes, who wrote in Syriac in 920 A. D., but his book has been translated into both Greek and Latin. The first allusion to smallpox in English is in an Anglo-Saxon manuscript of the early part of the tenth century; the passage is interesting—"Against pockes: very much shall one let blood and drink a bowl full of melted butter; if they [pustules] strike out, one should dig each with a thorn and then drop one-year alder drink in, then they will not be seen," this was evidently to prevent the pitting dreaded even at so early a date. Smallpox was first described in Germany in 1493, and appeared in Sweden first in 1578.

The contributions of Sydenham, the English Hippocrates, to the knowledge of smallpox, are classical.

Thruout the Middle Ages, owing to the very crowded and unsanitary state of the cities of Europe, smallpox was one of the various plagues from which the inhabitants were never free for any length of time.³ Leprosy, influenza, smallpox, cholera, typhus fever and bubonic plague constituted the dreadful group. In most countries, including England, smallpox was practically endemic; an attack of it was accepted as a thing inevitable, in children even more inevitable than whooping-cough, measles, mumps or chickenpox is regarded at the present time. There was a common saying—"Few escape love or smallpox." In the eighteenth century so many faces were pitted from severe smallpox that it is said any woman who had no smallpox marks was straightway accounted beautiful. Very few persons escaped it in either the mild or the severe form in childhood or in later life.

³England was by no means exempt, but it was not infection in the modern sense that Shakespeare meant when he wrote—

"This England,
This fortress, built by Nature for herself
Against infection and the hand of war."

Now it is characteristic of a microorganic disease that a person who has recovered from an attack of it is immune from that disease for a longer or shorter time, in some cases for the remainder of life. This is, luckily, as true of smallpox as of any of the other acute infections. We do not now need to inquire into the theory of how this comes about; it is a well-recognized natural phenomenon. The modern explanation is in terms of antigens and anti-bodies and is fast passing from the stage of pure biochemical hypothesis into that of concrete realization. Persons who have recovered from smallpox rarely take it a second time; the few who do, have it in a mild form. It follows, then, that if smallpox is purposely inoculated into a human being he will for a long time be resistant to the subsequent infection of smallpox. The fact of smallpox protecting from smallpox is by no means without analogy in other diseases. Thus in Switzerland, in Africa, in Senegambia, it has been the custom for a long time, in order to protect the cattle from pleuro-pneumonia, to inoculate them with the fluid from the lung of an animal recently dead of pleuro-pneumonia. Of course since the time of Pasteur we have been quite familiar with the inoculation of attenuated virus to protect from the natural diseases in their fully virulent form, for instance, anthrax, rabies, plague and typhoid fever.

As it was then known to mankind from a very early period that a person could be protected from smallpox by being inoculated with it, inoculation grew up as a practise in widely distant parts of the globe. The purpose of intentional inoculation was to go thru a mild attack of the disease in order to acquire protection from the much more serious natural form of the disease—to have had it so as not to have it. A very high antiquity is claimed for this smallpox inoculation, some even asserting that the earliest known Hindu physician (Dhanwantari) supposed to have lived about 1500 B. C., was the first to practise it. Bruce in his "Voyages to the Sources of the Nile" (1790) tells us that he found Nubian and Arabian women inoculating their children against smallpox, and that the custom had been observed from time immemorial. Records of it indeed are found all over the world; in Ashantee, amongst the Arabs of North Africa, in Tripoli, Tunis and Algeria, in Senegal, in China, in Persia, in Thibet, in Bengal, in Siam, in Tartary and in Turkey. In Siam the method of inoculation is very curious; material from a dried pustule is blown up into the nostrils; but in most other parts of the world the inoculation is by the ordinary method of superficial incision or what is called scarification. By the latter part of the seventeenth century inoculation for smallpox was an established practise in several European countries into which it had traveled by the

coasts of the Bosphorus, *via* Constantinople. In 1701 a medical man, Timoni, described the process as he saw it in Constantinople. Material was taken from the pustules of a case on the twelfth or thirteenth day of the illness. As early as 1673 the practise was a common one in Denmark, Bartholinus tells us. In France inoculation had been widely practised; on June 18, 1774, the young king Louis XVI., was inoculated for smallpox, and the fashionable ladies of the day wore in their hair a miniature rising sun and olive tree entwined by a serpent supporting a club, the "pouf a l'inoculation" of Mademoiselle Rose Bertin, the court milliner to Marie Antoinette. In Germany inoculation was in vogue all thru the seventeenth century, as also in Holland, Switzerland, Italy and Circassia. In England the well-known Dr. Mead, honored, by the way, with a grave in Westminster Abbey, was a firm believer in inoculation, as was also Dr. Dimsdale, who was sent for by the Empress Catherine II. to introduce it into Russia. Dr. Dimsdale inoculated a number of persons in Petrograd, and finally the Grand Duke and the Empress herself. The lymph he took from the arm of a child ill of natural smallpox. For his services to the Russian court Dr. Dimsdale was made a Baron of the Russian Empire, a councillor of state and physician to the Empress. He was presented with the sum of £1,000 and voted an annuity of £500 a year. At the request of Catherine, Dr. Dimsdale went to Moscow, where thousands were clamoring for inoculation. The mortality from smallpox in Russia seems to have been still higher than in the rest of Europe. The annual average death rate on the Continent at the end of the eighteenth century was 210 per 1,000 deaths from all causes, while in Russia in one year two million persons perished from smallpox alone. In England in 1796, the deaths from smallpox were 18.5 per cent. of deaths from all causes.

A great impetus was given to inoculation in England by the letters of Lady Mary Wortley Montagu, the wife of our ambassador to Turkey, Edward Wortley Montagu, and daughter of the Duke of Kingston. In 1717 Lady Mary wrote a letter to her friend Miss Chiswell, in which she explained the process and promised to introduce it to the notice of the English physicians. So convinced was Lady Mary of the safety of smallpox inoculation and its efficacy in preserving from subsequent smallpox, that in March, 1717, she had her little boy inoculated at the English embassy by an old Greek woman in the presence of Dr. Maitland, surgeon to the embassy. In 1722 some criminals under sentence of death in Newgate were offered a full pardon if they would undergo inoculation. Six men agreed to this and none of them suffered at all severely from the inoculated smallpox. Towards the close of the same

year two children of the Princess of Wales were successfully inoculated; and in 1746 an Inoculation Hospital was actually opened in London, but not without much opposition. As early as 1721 the Rev. Cotton Mather, of Boston (U. S. A.) introduced inoculation to the notice of the American physicians, and in 1722 Dr. Boylston, of Brooklyn, inoculated 247 persons, of whom about 2 per cent. died of the acquired smallpox as compared with 14 per cent. of deaths amongst 6,000 uninoculated persons who caught the natural smallpox. There was, however, great popular opposition to the practise of inoculation, and Dr. Boylston on one occasion was nearly lynched.

While successful inoculation undoubtedly protected the person from smallpox, sometimes the inoculated form of the disease was virulent, and certainly all cases of inoculated variola were as infectious as the natural variety. Inoculated persons were therefore a danger to the community; and there is no doubt that such persons had occasionally introduced smallpox into towns which had been free from the natural disease. At the end of the eighteenth century, just about the time of Jenner's discovery, public opinion was strongly against the continuance of the practise of inoculation, and as natural smallpox had not at all abated its epidemic character, the times were ripe for "some new thing."

Now there is a disease of cows known as cowpox or vaccinia (from the Latin *vacca*, a cow) which is communicable to human beings. It is thought to be due to the same virus which in pigs is called swinepox and horses "grease." Jenner believed vaccinia to be the same pathological entity as human smallpox, modified, however, by its transmission thru the cow. For a long time this view was stoutly resisted, but it has now been accepted as probably representing the truth. The identity of vaccinia and "grease" is certainly much more doubtful.

To many of Jenner's contemporaries the view that vaccinia had at one time been a disease of human beings seemed unlikely; but we are now in a far better position to admit its probability than were those of Jenner's time. We have since then learned that man shares many diseases with the lower animals, tuberculosis, plague, rabies, diphtheria and pleuro-pneumonia, to mention only a few. We have also learned that certain lower animals, insects for instance, are intermediary hosts in the life-cycle of many minute parasites which cause serious diseases in the human being, amongst which malaria, yellow fever and the sleeping sickness are the most familiar.

It appears to have been understood before Jenner's time that persons who had acquired cowpox by handling cattle,

but especially by milking cows, were immune from smallpox. In the reign of Charles II. it is well known that the court beauties envied the dairy-maids because having had cowpox, they could not take smallpox which all women so dreaded. Dr. Corlett tells us that the Duchess of Cleveland, one of the King's mistresses, on being told that she might lose her place in the royal favor if she were disfigured by smallpox, replied that she had nothing to fear as she had had cowpox. In 1769 a German, Bose, wrote on the subject of cowpox protecting from smallpox. In the year 1774 a cattle dealer, Benjamin Jesty, at Yetminster, in Dorset, inoculated his wife and three children with cowpox. None of them ever took smallpox during the rest of their lives altho frequently exposed to its infection. Jesty died in 1816, and it is recorded on his tombstone that he was the first person who inoculated cowpox to protect from smallpox. Cowpox, or vaccinia, tho infectious for cows, is not transmissible among human beings; in other words, as a disease of man it is not infectious. Edward Jenner, the Englishman of Berkeley in Gloucestershire, was the first person to think scientifically on the fact that cowpox protected from smallpox. John Hunter had said to him, "Jenner, don't think, try." Luckily, however, he did both. Thinking alone avails little. Experimentation alone avails not much, but the one along with the other has removed mountains. Just as Newton thought scientifically about that falling apple and reduced our conceptions of the universe to order, just as Watt thought scientifically about that kettle-lid lifted by the steam and so introduced the modern era of mechanical power brought under man's control, so Jenner thought about and experimented with cowpox until he had satisfied himself that he had discovered something which would rid the human race forever of the incubus of an intolerable pestilence.

It was in 1780 that Jenner set himself to study cowpox in a way that had never before been attempted, for he was convinced that in the having had an attack of the disease lay the secret of the conquest of that world-scurge. He confided in his friend Edward Gardner about "a most important matter . . . which I firmly believe will prove of essential benefit to the human race . . . should anything untoward turn up in my experiments, I should be made, particularly by my medical brethren, the subject of ridicule." Luckily he was quite prepared for both ridicule and opposition; for has not everything new been ridiculed and opposed? Galileo was opposed, Bruno was opposed, Copernicus was opposed, Harvey was opposed, George Stevenson was opposed, Pasteur was ridiculed and opposed, and so were Darwin, Simpson and even Lister. The physiological inertia even of the educated has too often blocked

the path of advancement: but Jenner is in illustrious company, a high priest in the hierarchy of the misunderstood.

The facts or surmises before Jenner at this date, then, were—(a) Cowpox produces an eruption extremely like that of mild smallpox, it is, therefore, probably a form of smallpox modified by transmission thru the cow; (b) And an attack of cowpox protects from smallpox. To test these things experimentally some one must first be inoculated with cowpox, and, having recovered from the vaccinia, that same person must, secondly, be inoculated with the virus of smallpox or be exposed to the infection, and, thirdly, this person ought not to take the disease.

In 1788 Jenner had a careful drawing made of the hand of a milkmaid suffering from cowpox to demonstrate to Sir Edward Home how exceedingly similar were vaccinia and variola. Home agreed it was "interesting and curious," and the subject began to attract some attention in medical circles.

In November, 1789, Dr. Jenner inoculated his eldest child Edward, aged 18 months, with some swinepox virus, and as nothing untoward happened, he inoculated him again with swinepox on April 7, 1791. The child had a slight illness, very like vaccinia, from which he rapidly recovered. The moment for the crucial experiment was not yet; it came in due time, but Jenner had to wait five years for it, and five years are a long time to a man who is yearning to perform his crucial experiment. Happily for suffering humanity, in the early summer of 1796 the opportunity came; the hour and the man were there together.

Cowpox had broken out on a farm near Berkeley and a dairy maid called Sarah Neames contracted the disease. On May 14, 1796, Dr. Jenner took some fluid from a sore on this woman's hand and inoculated it by slight scratching into the arm of a healthy boy eight years old, by name James Phipps. The boy had the usual "reaction" or attack of vaccinia, a disorder indistinguishable from the mildest form of smallpox. After an interval of six weeks, on July 1, Jenner made the momentous but justifiable experiment, for he inoculated James Phipps with smallpox by lymph taken from a sore on a case of genuine, well-marked, human smallpox, *and the boy did not take the disease at all.* Jenner waited till the nineteenth of the month, and finding that the boy had still not developed variola, he could hardly write for joy. "Listen," he wrote to Gardner, "to the most delightful part of my story. The boy has since been inoculated for the smallpox which, *as I ventured to predict,* produced no effect. I shall now pursue my experiments with redoubled ardor."

Here we are behind the scenes at a great discovery; "as I ventured to predict"; prediction is part of scientific theorizing; there is a place for legitimate prediction as there is for experimentation. All discoverers have made predictions; Harvey predicted the existence of the capillaries, Halley predicted the return of his comet, Adams predicted the place of the planet Neptune, the missing link in the evolutionary series of the fossil horses had been predicted long before it was actually found by Professor Marsh. Pasteur predicted that the sheep inoculated with the weak anthrax virus would be alive in the anthrax-infected field, while those not so protected would all be dead. A prediction verified is a conclusion corroborated, an investigator encouraged.

Early in 1797, thru another outbreak of cowpox, Jenner was able to inoculate three persons with variola, only to find as before that they were immune from smallpox. He now felt himself justified in preparing a paper for the Royal Society, the highest scientific tribunal in England. The council, however, returned him his paper with the remark that in their opinion the amount of evidence was not strong enough to warrant its publication in the *Transactions*. Jenner was wise enough not to be discouraged, and so in June, 1798, he published the paper himself under the title, "Inquiry into the causes and effects of the Variolae-Vacciniae, a disease discovered in some of the western counties of England, particularly Gloucestershire, and known by the name of cowpox." This historic pamphlet, which ranks with the great classics of medicine, was dedicated to Dr. C. H. Parry, of Bath. Later on the Royal Society was sagacious enough to elect the very man whose paper it had previously refused.

While in London attending to the publication of his pamphlet, Dr. Jenner called on the great surgeon Mr. Cline, and left some cowpox virus with him for trial. Cline inoculated a young tubercular patient with vaccinia and later with smallpox in no less than three places. In due time this patient did not show a sign of smallpox. So impressed was Cline with this remarkable result that he wrote to Jenner thus: "I think the substitution of cowpox poison for smallpox one of the greatest improvements that has ever been made in medicine. The more I think on the subject, the more I am impressed with its importance."

The word "vaccination" was coined by the French, so remarkable for the aptness of their descriptive terms, and it has

ever since remained with us as a convenient expression for the inoculation of vaccinia as protecting from variola.⁴

Dr. Jenner's views were now becoming known, and the critics and the doubters had appeared: St. Thomas has always had a large following. The most formidable of the early objectors was Dr. Igenhouz, who had come to London to study inoculation for variola, and had already inoculated, among other notable persons, the Archduchess Theresa Elizabeth of Vienna. The careless vaccinations of Doctors Pearson and Woodville at the London Smallpox Hospital brought much apparent discredit on Jenner's work. In all his early work Jenner used lymph obtained directly from papules on the cow or calf, but Woodville in 1799 showed that excellent results could be got from arm-to-arm vaccination. As this latter method is a very convenient one, the technique was widely adopted. We have to remember that we are speaking of a period about sixty years before Lister gave to suffering humanity that other great gift, antiseptis: and so many arms "went wrong," not because of being vaccinated, but because the scratches were afterwards infected by the microorganisms of dirt. Jenner knew well the difference between the reaction of clean vaccination and that of an infected arm, but a great many medical men of his time did not, and so he was constantly plagued with reports of vaccinations "going wrong" when it was septic infection of uncleaned skin that had occurred. The explanation of these things by letter consumed a very great deal of his valuable time. By the end of 1799 a large number of persons had, however, been successfully vaccinated. As one Pearson proved troublesome by starting an institution for public vaccination on principles which Jenner knew to be wrong, and as Jenner found himself virtually supplanted and misrepresented, he came up to London in 1800 to vindicate his position. The King, the Queen and the Prince of Wales, to whom he was presented, materially helped on the cause by countenancing the practise of vaccination. Lord Berkeley, his Lord of the Manor, was in this as in all things a kind and wise patron. In the United States of America vaccination made rapid progress, having been introduced there under the good auspices of Dr. Waterhouse, professor of medicine at Cambridge, Mass. The discovery was announced with true American informality as "Something curious in the medical line," on March 12, 1799.

Things went even better on the continent of Europe; deCarro, of Vienna, inaugurated vaccination with such zeal

⁴It is certainly not necessary to point out that the principle of vaccination has been one of wide application in modern medicine. Our word "vaccine" testifies to this. A vaccine is a liquid, the result of microbic growth, injected into a patient in order to render him immune from that particular disease which is caused by sufficient infection with the microorganisms in question, e. g., of yphoid fever or of plague.

and discrimination that it spread to Switzerland, France, Italy and Spain. From Spain it passed over to Latin America. In Sicily and Naples, "the blessed vaccine" was received by religious processions. Sacco, of Milan, commenced vaccinating in 1801, and in a few years had vaccinated 20,000. In Paris, a Vaccine Institute was established; and Napoleon ordered all his soldiers who had not had smallpox to be vaccinated. On Jenner's application, the Emperor liberated several English prisoners remarking—"What that man asks is not to be refused." Napoleon voted 100,000 francs for the propagation of vaccination. Lord Elgin introduced it into Turkey and Greece. The Empress of Russia, Catherine II., was one of the greatest supporters of Jennerian vaccination. She decreed that the first child vaccinated in Russia should be called "Vaccinoff," should be conveyed to Petrograd in an imperial coach, educated at the expense of the state and receive a pension for life. The Emperor of Austria and the King of Spain released English prisoners at Jenner's request. There were statues of Jenner erected abroad, at Boulogne and at Brunn, in Moravia, before any in England. Thus the European countries showed their gratitude to the Englishman whose patience, genius and absence of self-seeking had rid them of the detestable world-plague of smallpox. Vaccination was made compulsory by law in no less than five European countries before it was so in the United Kingdom in 1853. In eight countries vaccination is provided free at the expense of the government. The clergy of Geneva and of Holland from their pulpits recommended their people to be vaccinated. In Germany, Jenner's birthday (May 17) was celebrated as a holiday. Within six years, Jenner's gift to humanity had been accepted with that readiness with which the drowning clutch at straws. The most diverse climes, races, tongues and religions were united in blessing vaccination and its discoverer. The North American Indians forwarded to Dr. Jenner a quaintly worded address full of the deepest gratitude for what he had saved them from: "We shall not fail," said these simple people, "to teach our children to speak the name of Jenner, and to thank the Great Spirit for bestowing upon him so much wisdom and so much benevolence."

There are two allusions to smallpox in "Don Juan," which was published in 1819, showing to what an extent Jennerian teachings were in the air. The first is:

The doctor paid off an old pox
By borrowing a new one from an ox.
(Canto I., stanza 129.)

The second is:

I said the smallpox has gone out of late,
Perhaps it may be followed by the great.
(Stanza 130.)

Before 1812, Jenner had been made an honorary member of nearly every scientific society in Europe, and had received the freedom of the cities of London, Edinburgh, Dublin and Glasgow. The Medical Society of London presented him with a gold medal struck in his honor; in Berlin in 1812 there was a Jennerian festival on the anniversary of Phipps's vaccination. Addresses and diplomas were showered on him, and in 1813 the University of Oxford conferred on him the degree of M. D. honoris causa. As he refused point blank to pass the examination in Latin and Greek required by the Royal College of Physicians of London, Jenner never obtained admission into that learned body. When some one recommended him to revise his classics so that he might become an F. R. C. P. he replied, "I would not do it for a diadem"; and then, thinking of a far better reward, added: "I would not do it for John Hunter's museum."

But while the pure in heart were thus receiving the blessing offered them by the benevolent man of science, the pests of society, those discontented and jaundiced ones who are always to be found in the dark recesses of the cave of Adullam, were not idle. Many of his medical colleagues did indeed sneer, as some are always apt to do at any new thing however good. To all these Jenner replied, and a very great deal of his valuable time was consumed in arguing with them. But the sect of the anti-vaccinators had arisen, and was to some extent organized. Caricatures, lampoons, scurrilities, vulgarities and misrepresentations, were scattered on all sides. Nothing was too absurd to be stated or believed—that vaccinated persons had their faces grow like oxen, that they coughed like cows, bellowed like bulls and became hairy on the body. One omniscient objector declared that, "vaccination was the most degrading relapse of philosophy that had ever disgraced the civilized world." A Dr. Rowley, evidently imagining himself honored by a special participation in the Divine counsels, declared that "smallpox is a visitation from God, but cowpox is produced by presumptuous man. The former was what Heaven had ordained, the latter is a daring violation of our holy religion." It was rather hard to blame Dr. Jenner for the origin of cowpox. It took much forbearance to endure this sort of thing; but Jenner's was a first-class mind and he evidently dealt leniently even with fools. It was not for the first time in the world's history that a lover of mankind had been spurned with the words—"He hath a devil and is mad."

Besides enduring all these mental and physical worries, and the annoyance that the Royal Jennerian Society established in 1902 was so mismanaged that it collapsed in 1808, Jenner had

spent a very large sum of private money on the introduction of vaccination. He had been, as he himself expressed it, "Vaccine clerk to the whole world." Parliament, it is true, in 1801, voted him a sum of £10,000 which was not paid for three years afterwards and was diminished by £1,000 deducted for fees, so that it barely recompensed him for his outlays. By 1806, the immensity of the benefit conferred upon his diseased fellow-creatures having been recognized more perfectly in every other country than his own, the British Parliament woke up, and voted him a sum of £20,000 only one member representing the anti-vaccinators opposing the grant. Parliament, which had previously received from the Colleges of Physicians of London, Edinburgh and Dublin the most favorable reports of the efficacy of vaccination, decided to reestablish the Royal Jennerian Institute. A subscription of £7,383 from grateful India reached Jenner in 1812. In 1814 he was in London for the last time, when he was presented to the Emperor of Russia, Alexander I., who told him that he had very nearly subdued smallpox thruout that vast Empire. Jenner refused a Russian order on the ground that he was not a man of independent means.

The management of the Institute caused him much concern in his later years; he disapproved of the personnel and of many of the details of its working. One of the last worries of his life was an article in the November number for 1822 of the famous *Edinburgh Review*. Altho it contained a good deal of praise, it was not favorable to Jenner, who said of it, "I put it down at 100,000 deaths at least." I have ascertained that this article was not written by the celebrated Francis Jeffrey, altho he was editor of the *Review* until 1829.

Jenner's life, apart from his great discovery and his developing the practise of vaccination, has not much incident in it. He was born on May 17, 1749, the son of the Rev. Stephen Jenner, vicar of Berkeley, Gloucestershire, England, the same Berkeley in whose castle, Edward II., the vanquished at Banockburn, was murdered in 1327. Jenner's mother's name was Head. Edward went to school at Wooton-under-Edge and at Cirencester, and began to study medicine with a Mr. Ludlow, a surgeon at Sodbury near Bristol. In his twenty-first year, Jenner went to London as a pupil of the great John Hunter, in whose house he lived two years, during which time he was entered as a medical student at St. George's Hospital. It is interesting to know that while still a student he was asked by Sir Joseph Banks to arrange and catalog the zoological specimens brought home by the circumnavigator Captain Cook in his first voyage of 1771. Jenner devoted considerable attention to natural history, to geology and to the study of

fossils, on which topics he kept up correspondence with Hunter long after he left London. In the year 1788 he married a Miss Kingscote, and settled down to practise in his native place. Mrs. Jenner died in 1815, after which date Jenner never left Berkeley again.

Curiously enough, it was not until 1792 that Jenner obtained the degree of M. D., and it was not from an English university at all, but from the University of St. Andrews in Scotland. This university, the smallest altho the oldest of the Scottish universities, has therefore the honor of being the Alma Mater to the epoch-making Englishman. I have seen the entry of the name in the list of graduates for the year 1792; it has evidently been misspelled, for the name is corrected. The first foreign university to recognize Jenner's eminence was Göttingen. In 1794 Jenner had an attack of typhus fever. Jenner never cared for London or a city life, and altho in 1808 he was persuaded to take a house in town, he soon gave it up and went back to his beautiful Gloucestershire. For many years he practised during the season in the pleasant health-resort of Cheltenham. He loved the country, he studied lovingly the living things around him there: many are familiar with a piece of verse he wrote on "The signs of rain."

The year 1810 was a sad one for Jenner: his eldest son died, and that noticeably depressed his health. In 1823 he presented a paper to the Royal Society on the migration of birds, a subject not even yet fully cleared up. On January 25, in the same year, he was stricken with paralysis on the right side and died within twenty-four hours. His body was buried in the chancel of the parish church of Berkeley, where there is a memorial window placed by public subscription. In person, Edward Jenner was short and rather heavily built; his expression of face was pleasant with a touch of sadness. All reports agree that in dress he was conspicuously neat, looking more like a gentleman-farmer than a physician, with his blue coat, yellow buttons, red waistcoat, buff breeches and top-boots.⁵

There is no disguising the fact that during his lifetime Dr. Jenner was much more appreciated in foreign countries than in England. The medico-social club of Alverton, near where he lived, would not listen to him when he addressed them on vaccination. The effort to collect enough money from the medical men of England in order to place a marble statue to Jenner in the nave of Gloucester Cathedral, was successful only after a long delay. An attempt to erect a statue in Lon-

⁵He was painted by Sir Thomas Lawrence, by Northcote and by Vigneron.

don died of apathy; but in 1858, 32 years after he died, a statue was erected in Trafalgar Square. In 1862 it was removed to a quiet corner of Kensington gardens; and perhaps its surroundings, the trees, the flowers and the birds he loved are more suitable than the effigies of those national heroes who served their country by taking, not by saving life. No, Nelson the hero is hardly the suitable companion for Jenner the hero.

There is no doubt that Jenner's medical contemporaries, at least in England, failed to appreciate the magnitude of the gift their colleague had presented not merely to his own country, but to the world at large. The discovery had, of course, been led up to by several different lines of indication, but this in no way detracts from the genius of Jenner in drawing his memorable inductions from the few facts which others had known before his time. The fame of Newton is no whit diminished because Copernicus, Kepler and Galileo lived and worked before him, the credit due to Harvey is none the less because many before his time had worked on the problem of the heart and vessels, and because some of them, notably Cesalpinus, came within a very little of the discovery of the circulation; the achievements of Darwin are not to be belittled because Lamarck, Malthus or Monboddo had notions in accordance with the tenor of his great generalization of evolution among living beings. Certainly Jenner had precursors; but it was his genius and his genius alone which, putting together the various fragments of knowledge already possessed, gave us the grand but simple induction based on his own experiments that vaccinia protects from variola. It was too simple and too new to be appreciated in all its bearings either by the medical men or the laity of his own day. Its impressiveness is not inherent in it, as it is in the mathematical demonstration of universal gravitation, as it is in the atomic theory or in that of the survival of the fittest thru natural selection. The English country doctor merely said in essence—"let me give you cowpox and you will not get smallpox." Unless the fact of this immunity is regarded as possessed by all the nations of the world for ever more there is nothing particularly impressive in it; and so it failed to impress his contemporaries. It is only when we contrast the loathsomeness and danger of smallpox with the mildness and safety of vaccinia and varioloid that we grasp the greatness of the work which Jenner did for mankind. The very simplicity of vaccination detracts from its impressiveness unless its results are viewed thru the vista of the centuries. We need the proper historical perspective in this as in all else. Thus viewed, however, the simplicity of the procedure and the universality of its application are most imposing. Vaccination does not, indeed, dazzle the scientific

imagination like some of the other generalizations of biology, but it is one that has been gloriously vindicated by the subsequent history of the world's hygiene.

Jenner knew himself to be a benefactor of the human race; he would have been insincere if he had pretended otherwise; he finished his first paper with these words: "I shall endeavor still farther to prosecute this inquiry, an inquiry, I trust, not merely speculative, but of sufficient moment to inspire the pleasing hope of its becoming essentially useful to mankind"; and on his death-bed he said, "I do not marvel that men are not grateful to me, but I am surprised that they do not feel grateful to God for making me a medium of good."

In private life Dr. Jenner was amiable and kind-hearted. Dibden said of him: "I never knew a man of simpler mind or of warmer heart." He was particularly kind to the poor. Dr. Matthew Baillie said of him: "Jenner might have been immensely rich if he had not published his discovery."

We may in conclusion examine some of the objections to and criticisms of vaccination. The objections can be classified as those entertained (a) by medical men and (b) those by the public generally.

The objections raised by medical men are now a matter of ancient history. Each generation of medical men has refused at first to admit any new teaching promulgated in its time; physiological inertia is not at once overcome. The most enlightened of Jenner's critics *did really* believe that he was drawing too extensive an induction from insufficient data; this was the position of the Royal Society in 1788; but the Edinburgh reviewer of 1822 should have known better. The purely technical criticisms of Jenner's work have by this time been fully assessed and replied to. It is true that at one time it was not clear what were the relationships of chickenpox and smallpox, of vaccinia and variola, of vaccinia and varioloid, of the various forms of pox in animals—cowpox, swinepox, horsepox or grease—either *inter se* or to human smallpox. But I do not suppose that in this year of grace 1914 there can be found one properly trained medical man, acquainted with the history of Jennerian vaccination, familiar with the ravages of smallpox and with the protective power of vaccinia, who could be induced, by no matter how large a bribe, to say that he disapproved of vaccination or that he believed it did not protect from smallpox. There are cranks in all walks of life, but the medical crank who is also an anti-vaccinationist is happily the rarest of them all.

The lay objectors—the professed anti-vaccinators—are with us yet in spite of some very serious lessons which have been taught them. We may pass by the objectors of the class who believe that vaccinated persons cough like cows and bellow like bulls; these objections go into the limbo of old wives' fables or into the category of wilful misrepresentation. Unfortunately there is a large class of persons who can believe the absurdest nonsense about any subject which is particularly distasteful to them. Another class of objection is the sentimental repugnance to the idea of being given one of the diseases of "the lower animals." Now the fact is that already we share a great many diseases with the lower animals, a few of them being tuberculosis, anthrax, rabies, tetanus, cancer, pleuropneumonia, certain insect-borne diseases, some parasitic worm diseases and some skin diseases like favus. As the knowledge of the lowly origin of many of our diseases is more widespread, this sort of objection will die out.

An objection which is worthy of more consideration is that in being vaccinated a child is apt to contract some infectious disease such as tuberculosis or syphilis which are the two most dreaded. Now so long as arm-to-arm vaccination was the routine practise, there was a remote probability that this sort of accident might occur. It appears to be true that a few accidents of this kind have occurred, just as a few arms have become septic or had erysipelas develop in them. But when the few such cases are compared with the millions and millions of uncomplicated vaccinations, their importance becomes very insignificant. Now that arm-to-arm vaccination is no longer practised, but fresh calf-lymph used for each child, these accidental inoculations are a thing of the past. The ignorance of cause and effect is responsible for a great deal of the most childish objections to vaccination as to much else. One woman lately told me that she could not have her child vaccinated because a child in the same street was made a cripple for life by being vaccinated. Could we have a better example of the "post hoc sed non propter hoc."⁶

⁶Anti-vaccinators constantly allude to calf-lymph as "filth"; if lymph is filth, then I am able to assure them that each one of them has about three liters of it in his own body.

⁷Now and again, however, we have the sad spectacle of some one really well educated but apparently either ignorant of logic or desirous of wilfully misrepresenting facts. The Hon. Stephen Coleridge has an article in the June (1914) number of the *Contemporary Review* which is, to say the least of it, highly immoral in ethics and statistics.

I shall examine only that part of it bearing on vaccination. The statements are that in the last five recorded years, 58 persons died from smallpox vaccination (he means against smallpox), whereas in the same five years, 85 per-

There is still that group of persons who object to everything—anti-vivisection, anti-meat eating, anti-breakfast, anti-hats and of course also anti-vaccination. They are anti the usual and the normal that are quite good enough for the most of people. They generally also believe that the earth is flat; they are past praying for, all we can do with them is to look them, like the difficulty of Jonah and the whale, “full in the face and pass on.”

sons died from smallpox itself. The inference we are intended to draw from these figures is that to be vaccinated is nearly as fatal as to have smallpox itself.

Now this kind of argument is a very common one with statistically immoral persons, and is known as the suppression of the ratio. Before we can appreciate the fact that in five years 58 persons died after being vaccinated, we at least need to know the total number of persons who were vaccinated. If only 58 persons were vaccinated and they all died, then the mortality was 100 per cent., but if, as was practically the case, thousands of infants in Great Britain were vaccinated in five years, then if only 58 died after vaccination (altho not necessarily in consequence of it) the mortality falls some thousands of a per cent. The suppression of the ratio, *i. e.* 58: many thousands, is the deceit that is practised.

Fifty-eight per year for five years, is 11.6 deaths per year of persons vaccinated. Presumably these were infants. Taking the birth-rate in England as 30 per 1,000 living, we may say that 900,000 infants were born; deduct 100,000 as not vaccinated, we have 800,000 infants vaccinated, of these 11.6 died after being vaccinated, which is 0.0014 per cent. This is not much of a mortality from any cause; but using Mr. Coleridge's own figures, it is a splendid demonstration of the safety of infant-vaccination, the opposite of what he pretends it shows.

Mr. Coleridge proceeds to tell us that in five years 85 persons died of smallpox in Great Britain, *i. e.*, an average of 17 persons per year. In other words 17 persons died of smallpox in a country with 30 million inhabitants, or 0.000056 per cent. of persons living, not a high mortality. And we strongly suspect, nay we hope, that those 17 were persons who had not been vaccinated.

But in Pre-Jennerian days, 17 persons died of smallpox out of every 100 persons dying from all causes.

Mr. Coleridge's figures, properly and honestly interpreted, testify loudly to conclusions exactly the opposite of what he desires to insinuate; he has no doubt taken the statistics of the Registrar-General, but he has prostituted them

Mr. Coleridge's paper could not be a better example of the art of concealing the causes of phenomena.

He exhibits the following table:

Deaths from smallpox per annum per a million living:

1862-1870	172.2
1871-1880	244.6
1881-1890	45.8
1891-1900	13.3
1901-1910	12.8

So that the table shows that since 1880 in Great Britain the deaths from smallpox per million per year have declined until they are only about 1/14th of their original number.

The natural inference from these figures, viewed in the light of the history of smallpox in Great Britain, is that compulsory vaccination has been steadily eradicating the disease; but this is not Mr. Coleridge's conclusion: He says it is due to the large number of persons who have refused to be vaccinated! This would be laughable if it were not really serious; it is sad and serious that a man of Mr. Coleridge's education and social position should so consistently mislead the uncritical readers of the *Contemporary Review* to whose pages he has unfortunately very free access. If Mr. Coleridge really believes these things he is either very stupid or very ignorant; if he knows them to be otherwise, but willfully deceives the public, he is immoral. He suffers from the worst form of bias, the anti-scientific.

Many people at the present time allow themselves to be persuaded into being anti-vaccinators because neither they nor their deluders have ever known what an epidemic of smallpox is, have never seen with their own eyes the awful spectacle of a person suffering from smallpox in any of its forms—discrete, confluent or hemorrhagic. Thanks to this very Jenner, the world has now for 100 years been almost free from epidemic, virulent smallpox and most perfectly so in the vaccinated countries, so that millions, the majority, of Englishmen, have never seen a case of smallpox at all. Not knowing the awful danger they have escaped, thru Great Britain having had compulsory vaccination since 1853, they have become lax in their belief in the necessity for the continuance of that precaution. "They jest at scars that never felt a wound." Towns such as Gloucester in England, in which a large number of children have been allowed to grow up unvaccinated, have always been visited sooner or later by a serious outbreak of smallpox. It must be so; the laws of natural phenomena can not be changed to suit the taste of those persons who are mentally incapable of understanding them. They can not be evaded; ignorance of the law is no more an excuse in the realm of natural than of man-made law.

We now come to that undesirable product of present-day, grand-motherly legislation, the conscientious objector. As I am not a politician, I shall not say anything for or against the policy of inserting in a bill which makes vaccination compulsory a clause giving to the conscientious objector the power or right to refuse to have his child vaccinated, but as a medical man who knows a little of the history of medicine, I can only describe it as gratuitous folly. I am one of those who believe that the laity should have no say in the matter of whether any given procedure is or is not advantageous for the public health. The efficacy of universal inoculation of vaccinia as a prophylactic against variola is a question of scientific medicine to be decided on technical grounds and ought not to be a matter open to debate by the public at all. It is perfectly monstrous to suppose that the ordinary person, quite untrained to weigh evidence for or against the advisability of the carrying out of a particular form of national immunization against a horrid disease, is qualified to form any opinion. He might as well be consulted on the advisability of making the channel tunnel or on the safest type of aeroplane or on any other subject involving the technical training of the engineer. To permit the so-called "man in the street" to say whether he shall or shall not permit the carrying out of some important piece of civic hygiene is to introduce a principle subversive of all system and obstructive of all progress in the science of public health. It

is absurd that in a case like this the pronouncements of the judges are to be submitted to the criticisms of the jury. England has already had one or two pretty severe lessons through allowing such places as Gloucester and Leicester to exercise their right of private judgment on the question of vaccination. In Gloucester where there was at one time a vigorous anti-vaccination movement, a serious epidemic overtook the city a few years ago (1896). What science pronounces to be beneficial, the layman must submit to. What we want in these days is less superstition and more faith—in science. I am informed that there are more than 2,000 unvaccinated children in the schools of this city at the present moment, and all because a piece of legislation allows any unintelligent, prejudiced or credulous parent to decide on the momentous question of the vaccination of his children.

Our quarantine regulations are extremely strict, and rightly so, on the subject of smallpox; but is it not a farce to take so much trouble about the health of our immigrants when inside the city we are all the time encouraging a high degree of receptivity towards this very disease? I should call this a very clear case of straining at the international gnat and swallowing the municipal camel. The community at present is at the mercy of its least instructed members. A most sensible suggestion is that if an outbreak of smallpox occurs in Halifax, the cost of it should be borne by the unvaccinated and by the anti-vaccinators. The fact is we have forgotten what smallpox is like. In 1796 before Jennerian vaccination, the death-rate from smallpox in England was 18.5 per cent. of deaths from all causes; in London between 1838 and 1869 it was 1.4 per cent., while in 1871—the worst year for smallpox since vaccination became compulsory—the deaths from smallpox were barely 4.5 per cent. of deaths from all causes, a proportion which was exceeded 93 times in the eighteenth century. At the present moment the deaths from smallpox in London constitute a little under 0.24 per cent. of deaths from all causes, or 77 times less than in pre-Jennerian times.

According to MacVail, in the pre-vaccination period smallpox was nine times as fatal as measles and seven and one-half times as fatal as whooping cough. Today in the vaccinated community its fatality is negligible, in the unvaccinated it is as high as it was in the Middle Ages. In the city of Berlin, where vaccination is absolutely compulsory, there is no smallpox hospital at all; the cases of smallpox in that city being only a few unvaccinated foreigners. In 1912 the deaths in New York City were as follow: 671 from measles, 614 from scarlatina, 500 from typhoid fever, 187 from whooping cough and 2 from smallpox.

In London there were in 48 years of the seventeenth century no less than 10 epidemics of smallpox; in the whole of the eighteenth, 19; and in the nineteenth no epidemic at all during which smallpox was responsible for more than one-tenth of the deaths from all causes in any one year.

In Sweden, the highest death-rate before vaccination was 7.23 per 1,000 persons, the lowest 0.30; under permissive vaccination the highest was 2.57, the lowest 0.12; under compulsory vaccination the highest was 0.94, the lowest 0.0005.

It is so frequently said that the disappearance of smallpox is due not to vaccination, but to improved general hygiene, that we must look into this criticism with some care. In the first place, a large diminution in the mortality from smallpox occurred before there was any great change in the unsanitary conditions of the English towns, before there was any enforcing of the isolation of patients either in hospitals or in their own homes. Since the introduction of vaccination, measles and whooping cough still remain in the status quo ante, while smallpox has been exterminated in all fully vaccinated communities, these two diseases of children are as prevalent as ever in England even altho the general sanitary conditions have been immensely improved in that country. Of course the effects of vaccination wear out in time, and that is why it is well to be revaccinated once or twice. Now there has been a remarkable progressive change in the age-incidence of smallpox "which can only be explained," says Dr. Newsholme, "on the assumption that vaccination protects children from smallpox and that the protection diminishes, tho it never entirely disappears, as age advances."

The "conscience clause" should be immediately removed from the act in which it was inserted on the grounds that it is weak and reactionary in principle, not in the interests of the development of the legislative aspect of the science of public health, and that it permits in certain unintelligent communities quite a considerable number of unvaccinated children to grow up as a permanent menace to their town and district.

When the history of medicine becomes more widely known, when the principles of prophylactic inoculation are more generally understood, when respect for science is the rule rather than the exception, when great achievements in the saving rather than the destroying of life are objects of national veneration, then we may hope to see the day when it will be unhesitatingly admitted that the discovery by Dr. Edward Jenner, the Englishman, was one of the most momentous in the history of the human race, and that his life was one of the noblest, most unselfish, and, in its far-reaching effects, most important that has ever been lived on this planet.

Rural Science Bulletin.

Vol. II.

TRURO, 10 DECEMBER, 1915.

No. 2.

Editor: L. A. DeWOLFE, M. Sc., Normal College, Truro, Nova Scotia.

PHENOLOGICAL OBSERVATIONS.

For a number of years the phenological observation sheets have been averaged and compiled by the voluntary efforts of leading teachers and by the officials of the Education Office. Within the past month, however, a dozen leading Rural Science teachers have undertaken that work.

This leads us to comment on the regrettable fact that several rural science teachers failed to keep the phenological records last year. A hint is all that is needed to prevent such neglect again. The teachers who are compiling the records will look to the rural science teachers of their respective countries for the most reliable reports.

WHAT IS REQUIRED OF RURAL SCIENCE TEACHERS.

The Regulations of the Council of Public Instruction state, in a general way, what is required of a rural science teacher who expects an extra government grant. For even the lowest grant, we are informed that "the school house, grounds, apparatus and library must indicate creditable effort on the part of all concerned to do well the general and special work of the school."

Won't all rural science teachers read this regulation again and note the implied meaning of every word? The *general* work is under the supervision of the Inspector. The *special* work comes under the care of the Director of Rural Science. Both officers co-operate, however; and neither wishes any department to suffer on account of demands of the other. All round work is expected.

For the special work the Director expects to see in every school room the following:—Collections of pressed plants, mounted and named; collections of insects, minerals, native woods; nature booklets, with drawings and written descriptions of plants and animals studied. On the teacher's desk should be plans, drawn to scale, of the children's home gardens. Here, too, should be the phenological sheet—tho a corner on the blackboard should be used for the daily record of the children's observations.

In spring and fall, the windows should be filled with growing plants. Some of these will be house plants. Others will be seedlings, later to be transplanted to the garden. Outside window boxes attract the attention of the passer-by. So, of course, does the school garden.

In the fall, caterpillars and their cocoons will occupy a corner somewhere. Bottles of water containing frogs' eggs will be one of the attractions of spring. At all times, nature pictures should hang on the wall. The blackboards should be attractive. A stencilled border is worth much more than it costs. It does not occupy space needed for the regular work.

Besides the foregoing, which is expected of every teacher, the following suggest possibilities for the more ambitious ones. Industrial and commercial

collections are obtainable. In Nova Scotia, we manufacture cotton, rope, woollen goods, steel, etc. Get collections illustrating these industries—from raw material to finished product. Many teachers already possess such collections. Other industries are those relating to canning, fishing, lumbering, pulp and paper, etc. Why not have a collection of artificial fertilizers with notes on their uses and comparative values? A collection of insecticides and fungicides is almost necessary in these days of spraying.

In your plant collections, have one collection to illustrate the various ways plants are propagated. Another will show seed-dispersal. Another, plant diseases. Another, weeds, weed-seeds, etc. On the sea shore, collect sea-shells and sea-weeds. Near the coal mines, collect fossils. Exchange material with teachers in other parts of the province.

The primary grades will be proud of their handwork in raffia, cardboard, etc.

Life histories from seed to seed, or from egg to egg are interesting collections.

For suggestions, see *Journal of Education*, April 1907, pages 49-77.

In High School departments, the Botany, Chemistry and Physics can be approached from the rural science standpoint more effectively than slavishly following the text book without any reference to the practical applications in daily life.

All the teachers of the Model School in Fredericton will attend the Short Course at the Agricultural School, Sussex, January 3—10. [Truro News.]

A short course for women opens January 4th at the Agricultural College, Truro, in conjunction with that for men. Rural Science teachers within easy reach of Truro might enjoy three or four days here. The railways offer reduced rates, one fare, on the Standard Certificate plan.

MAGAZINES.

One teacher takes the *Rural Educator*, *Education Review*, *The School*, *The Garden Magazine*, *The Guide to Nature* and *Nature Study Review*—besides getting free government bulletins. A large number have subscribed to four or five magazines. Many get one or two. Unfortunately about ten per cent of the Rural Science teachers get no magazine. They belong to the unprogressive group.

For teachers who contemplate adding to their list of magazines none are more helpful than the *Country Gentleman*. The price in Canada is \$1.75. It is published weekly by the Curtis Publishing Co., Philadelphia.

PLANTS IN THE SCHOOL ROOM.

The teacher whose list of magazines is cited in the foregoing section has twelve kinds of flowers growing in her school room. Altogether she has about thirty plants.

Now is the time for every teacher to start "cuttings" or otherwise make plans for window plants for early spring. Plants can be safely grown in the school room two months earlier than in the garden. Won't each child start a plant at home to be brought to school when danger of freezing is past? Next fall these may be taken home again.

A bed of geraniums would be very attractive on the school grounds during the summer. "Slips" started now could be put out in June.

RECENT MAGAZINE ARTICLES.

In the *Canadian Horticulturist*, November 1915, are three good articles, viz. "Accomplishments of a Market Gardener," page 249; "Fall Treatment of Small Fruits," page 254; "Garden Suggestions for November," page 255.

The Journal of Commerce gives valuable information—especially in the articles on Canada's Natural Resources. This Journal with its Educational Supplements should reach every teacher. We have referred to it before. In a short time it will issue a Supplement on Home Gardens.

"The Month's Reminder" in the Garden Magazine is always suggestive.

The Country Gentleman is publishing a very valuable series of articles on "The Child's Garden;" and another on "Every Man's Garden."

The Nature Study Review for November, 1915, has several articles well worth reading.

"The Schoolmate" is an interesting little magazine for Children. Its regular price is now 50 cents a year. But if a teacher will order for twenty or more children *in her own name*, the price will be 10 cents a year to each child. A teacher may, therefore, collect 10 cents from each of twenty children; send the two dollars to Mayflower Publishing Co. Floral Park, N. Y.; and receive each month twenty copies of the "Schoolmate" to be distributed among the children. This is a good offer.

NOVA SCOTIA ENTOMOLOGICAL SOCIETY.

An Entomological Society has been formed for Nova Scotia with an initial membership of between thirty and forty. The objects of the Society are to co-ordinate the work of all those interested in insect life; to keep members informed of the many rapid advances in entomological science; and to serve as a bureau of information on all entomological subjects.

All those who join the society enjoy full rights as members of the Ontario Entomological Society of which the Nova Scotia Society constitutes a branch. They will accordingly receive their monthly publication, the Canadian Entomologist, as well as their annual report. In addition to this, all the members, thru the courtesy of the Dominion Entomologist, Dr. C. G. Hewitt, are placed on the mailing list to receive the publications of the Dominion Entomological Branch. A complete illustrated report, covering the proceedings of the first annual meeting is being prepared and will be sent to members.

All those who desire to identify themselves with this society should send in their annual subscription fee of \$1.00 per year to the Secretary-Treasurer, W. H. Brittain, Truro, N. S., or the Assistant Secretary-Treasurer, G. E. Sanders, Annapolis Royal, N. S.

A teacher supplies the following recipe for making modelling clay. Besides the uses she suggests, it is suitable for making relief maps—the mountains and valleys being actually moulded in the clay. Children often make beads of this material.

MODELLING CLAY.

Mix with water until it will mould like dough and will not stick to the hands, one cupful of flour, one-half cupful of salt, and a teaspoonful of powdered alum. If you wish to color it, add cake or candy dye to the water before mixing.

If wrapped in a damp cloth, the clay can be used over and over and will keep for some time.

Modelling clay is not only an excellent "busy work" but develops thought and originality.

SHORT EXTRACTS FROM LETTERS.

"I have interested three schools in our Exhibition for next year. I have in mind two more, which I shall reach when opportunity offers."

"I have been very much interested in the Rural Science Bulletin, and truly it will continue."

"The original Savings Bank idea in our town schools was that the children were to earn the money themselves; and were to attend school at least four days each week they banked, thus good attendance and industry, with economy, were encouraged."

"Our Library now numbers 160 volumes."

"At our public examination, prizes from one of the citizens were awarded for the two best essays on Birds. Another citizen gave prizes for scholarship—Rural Science certainly creates an interest in everything pertaining to school work."

"We had one very successful field excursion. I explained to the children beforehand why we were going and what I wanted them to note. The next day, they wrote very interesting accounts of what they saw."

"The bird pictures are useful in so many ways. They not only assist in becoming acquainted with the birds, but they furnish material for drawing, painting and color work."

"The Women's Institute has promised to help wherever possible. I am preparing a paper of suggestions to read at their next meeting."

"Our Exhibition certainly had the desired effect in stimulating the whole section."

"As the school grounds are too small for a garden, I have persuaded one of the rate payers to give us the use of a piece of his land. It has been plowed, ready for spring work"

In reply to an inquiry as to what should be expected of Rural Science teachers, one Inspector writes as follows:—

I would ask them thru their influence with their Boards to give some evidence that the school premises had been improved during their services as teachers.

I fear that some of our teachers are disposed to shirk these important things. Possibly I may be disposed to emphasize this side of the work more than you. Unless a teacher gives evidence in practise that her theories have value, her influence will be short-lived.

This note from Londonderry is encouraging:—

L. A. DeWolfe,
Director Rural Science, Truro, N. S.

Londonderry, N. S.
October 22nd, 1915.

Dear Mr. DeWolfe:—

We had our Exhibition today. I could not let it pass without letting you know of it. While everything was naturally conducted on a very small scale, we are looking forward with great hopes to our Spring Exhibition, probably in early June. Then we can have flowers from the gardens. We had five departments in our exhibition, *vegetables, cooking, sewing, pressed plants and miscellaneous*. It was really wonderful what the children brought and what co-operation we had from the parents. It was something entirely new for Londonderry.

Sincerely,

Selden C. Bryson.

The following note from Miss Calder, Five Islands, shows how the exhibition may also assist in history.

Besides the exhibits of vegetables, grain, poultry, wood work, fancy work, cooking, etc., we had two tables filled with curios brought from the children's homes. Most of these were brought from foreign countries. Among these was an old musket used at the siege of Quebec, another used in American Civil War, also a table cloth made from flax grown in Economy, a great many years ago.

Rural Science Bulletin.

Vol II.

TRURO, 14 JANUARY, 1916.

No. 8.

Editor: L. A. DeWOLFE, M. Sc., Normal College, Truro, Nova Scotia.

ANSWERS TO QUESTIONS.

Questions of general interest may be answered in the form of general comment and suggestions without quoting the direct question. This opening section, therefore, tho it lacks unity, covers a variety of topics suggested by a variety of inquiries.

On general principles, exhibition prize money donated by the Government was to encourage teachers and schools to try the experiment of holding exhibitions. Where such are once established it is hoped that the citizens will become sufficiently interested to rally to their support in future years. Sections or towns, therefore, that have already received government aid should not expect further assistance from that source. The demands from new sections are practically all that we can meet.

Some sections have already held school entertainments; and, from the funds collected, have laid aside their next year's prize money. Other schools will do so during the winter months. It is easier to hold such entertainments now than in the fall months when the exhibition money is needed.

Sowing for Others to Reap.

One of the difficulties in getting permanent work started in School Improvement is the frequent change of teachers. A teacher frequently gives as an excuse for not having planted shrubbery or started a garden, her decision not to remain in the section next year. She will say "I'll be gone before things will grow anyway." Very often we hear "If I had planned to remain in that school, I should have planted a garden."

This is somewhat beneath the dignity of a real teacher. Why should she not sow for others to reap? Possibly the next teacher will neglect what the previous one began. But, again, possibly she wont. Does a teacher ever refuse to do Grade I work because she does not expect to be in that school next year to carry the same children thru Grade II?

Especially in the spring months do we hope all teachers will assist in establishing home gardens and school gardens. When teachers change, they can leave a letter in the register, informing the coming teacher of what has been done and expressing the wish that the work will be carried on.

During the winter, too, we hope all teachers will do something to raise a small amount of prize money for next fall exhibitions. Those who leave the section in June may leave this money with some reliable person, and report the fact in the last quarterly report for the year. Five dollars should be the minimum.

COMMENTS FOR RURAL SCIENCE TEACHERS.

For some reason a smaller percentage of Rural Science teachers are reporting their work this year than last. This is disappointing. We realize that the small money grant does not encourage any extra effort. But on the other hand, we are glad so many do their very best regardless of grants.

Last year, we gave sittings of eggs free to children who applied early for them. In some cases parents took advantage of this offer to "get something for nothing."

The idea is that the children should acquire a knowledge of and an interest in chicken-raising. To avoid, to some extent, this abuse of privilege, we shall ask the children to pay about half the cost in future. The Agricultural College will sell eggs to children at 40 cents a sitting. The Rural Science Department will pay the balance. Children who really want eggs from pure bred poultry will gladly pay the forty cents.

In the same way we will supply strawberry plants at a cost of 25 cents a hundred. The government will pay the balance.

All teachers interested in Rose Culture should write to the Department of Agriculture, Ottawa, and ask for Bulletin No. 85. It gives valuable information relative to hardy roses.

We hope all teachers realize what assistance they can get from the Women's Institute. If none exists in your section, could you not be instrumental in organizing one?

A GOOD SUGGESTION.

Mr. A. J. Crockett, representative of the Industrial and Educational Press, reports good work on the part of the teachers whom he visited along the South Shore. He speaks particularly of the good work being done by Mr. Wetmore, at Milton, Queens County. In this connexion the following extract from a letter written by Mr. Crockett's firm to Mr. Wetmore has suggestions that are worth passing along.

By this morning's mail we have received an excellent suggestion from Mr. A. Kennedy, M. A., Inspector of Schools for the District of Weyburn, Sask. His letter in part reads as follows:—

"The excellent series of Supplements you are issuing, which I find are now going to most of the schools in my district, emphasize the main features of geography which I have been pressing upon my teachers, namely:—

First:—The resources of forest, mine, ranch, farm, orchard, hunting, fishing etc.

Second:—The people—lumbermen, miners, ranchers, farmers, fruit growers, hunters, fisherment, etc.

Third:—Trade routes by land and water, together with the commodities that are brought in and taken out of the country over them."

"It occurs to me that a very valuable scheme of competitive compositions could be organized, based upon the subjects dealt with in each of your Supplements as they appear. If you care to support such a competition, I will organize it for my district and attend to the collections of exhibits, judging, etc., and report the winners to you, together with some of the best exhibits. I am anxious to have the teachers train their pupils to write on matters of this kind and believe that your purpose as well as mine will be served."

"For the essay based upon your Fishing Supplement, I would suggest the subject "The Fishing Grounds of Canada and their Products." It would be well to limit the entries to one per classroom, leaving the teacher to weed out the others. The essay should not be more than one thousand words on foolscap, written on one side only."

TIMELY CLIPPINGS.

From "The Oklahoma Farmer" Dec. 10, 1915, the following timely clipping is taken:—

WHY EXPERTS LEAVE US.

Is it a sound economic policy to educate these young men at the expense of the taxpayers of Oklahoma and then allow them to go to Minnesota, Wisconsin, Iowa, Illinois and other states that know the value of their kind of education for the purpose of teaching to their boys and girls the value of diversification?

Well, you say, how can we keep them at home? The answer comes back—agitate until our people are willing to pay the price that will keep these young men here. The people will never be willing to do this until we as school men can show the value and need of such.

We as school men must be willing to admit that many of the things we have been teaching have not been practical and useful. Then we must decide that some other subjects such as crops, soils and animal study are not only useful but just as intellectual as the "so-called cultural subjects."

Is it not just as useful to a boy to know the possibilities of a handful of soil as to know all about partial payments? Is it not as practicable for a boy or girl to know the difference in the growth of corn and alfalfa roots as to know all about cube root? Schools with home gardens are found in almost every portion of the state.

About 65 years ago Denmark was suffering from a lack of the necessities of life. Most of her land was in the hands of a few; her people were ignorant and restless and were of sheer necessity clamoring for a change. They made the change. They taught the boys and girls in terms of their life's work; they taught the practical things of life.

Today Denmark is prosperous. Her people are satisfied and ambitious they are advancing as no other people are. No other nation has such a small per cent of illiteracy. A large per cent of her land is in the hands of a majority of her people. A great number of her people take advantage of her higher institution of learning.

Teachers should find inspiration in this clipping from the Canadian Countryman, November 20th, 1915.

BRINGING IN BEAUTY.

Nowhere, more than in the country, are there opportunities for the adornment of the home through the planting and cultivating of Nature's most beautiful things.

Of such she is generous. Many of them grow almost of themselves. Scarcely have melted the winter's snows, when the bloom of the Hepatica lightens the dark corners of the woodland, and in the garden burst forth the beauty of the tulip and the crocus. May brings the blossom to the trees, and in June the rose sheds its beauty and fragrance lavishly abroad. After the midsummer wealth of flower glories have gone there is still the Golden Rod and the Aster in the fields and the meadows, while in the orchard the early blossoms have fulfilled their promise of a yield of luscious fruits.

It is natural that the beautiful things of nature should appeal to the better things in human nature. Association will surely exalt the thoughts and ideals of mankind, making for the thinking of higher and better and nobler thoughts, the performance of nobler and kindlier acts, the living of a bigger and a better life.

For the child reared amid such surroundings, the parent whose hand tended the flowers and trees may rest assured that they have not bloomed in vain. Love for God's Great Out-of-Doors will lay the foundations for a bigger, better and stronger character, just as surely as squalor and hideousness will work the other way. From such home surroundings come the strong souls, to battle for the right, to leave the world better because they have lived in it. Wonderful is the mission of the flower.

The three following clippings are taken from the *Departmental Bulletin* issued by the Department of Education, Winnipeg, Manitoba.

INCENTIVE TO SUSTAIN INTEREST.

Competitions and exhibitions, both in rural localities and in towns, have worked wonders in creating interest in improved agriculture and horticulture. They should be of equal, or greater, stimulus to children; in fact, a very little money will extend much farther and produce more marked results when spent on children than on their parents.

Such competitions in school and home garden work have solved the weed problem in hundreds of districts. The plots are judged at the end of June, again at the end of August, and in addition to earning marks obtained at these judgments, competitors must exhibit at the School Fair the best that the plots produce.

Many teachers hold an individual School Fair early in September; the winners at these will compete in a Municipal or Community Fair, and the winners at the latter may enter competitions for the entire inspectorate.

The School Fair, including area from the single district to the inspectorate, is proving the best incentive to good results, not only in school gardening and agricultural work, but in all lines of school effort.

A LIBRARY CORNER.

Why not have a library corner in your school? A good book case stocked with reading matter, a kitchen table, two or three chairs, a couple of magazines, and the daily paper will do much to give a homelike aspect to your school.

ACTIVITIES AT HOME.

Teaching children to do chores at home, and giving them credit at school for doing them, is the novel plan that has been worked out in more than one farming community on this continent. Parents say they cannot find work enough for their children since this plan went into effect. The children keep a memorandum of the duties they perform—setting the table, wiping the dishes, fetching wood and water, milking, feeding the calves, and the like. Credit is also given for observing hygienic practices, e. g., sleeping with open window, deep breathing, and taking physical exercises before retiring. This is a sensible and practical method of linking up the activities of home and school.

Following are four suggestive extracts from Circular Letters issued by the Bureau of Education, Washington, D. C.

In every one of the 54 grammar schools of Portland, Oreg., there is a Parent-Teachers' Association. Men as well as women are members of these associations, and three have business men as presidents. School excursions form an important feature of the work. Brick yards, lumber yards, and chair factories are visited by the pupils. A committee of 16 men have special charge of this work, one of whom accompanies the children on every trip.

Children in the Public Schools of Chattanooga, Tenn., draw maps of South America on which they indicate by marks all places where goods manufactured in their city are sold.

Country schools in Washington State are specializing in warm lunches. The teachers are trained in household arts and the school lunch is used not only to better the physical condition of the pupils but to teach domestic science.

A free moving picture show is given every night at the Public High School of Santa Rosa, Cal.

We quote one paragraph to show what Hopewell, Pictou County, is doing.

With the co-operation of the "Good Fellowship Circle" we have started a sewing class in school for Friday afternoon. One member of the Circle has promised to help us, in turn, each Friday, until we get well started. During the sewing hour Rev. A. D. Wauchop has promised to take charge of the boys giving them manual training or something of that nature. We are going to have our Fair in the spring; and have begun preparing for it.

Yours very sincerely,

N. J. Sinclair, Hopewell, N. S.

Rural Science Bulletin.

Vol. II.

TRURO, 17 FEBRUARY, 1916.

No. 4.

Editor: L. A. DeWOLFE, M. Sc., Normal College, Truro, Nova Scotia.

REPORTS FROM TEACHERS.

Recent reports from teachers have, in general, been encouraging. Difficulties are in the way. But a large number of teachers are overcoming them.

In the December number we spoke of the Phenological Observations. It appears that several teachers kept these last year for their own information; but failed to forward them to the Inspector or the Education Office. Even a few observations are useful if they are correct. We believe *every* Rural Science teacher will send in the reports this year.

A few teachers who attended Summer School last summer are not living up to rural science requirements. One writes: "None of the children will have home gardens. I am not keeping the Phenological observations. We have not attempted a school library." Another writes: "Neither the people nor the children take any interest," Whose fault is it? The outlook for school gardens is better than it was last year. Several new gardens were plowed last fall. A few old gardens have gone out of existence.

EXHIBITIONS.

The Rural Science Exhibit at the Provincial Exhibition, Halifax, is now assured.

A number of Domestic Science teachers in the provincial towns have expressed their willingness to exhibit their work at Halifax. That is desirable. It would be unfair, however, for such towns to compete against rural schools where no Domestic Science department exists. Children of rural schools must do most of their work at home.

But towns could ship their domestic science exhibits with the garden and nature study exhibits and set them up separately in Halifax. Thus, two of the sub-divisions of the educational exhibit would be: (1) Rural Science exhibit, which includes Domestic Science and Manual Training from rural schools,

and (2) Domestic Science and Manual Training from towns where special teachers are provided for these subjects. Towns where no such special teachers are employed would exhibit with the rural schools.

Teachers have asked if they may exhibit their own Nature collections which they have used in school for illustrative purposes. Certainly. Other teachers and other schools can get ideas from such collections. Probably no prizes will be offered for teachers' exhibits. But rewards do not always come in the form of prizes.

NOTICE.

The March Bulletin will contain definite instructions about school gardens. It will suggest the best flowers for each kind of soil; and will also suggest window box material.

Children should buy seeds for their own home gardens. If teachers have no good seed catalogs, they should order one or two at once. Good ones are those of D. M. Ferry & Co., Windsor, Ontario; and Steele-Briggs Co., Toronto. Try to have these catalogs before the arrival of the March Bulletin.

SCHOOL CONCERTS.

School concerts have their use and their mis-use. Tho they have an educational value, they are usually held for the purpose of raising money that should be supplied by the trustees.

A teacher held a concert a short time ago to raise money for a library. Later, the trustees commanded her to spend it for a flag-pole. This money should have gone to the library. If the trustees wished a flag pole, they should have bought it. But they cannot compel the teacher to buy it.

It is a common occurrence for teachers to raise money for black-boards, maps, book-cases and dictionaries. In no case should they do so. These are the property of the section, and should be supplied by the section. It is perfectly legitimate to hold concerts for libraries, pictures, garden supplies, prize lists, summer care of school gardens, etc., where the section is not compelled to supply them. [Generous sections, however, are supplying these accessories even where they are not imperative.]

Teachers should insist upon their rights. If the Inspector should withhold the county grant, trustees would realize their responsibilities. While the teacher shoulders burdens not her own, she will be expected to do so.

SEEDS FROM THE EXPERIMENTAL FARM.

Superintendent Baird, Experimental Farm, Nappan, will send each rural science teacher a small bag of seed potatoes and some seed grain this spring. He asks that teachers insist on having the children report the results in accordance with his request. Schools last year in several cases neglected to do this. It is dishonest to accept these seeds, and not fulfil the conditions.

Here is a quotation from one of Prof. Baird's recent letters. Won't the teachers concerned try to comply with his request?

"I may say a number of the children have returned their reports, filled in very nicely indeed and some of them are most creditable. However, a large percentage of them did not. If it is possible for us to get them, these reports would be very valuable to us, in so far as we would be able to ascertain to a considerable extent the various varieties suitable to that district, which could enable us to judge what varieties to send to the farmers in the various districts making applications. I would appreciate it very much if you would in some way get in touch with these teachers and ask them to see if it is possible for all the students to fill in all the reports as fully as they can, giving me what information they can."

THE WORK ABROAD.

All would do well to read the two following extracts from the Bulletins issued by the Department of the Interior, Bureau of Education, Washington, U. S. A.

RURAL SCHOOL LETTER NO. 17.

A Personal Letter to keep Boys in School.

Superintendent McKillop, of Lovelock, Nevada, attempts to attract boys and girls back to school by personal letters in which he sums up briefly but definitely a few of the arguments in favor of education most likely to appeal to boys and girls of the restless age in city or country. The letter to boys is given herewith, not because it is necessarily a model, but because it typifies the newer conception of the school's duty to the community and at the same time illustrates a practical method of making the school known to those who most need it—the boys and girls of 14 to 16 years of age. The letter to boys follows:—

Are you going to be one of the *Headless Army*? It's in the majority and spends its time taking directions and a daily pittance from the *leading and ruling* minority whose heads, fixed on their own shoulders, do the thinking and planning that carry the world along. The majority draw pay for the work they can get out of their muscles and can hope for no great change in the future; the minority use their physical capacity as a supplement to their mental capacity and expect all things of *their* futures. The dividing line is training, another name for *Education*. In youth *now*, you decide how you will be classified later on. This letter

is written to remind you that it is *up to you now* to decide for which group this year will help fit you and to point to the open doors of the High School.

You want to earn something at once. Let's measure, if possible, the "dollars and cents" value of going to school. In the United States as a whole, taking conditions by and large, the uneducated man can not hope for more than \$1.50 a day for 300 working days, or \$450 a year. We'll give him the generous allowance of 40 working years. Total income, \$18,000. Now consider the trained (educated) man. What is his average salary? Beginning with the President of the United States and taking into account the presidents of companies, banks, universities, and institutions of all sorts, their lesser officials, lawyers, doctors, the majority of merchants engineers, ministers, real estate and insurance men, educated farmers, master artisans and teachers we shall find that \$1,000 a year is a low estimate for the average income of the educated men. It is undeniably true that the educated man wears out more slowly and lives *longer* as well as *more comfortably* than the uneducated, but for the sake of the argument, we'll allow him, too, a 40-year period of activity. Total income, \$40,000; difference in his favor, \$22,000. The average difference in education is less than 2,200 days. But calling it 2,200, the average return during a lifetime for each day in school is \$10; *ten dollars a day*.

RURAL SCHOOL LETTER NO. 13.

What a One-Room Rural School is Doing in Industrial Education.

The work in sewing is especially interesting. The pupils keep notebooks of all their work. They write up their notes at the close of each lesson and fasten in their notebooks the work they are doing, so far as they can. This includes samples of fancy and plain patching, the various stitching, hemming, darning, etc. The complete articles, such as plain and fancy aprons and plain dresses, are taken home and used as finished.

This spring the pupils are studying elementary agriculture with the other work. A great deal of it will be experimental work, such as the testing of seeds, testing the water-holding capacity of various soils, a study of soils, testing of milk for butter fat, study of plants, etc.

The school has a kitchen cabinet, a 3-hole oil stove with oven, a set of dishes, and various utensils necessary to carry on this work. Other equipments will be added from time to time. The people of the district are interested in this phase of school work as much as they are in the book part. It will set as leaven not only in the community but also in the county. It means the beginning of the introduction of some practical phases of school work to supplement the work in books.

The present teacher is serving her first year in the school. She is a high-school graduate of normal-training course with four years' experience. She has never lived on a farm, but she has entered into the life work of the community, in this way making up to a very large degree for the lack of experience of farm life.

FREE SCHOOL EXHIBITS.

(List compiled by Principal R. H. Wetmore, Milton, Queens County, N. S.).

1. Samples of Fertilizers and Animal Products:—
Morris & Co., Packers, Chicago, Ill.
2. Cocoa & Chocolate Exhibit:—
Walter Baker & Co., Dorchester, Mass.
3. Lime—Sulphur Solution and other Sprays:—
The Vreeland Chemical Co., New York, N. Y.

[This company does not now issue the exhibit, but does issue a pamphlet and several interesting circulars on spraying, etc.]

4. Breakfast Food Exhibit:—
Postum Cereal Co., Battle Creek, Mich.
5. Lowney's Educational Exhibit:—
Walter M. Lowney Co., Boston, Mass.
6. Baking Powder:—
The Royal Baking Powder Co., William & Fulton Sts.,
New York, N. Y.
7. Corn and its Products:—
The American Manufacturers' Association, Chicago, Ill.
8. Wheat and its Products:—
The Washburn Crosby Co., Minneapolis, Minn.
9. Samples of Oils:—
The Standard Oil Co., New York, N. Y.
10. Asbestos:—
The Johns-Manville Co., 201 Claybourn St., Milwaukee,
Wis.
11. Spices:—
McCormick & Co., Baltimore, Md.
[This company sends a useful and educative pamphlet, but no exh bit.]
12. Steel:—
The Illinois Steel Co., Chicago, Ill.
13. Sugar:—
The American Sugar Refining Co., New York, N. Y.
[This company issues two pamphlets, but no exhibit.]
14. Tapioca:—
The Minute Tapioca Co., Orange, Mass.
15. Varnish:—
Berry Bros., Detroit, Mich.
16. Carborundum:—
The Carborundum Co., Niagara Falls, N. Y.
17. Cement:—
The Portland Cement Works, 140 S. Dearborn St.,
Chicago, Ill.
18. Cocoa:—
The Hershey Chocolate Co., Hershey, Pa.
19. Cotton:—also an exhibit of Needles:—
The Spool Cotton Co., 315, 4th Ave., cor. 24th St.,
New York, N. Y.
20. Fertilizers:—
Swift Co., Chicago, Ill.
21. Grain:—
Commissioner of Immigration, Winnipeg, Can.
22. Grinding Stones:—
The Pike Manufacturing Co., Littleton, N. H.
23. Malted Milk:—
The Horlick's Malted Milk Co., Racine, Wis.

24. Paint and Varnish:—
The Sherwin-Williams Co., 601 Canal Road, Cleveland, Ohio.
25. Pencils:—
(1) Joseph Dixon Crucible Co., 501 Victoria Bldg., St., Louis, Mo.
(2) Eberhard Faber, 37 Greenpoint Ave., Brooklyn, N. Y.
26. Pens:—
Esterbrook Steel Pen Mfg. Co., Cambden, N. J.
27. Potash:—
The German Kali Works, 1901 McCormick Bldg., Chicago, Ill.
28. Salt:—
The Worcester Salt Co., 71 Murray St., New York, N. Y.
29. Silks:—
M. Heminway Co., 890 Broadway, N. Y.

Nos. 1, 7, 8, 9, and 21 are extra good.

QUOTATIONS FROM LETTERS.

"I have started a Sewing Club with my girls. It gives me a chance to get better acquainted with them."

"The Exhibition did a great deal to awaken interest in the school."

"In connexion with our Hiawatha reading lesson, we made a Hiawatha table, covered with mosses, trees, etc."

"In the reading lesson 'An August Reverie,' we tried to find all the things mentioned. We also wrote compositions describing our botany walks, used our ferns for drawing lessons, etc."

"Every department, from the primary up, is enthusiastic over caterpillars. Practically every boy and girl has at least one cocoon at home."

"We found it necessary to send a large number of insects to the Agricultural College for identification. The children have found out a number of interesting data for themselves, and we are keeping a record of each insect."

"The Methodist minister of this place has organized a sort of 'Community Center' in his church: and has asked me to co-operate with him. At my suggestion we have decided on 'the kitchen garden' for our first evening's topic. One evening each month will be devoted to questions of interest to rural home life."

"I have the back of my room lined with tables containing Industrial collections. They certainly awaken interest among the children."

Teachers should get helpful hints from this extract from a recent letter.

"We attempt to keep the room cheerful with plants, pictures to illustrate lessons, modern maps of the various countries studied, a book table, where there are geographical magazines, nature books and magazines, a dictionary, parts of encyclopedias which might be needed for reference during the week and newspaper clippings. This table may be visited, when a pupil's work for a certain period is finished; and from it he selects what he wishes to read. I find this much

better than the collection of books of fiction which I kept two years ago. Above this table is a large sheet of drawing paper which we use as a bulletin board. On this the children pin pictures illustrating the growth and gathering of the products of different countries, and small clippings of interest."

Here is a quotation from a letter written by a rate payer in one of our small towns. Evidently he is more interested than the teachers are. Teachers, won't you take a hint from this?

"Can you suggest any way that we can get our school children to grow flowers either at home or about the school grounds? Both homes and school grounds are sorely in need of them."

FOR TEACHERS AND PUPILS.

[From the Canadian Countryman.]

Taking School Work to the Farm.

One of the chief problems the teacher meets in introducing the study of agriculture into the school is the time problem.

She will find the solution of this in the co-relation of agriculture with other subjects on the curriculum and in the relating of some of those subjects a little more closely to the lives of the pupils.

Especially is this true in arithmetic. And she has excellent material to work with. She has pupils who are used to doing work and the material at hand with which to make the work practical.

A part of the course in agriculture outlined in the register is Farm Arithmetic. In the course of study for the third and fourth classes, as outlined in our well-thumbed Blue Book, are mentioned problems related to the lives of the pupils and personal accounts.

GIVE PUPILS REAL PROBLEMS.

Just let them have the real thing. Instead of having them find the cost of shingling and painting imaginary buildings let them get at the school woodshed with rulers and notebooks and pencils. Let them bring problems from home on the cost of feeding stock, the capacity of bins, mows, silos, cisterns.

Here are some suggestions for problems. The children will think of lots more:—

(1) Make out a bill for the last list of groceries your mother sent for.

- (2) Keep an account for her of all she sells on the markets.
- (3) Reckon the cost of the last cake you baked.
- (4) What will it cost for oats for your horses this winter?
- (5) Keep a poultry account and an egg record.
- (6) Keep a personal account for a year.
- (7) Keep an account of what your parents spend for you for clothes, school books, and so forth.
- (8) How much wood is there in the school woodpile?
- (9) Find the cost of painting the school floor. What would it cost to put in a new hardwood floor?
- (10) What would it cost to put metallic lining on the walls or to kalsomine them?
- (11) Find the cost of papering your bedroom at home.
- (12) Find the cost of plastering your kitchen. That would be good homework, wouldn't it?
- (13) Find the cost of the school fence. Get prices from the secretary-treasurer.
- (14) Find the cost of the woodshed. This will give practise in measurement of rectangles and triangles, board measure, shingling, painting and cost of labor.
- (15) Find the capacity of several bins in your granary.
- (16) How much hay is there in one of your haymows?
- (17) How many gallons of water does your cistern hold?
- (18) What did it cost to build your silo?
- (19) What did it cost to fill it the last time?

WORK THAT HAS BEEN PROVEN.

To these may be added dairy problems, problems on cost of cultivation and so forth.

We have tried out almost all this work. I think it takes no extra time from the teacher. You'll find the pupils will ask a lot more questions about the work they are doing than about the imaginary book problems and of course that is what you want. As well as being more practical it gives them a much better training, which is the most important part of the work. They can do most of the work of finding out prices and so on. Let them. And the parents will help. It's a good way to get them interested.

Rural Science Bulletin.

Vol II.

TRURO, 15 MARCH, 1916.

No. 5.

Editor L. A. DeWOLFE, M. Sc., Normal College, Truro, Nova Scotia.

ANNOUNCEMENT.

Tho this is a School Garden number, the flower-combinations on the following pages will be serviceable on home grounds. Moreover, the lack of definite instructions on vegetable culture does not indicate that this is the less important side of garden work. In the home gardens, vegetables will be the prominent feature. In this, the parents can supplement the instruction given by the teacher. Beautify both school grounds and home grounds. But make the home garden profitable, for parents believe in profits more than in beauty.

SCHOOL GARDENS.

For school grounds that are too rocky to be plowed, a very simple treatment will improve them wonderfully. Such grounds usually have generous patches of earth among the rocks. Early this spring (since it was not done last fall), have the ground dug with a pick or a spade. Then, it can be levelled with a garden rake. About May 24th, mix the seeds of Shirley Poppies, Bachelor's Buttons and Sweet William, and scatter them broad-cast over the ground; and gently rake the ground to cover them. They must not be covered deeply. Unless the soil is naturally wet, immediately before a rain is the best time to plant them.

Plant at the rate of a five-cent packet of each for every fifty square feet. Nearly everyone plants seeds too thickly.

We have suggested these three because they "seed themselves." When once planted, therefore, they will continue to come up year after year. Moreover, the poppies bloom comparatively early; and the bachelor's buttons will continue to bloom long after the others have gone. The Sweet William is perennial. It will not bloom the first year. But when once established, it will continue to grow and bloom in spite of absolute neglect. The ground will need an annual digging to give the poppies and bachelor's buttons a chance to get above the grass and weeds.

These plants grow two or three feet tall. Therefore they will hide the rocks. From the public road, the school grounds can be made to look like one continuous flower garden.

These are not the only desirable flowers to plant. But they come near the ideal "lazy-man's garden." The teacher who has slightly greater ambitions would do well to plant on such grounds Dahlias and Cosmos. Tubers of the former might be donated by someone in the section who grows them. They multiply very rapidly. If Cosmos are planted, be sure to get the early flowering dwarf varieties. It is best to start them in the house; and set them out about two feet apart early in June. They are as easily transplanted as tomatoes. Petunias and Snap-dragons are also excellent for planting among the rocks.

In cases where the rocks are very large, four or five feet high, plant sunflowers or sweet peas in front of them, or a climber such as wild cucumber will soon cover them.

FLOWER BORDERS.

Grounds that can be plowed allow more formal gardening. But even here, don't attempt too much. A flower border along one side of the school grounds is much better than a rectangular garden somewhere else. Get a farmer's advice on the quality of the soil.

A background of shrubbery, such as Lilacs, Wild Roses, or Blackberries, shows a flower border to good advantage. This, however, is not absolutely necessary. Those who have ideas will use them. The beginner, however, would welcome concrete suggestions. One or two follow.

Plow a strip eight feet wide along one side of the school grounds. Choose the side with best soil and good exposure to sunlight. If this strip is one hundred feet long, it may conveniently be divided into twenty rectangular blocks each 4x10. In the ten blocks nearest the fence, plant perennials. In front of these, plant annuals. That will give a four foot strip (annuals) to be plowed each year; and a four foot strip (perennials) to be hoed, but not plowed.

Possibly the ten most satisfactory perennials are:—

Hollyhocks, Canterbury Bells, Foxgloves, Sweet William, Mullein Pink (*Agrostemma*), Bright Pink Phlox, Columbine, Golden Glow, Perennial Aster (*A. acris*) and Oriental Poppy.

Plant them in the order named. In front of these plant, in the order named, the following ten annuals:—

Cosmos, Centaurea, Calliopsis radiata, Salpiglossis, Stocks, Shirley Poppy, Peony-flowered Poppy, Bachelor's Buttons, California Poppy and Baby Golden Glow.

If this arrangement is followed, plants whose colors will not harmonize are either kept apart or will flower at different seasons. It will also bring shorter flowers in front of taller ones.

For the first year, annuals should be planted with the perennials in the back row; for the latter will not bloom until the second year from seed. Where pos-

sible, it would be better to get perennial roots from some old fashioned garden in the neighborhood, and thus save a year. Next best is to start the perennial seeds in an out of the way corner, and transplant into the permanent border the second spring. In such case, the whole border will be planted to annuals the first season.

For teachers who desire to introduce a variety of new flowers, or plant a more extensive border, the following plants all do well in Nova Scotia. We shall number them in a convenient order for planting. The "best ten" are repeated in this larger border. In every case, the top one is the annual to be planted next the fence the first year; the middle one is the perennial to follow on the same ground the second year; the bottom one is a suitable annual for successive planting in front year after year. By the time the soil requires a rotation, better combinations will have been discovered.

1 Sunflowers. Hollyhock. Zinnias.	2 Coreopsis. Foxgloves. Nasturtium.	3 Cosmos. Larkspur. Candytuft.
4 Snapdragon. Monkshood. Stocks.	5 Salpiglossis. Canterbury Bell. Verbena.	6 Marigolds. Columbine. Sweet Alyssum.
7 Bachelor's Buttons. Phlox (perennial). Scarlet Flax.	8 Phlox Drummondi. Sweet William. Viscaria.	9 Petunia. Mullein Pink (Agrostemma) Aster.
10 Giant Spider Plant. Shasta Daisies. Linaria.	11 Clarkia. Forget-me-nots. Mignonette.	12 Chinese Lantern. Polemonium. Scarlet Poppies.
13 Godetia Bouncing Bet (Saponaria). Pansy.	14 Shirley Poppies. Pryethrum, hybrid rubrum Gaillardia (annual).	15 Dianthus (annual). Sweet Rocket. Nemesia.
16 Sweet Peas. Iris. African Orange Daisy.	17 Kochia. Anchusa. California Poppy	18 Salvia. Clove Pinks. Marigolds.
19 Gypsophila (annual). Campanula Persicifolia. Aster (Burpee's Lav. Gem.	20 Larkspur (annual). Gaillardia (perennial) Petunia (purple).	21 Gourds. Tiger Lilies. Chrys. "Morning Star."
22 Nigella Iceland Poppy. Marigold (Legion of Honor)	23 Prince's Feather. Lychnis. Salpiglossis.	24 Helichrysum. Perennial Flax. Sweet Scabious.
25 Larkspur (annual). Geum (Mrs Bradshaw). Schizanthus.	26 Acroclinium. Peony. Godetia.	27 Calliopsis. Scabiosa Caucasia Ageratum.

<p>28 Rachelor's Buttons. Monarda Didyma. Pinks (annual).</p> <p>31 Dahlia Dahlia. Gladiolus.</p> <p>34 Scabious. Coreopsis (perennial). Coreopsis (annual).</p> <p>37 Cosmos. Valeriana officinalis. Mallow</p>	<p>29 Calendula. Lupinus. Petunia.</p> <p>32 Sunflowers. Aster (fall) Baby Golden Glow.</p> <p>35 Nicotiana. Bleeding Heart. Bachelor's Buttons.</p>	<p>30 Zinnia. Doronicum. Snapdragon.</p> <p>33 Shirley Poppies. Oriental Poppies. Dwarf Snapdragon.</p> <p>36 Four O'clock. Golden Glow. Chinese Lantern.</p> <p>38 Salvia. Alyssum saxatile. Shirley Poppy.</p>
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To the teacher who wishes to work on a small scale, this border, thirty-eight sections in length, is bewildering. She may, however, take a few successive sections from any part that appeals to her, and still avoid very bad combinations. For example, 31, 32, 33, 34, 35 would make a creditable showing.

FLOWERS FOR TRYING SITUATIONS.

It may happen that someone wishes a flower border on the north side of a building or under the shade of trees. If so, we suggest this perennial one:—

<p>1 Cinnamon Fern. Virg. Cowslip (Mertensia).</p> <p>4 Solomon's Seal. Bleeding Heart.</p>	<p>2 Aquilegia (long spurred hybrids). Lily-of-the-Valley.</p> <p>5 Hay-scented Fern. Aquilegia.</p> <p>7 Monarda Didyma. Doronicum.</p>	<p>3 Foxglove. Heuchera Sanguinea.</p> <p>6 Monkshood. Tiger Lilies.</p>
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For very sandy soil, possibly the most satisfactory flowers are Lupines, Linaria Canadensis, Prairie Sunflower, California Poppy, African Orange Daisy and Portulaca. Where the soil dries rapidly, seeds might be covered with bags until they germinate.

GARDENS AT SMALL COST.

The cheapest gardens are the wild-flower gardens. Many of our wild plants will stand transplanting. Those growing naturally in the shade should be left in the shade. Our native ferns transplant well. Tho nature tells us a plant's likes and dislikes, a few plants will grow under widely varying conditions. For example, Blue-flag and Marsh Marigold grow wild in very wet places; but they do well in ordinary gardens.

Answers to questions crowded out. Will appear in the April "Bulletin."

(To be handed promptly on its receipt by the Secretary of every School Board to each Teacher employed within the School Section).

LOCAL "NATURE" OBSERVATIONS.

(To be sent in to the Inspector with the Returns in February and July).

This sheet is provided for the purpose of aiding teachers to interest their pupils in observing the times of the regular procession of natural phenomena each season. First, it may help the teacher in doing some of the "Nature" lesson work of the Course of Study; Secondly, it may aid in procuring valuable information for the locality and province. Two copies are provided for each teacher who wishes to conduct such observations, *one* to be preserved as the property of the section for reference from year to year; the *other* to be sent in with the Return to the Inspector, who will transmit it to the Superintendent for examination and compilation.

What is desired is to have recorded in these forms, the dates of the *first* leafing, flowering and fruiting of plants and trees; the *first* appearance in the locality of birds migrating north in spring or south in autumn, etc. While the objects specified here are given so as to enable comparison to be made between the different sections of the Province, it is very desirable that other local phenomena of a similar kind be recorded. Every locality has a *flora, fauna, climate*, etc., more or less distinctly its own; and the more common trees, shrubs, plants, crops, etc., are those which will be most valuable from a local point of view in comparing the characteristics of a series of seasons.

Teachers will find it one of the most convenient means for the stimulation of pupils in observing all natural phenomena when going *to* and *from* the school, and some pupils radiate as far as two miles from the school room. The "nature study" under these conditions would thus be undertaken at the most convenient time, without encroaching on school hours; while on the other hand it will tend to break up the monotony of school travel, fill an idle or wearisome walk with interest, and be one of the most valuable forms of educational discipline. The eyes of a whole school daily passing over the school routes will let very little escape notice, especially if the first observer of each annually recurring phenomenon receives credit as the first observer of it for the year. The observations will be accurate, as the facts must be demonstrated by the most undoubted evidence, such as the bringing of the specimens to the school when possible or necessary.

To all observers the following most important, most essential principle of recording is emphasized; Better *no date, no record*, than a *wrong one* or a *doubtful one*. Sports out of season due to very local conditions not common to at least a small field, should not be recorded except parenthetically. The date to be recorded for the purposes of compilation with those of other localities should be the *first* of the *many* of its kind following immediately after it. For instance, a butterfly emerging from its chrysalis in a sheltered cranny by a southern window in January would not be an indication of the general climate, but of the peculiarly heated nook in which the chrysalis was sheltered; nor would a flower in a semi-artificial, warm shelter, give the date required. When these sports out of season occur, they might also be recorded, but within a parenthesis to indicate the peculiarity of some of the conditions affecting their early appearance.

These schedules should be sent in to the Inspector with the school returns in July and February, containing the observations made during the Spring (January to June) and the Fall (June to December respectively).

The new register has a page for a duplicate of such records.

Remember to fill in carefully and distinctly the date, locality, and other blanks at the head of the schedule on the next page; for if either the date or the locality or the name of the responsible compiler should be omitted the whole paper is worthless and cannot be bound up for preservation in the volume of The Phenological Observations.

By the aid of the table given at the top of pages 3 and 4, the date, such as the 24th of May for instance, can be readily and accurately converted into the *annual date*, "the 144th day of the year," by adding the day of the month given to the annual date of the last day of the preceding month (April in this case), thus $24 + 120 = 144$. The annual date can be briefly recorded, and it is the only kind of dating which can be conveniently averaged in phenological studies. When the compiler is quite certain that he or she can make the conversion without error, the day of the year instead of the day of the month will be preferred in the record.

PHENOLOGICAL OBSERVATIONS, CANADA.
(1916 Schedule).

(For the months January to June 19 ; or the months July to December, 19)
Province..... County..... District.....
Locality or School Section..... No.....

The estimated length and breadth of the locality within which the following observations were made..... X..... miles. Estimated distance from the sea coast..... miles. Estimated altitude above sea level..... feet. Slope or general exposure of the region..... General character of the soil and surface..... Proportion of forest and its character..... Does the region include lowlands or intervalles?..... and if so name the main river or stream..... Or is it all substantially highlands?..... Any other peculiarity tending to affect vegetation.....

The most central Post Office of the locality or region.....

Name and Address of the Teacher or other Compiler of the Observations responsible for their accuracy.

When First Seen.

When Becoming Common.

Nova Scotia Phenochrons.
1916 is a Leap Year.

(Wild Plants, etc.—Nomenclature as in "Spotton" or "Gray's Manual").

1. Alder (*Alnus incana*), catkin shedding pollen.....
2. Aspen (*Populus tremuloides*), shedding pollen.....
3. Mayflower (*Epigaea repens*), flowering.....
4. Field Horsetail (*Equisetum arvense*), shedding spores..
5. Blood-root (*Sanguinaria Canadensis*), flowering.....
6. White Violet (*Viola blanda*), flowering.....
7. Blue Violet (*Viola palmata, cucullata*), flowering.....
8. Hepatica (*H. triloba* etc.), flowering.....
9. Red Maple (*Acer rubrum*), flower shedding pollen.....
10. Strawberry (*Fragaria Virginiana*), flowering.....
11. " " fruit ripe.....
12. Dandelion (*Taraxacum officinale*), flowering.....
13. Adder's Tongue Lily (*Erythronium Am.*), flowering....
14. Gold Thread (*Coptis trifolia*), flowering.....
15. Spring Beauty (*Claytonia Caroliniana*), flowering.....
16. Ground Ivy (*Nepeta Glechoma*), flowering.....
17. Indian Pear (*Amelanchier Canadensis*), flowering.....
18. " " fruit ripe.....
19. " " " fruit ripe.....
20. Wild Red Cherry (*Prunus Pennsylvanica*), flowering....
21. " " " fruit ripe.....
22. Blueberry (*Vaccinium Can. and Penn.*), flowering.....
23. " " " fruit ripe.....
24. Tall Buttercup (*Ranunculus acris*), flowering.....
25. Creeping Buttercup (*R. repens*), flowering.....
26. Painted Trillium (*T. erythrocarpum*), flowering.....
27. Rhodora (*Rhododendron Rhodora*), flowering.....
- Pigeon Berry (*Cornus Canadensis*), florets opening.....

PHENOLOGICAL OBSERVATIONS:—(Continued).

Day of year corresponding to the last day of each month.						When First Seen.	When Becoming Common.
Jan.	31	April	120	July	212		
Feb.	59	May	151	Aug.	243	Nov.	334
March	90	June	181	Sept.	273	Dec.	365

[For **Leap** years increase each number above except that for January, by 1]
1916 is a Leap Year.

28. Pigeon Berry (*Cornus Canadensis*), fruit ripe
29. Star Flower (*Trientalis Americana*), flowering
30. Clintonia (*Clintonia borealis*), flowering
31. Marsh Calla (*Calla palustris*), flowering
32. Lady's Slipper (*Cypripedium acaule*), flowering
33. Blue-eyed Grass (*Sisyrinchium ang.*), flowering
34. Twinflower (*Linnaea borealis*), flowering
35. Pale Laurel (*Kalmia glauca*), flowering
36. Lambkill (*Kalmia angustifolia*), flowering
37. English Hawthorn (*Crataegus oxyacantha*), flowering
38. Scarlet fruited Thorn (*Crataegus coccinea*), flowering
39. Blue Flag (*Iris versicolor*), flowering
40. Ox-Eye Daisy (*Chrysanthemum Leucanthemum*),
flowering
41. Yellow Pond Lily (*Nuphar advena*), flowering
42. Raspberry (*Rubus strigosus*), flowering
43. Raspberry (*Rubus strigosus*), fruit ripe
44. Yellow Rattle (*Rhinanthus Crista galli*), flowering
45. High Blackberry (*Rubus villosus*), flowering
46. High Blackberry (*Rubus villosus*), fruit ripe
47. Pitcher Plant (*Sarracenia purpurea*), flowering
48. Heal-All (*Brunella vulgaris*), flowering
49. Common Wild Rose (*Rosa lucida*), flowering
50. Fall Dandelion (*Leontodon autumnale*), flowering
51. Butter-and-Eggs (*Linaria vulgaris*), flowering
52. Expanding leaves in spring made trees appear green
(a) first tree, (b) leafing trees generally

(Cultivated Plants, etc.)

53. Red Currant (*Ribes rubrum*), flowering
54. " " " fruit ripe
55. Black Currant (*Ribes nigrum*), flowering
56. " " " fruit ripe
57. Cherry (*Prunus Cerasus*), flowering
58. " " " fruit ripe
59. Plum (*Prunus domestica*), flowering
60. Apple (*Pyrus Malus*), flowering
61. Lilac (*Syringa vulgaris*), flowering
62. White Clover (*Trifolium repens*), flowering
63. Red Clover (*Trifolium pratense*), flowering
64. Timothy (*Phleum pratense*), flowering
65. Potato (*Solanum tuberosum*), flowering

(Farming Operations, etc.)

66. Plowing begun
67. Sowing begun
68. Planting of Potatoes begun

PHENOLOGICAL OBSERVATIONS—(Continued).

69.	Shearing of Sheep.....		
70.	Hay Cutting.....		
71.	Grain Cutting.....		
72.	Potato Digging.....		
(Meteorological Phenomena).		(a)	(b)
73.	Opening of (a) Rivers, (b) Lakes without currents.....		
74.	Last Snow (a) to whiten ground, (b) to fly in air.....		
75.	Last Spring Frost (a) "hard" (b) "hoar".....		
76.	Water in streams, rivers, etc (a) highest, (b) lowest.....		
77.	First Autumn Frost, (a) "hoar" (b) "hard".....		
78.	First Snow (a) to fly in air, (b) to whiten ground.....		
79.	Closing of (a) Lakes without currents, (b) Rivers.....		
80.	Number of Thunder Storms (with dates of each).....		

Day of year corresponding to the last day of each month.						Going North or coming in Spring	Going South or leaving in Fall.		
Jan.	31	April	120	July	212			Oct.	304
Feb.	59	May	151	Aug.	243			Nov.	334
March	90	June	181	Sept.	273			Dec.	365
[For Leap years increase each number above except that for January, by 1]									
1916 is a Leap Year.									

(Migration of Birds, etc.)	
81.	Wild Duck migrating.....
82.	Wild Geese migrating.....
83.	Song Sparrow (<i>Melospiza fasciata</i>).....
84.	American Robin (<i>Turdus migratorius</i>).....
85.	Slate coloured Snow Bird (<i>Junco hiemalis</i>).....
86.	Spotted Sand Piper (<i>Actitis macularia</i>).....
87.	Meadow Lark (<i>Sturnella magna</i>).....
88.	Kingfisher (<i>Ceryle Alcyon</i>).....
89.	Yellow Crowned Warbler (<i>Dendroeca coronata</i>).....
90.	Summer Yellow Bird (<i>Dendroeca aestiva</i>).....
91.	White Throated Sparrow (<i>Zonotrichia alba</i>).....
92.	Humming Bird (<i>Trochilus Colubris</i>).....
93.	King Bird (<i>Tyrannus Carolinensis</i>).....
94.	Bobolink (<i>Dolichonyx oryzivorus</i>).....
95.	American Gold Finch (<i>Spinus tristis</i>).....
96.	American Redstart (<i>Setophaga ruticilla</i>).....
97.	Cedar Waxwing (<i>Ampelis cedrorum</i>).....
98.	Night Hawk (<i>Chordeiles Virginianus</i>).....
99.	Piping of Frogs.....
100.	Appearance of Snakes.....

(Other Observations or Remarks.

- 101. *Senecio Jacobaea* (St. James Ragwort); Is it found within the school sections; If so, to what extent? etc.
- 102. The Brown Tail Moth? etc.

Phenological Schedules.

It has been decided to have the schedules of observations henceforward sent in twice a year (with the semi-annual returns). This arrangement will enable the Education Department more easily to compile the information in periods of the *calendar year* so as to be more readily comparable with phenological observations in other countries, and with the voluminous meteorological statistics collected, compiled and published by the Dominion.

The schedule sent in at the end of the first half of the school year is intended to cover the time from the 1st of July to the end of December—thus completing the Calendar year.

The schedule sent in at the end of the school year in July is intended to cover the observations from the 1st of January to the end of June.

Where the same teacher is employed in the section during the *whole* calendar year, the schedule sent in during the first week of February is intended to cover the whole calendar year, from the 1st of January to the 31st of December. Such a schedule will be complete in itself for the whole calendar year, and the fact of its repeating the contents of the June schedule will be no inconvenience to the compilers, while it will reflect favorably on the teacher.

This course should be followed by a teacher new to the section, provided the previous teacher left the record on file or in the register. *Whenever the observations for the Calendar year can be given complete, there is an advantage in giving it Complete in the schedule sent in with the February returns.*

A schedule without the half year or year which it covers being entered in the FIRST line of the second page, or without the compiler's name and address must be rejected—no matter how good the observations may appear.

PHENOLOGICAL OBSERVATIONS.

List of Schools sending in Schedules of Local Observations for the Half Year ended December, 1915.

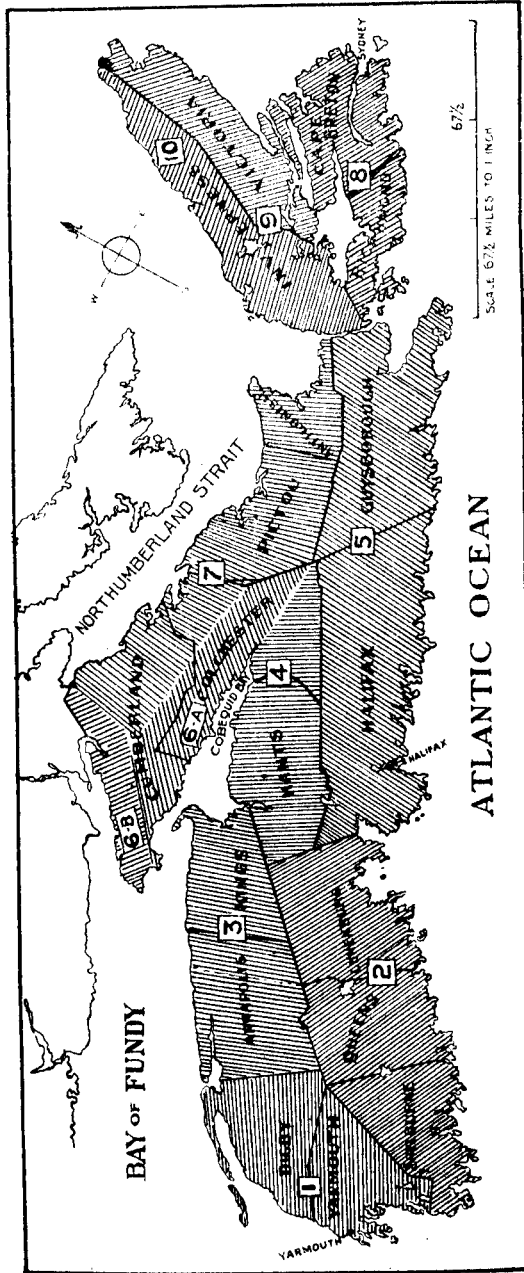
The teachers of Nova Scotia have already acquired a reputation beyond those of any other part of America for their voluntary devotion to and success in the cultivation of the observing faculties of the pupils under their charge. And our first line of biologists, a few widely known already in the world, has made its appearance.

The three columns on the next page give respectively, (1) the names of the teachers, (2) the names of the school sections, and (3) the numbers of observations recorded.

The number of observations generally indicates the interest taken in the work by the respective schools. Even a few accurate observations are of value as scientific documents. Accurate and full schedules are not only more valuable from a scientific point of view, but indicate generally a strong educational interest in the study of Nature in the school.

The Province is divided into its main climate slopes or regions not always coterminous with the boundaries of counties. Slopes, especially those to the coast, are sub-divided into belts such as (a) the coast belt, (b) the low inland belt, and (c) the high inland belt, as below:—

No.	Regions or Slopes.	Belts.
I.	Yarmouth and Digby Counties,	(a) Coast, (b) Low Inlands, (c) High Inlands.
II.	Shelburne, Queens & Lunen'g Cos.	" " "
III.	Annapolis and Kings Counties,	(a) Coast, (b) North Mt., (c) Annapolis Valley (d) Cornwallis Valley, (e) South Mt.
IV.	Hants and Colchester Counties,	(a) Coast, (b) Low Inlands, (c) High Inlands.
V.	Halifax and Guysboro Counties,	" " "
VI.A.	Cobequid Slope (to the south),	" " "
VI.B.	Chignecto Slope (to the n'west),	" " "
VII.	North'rland Sts Slope (to the N'h),	" " "
VIII.	Richmond & Cape Breton Co's.,	" " "
IX.	Bras d'Or Slope (to the southe't),	" " "
X.	Inverness Slope (to Gulf, N.W.),	" " "



THE TEN PHENOLOGICAL REGIONS OF NOVA SCOTIA.

REGION II.

Shelburne, Lunenburg and Queens Counties.

(a) Coast.

R. H. Wetmore	Milton	4
Hilda H. Smith	Baccaro	186
Alice W. Firth	Sandy Point	10
Ida M. Thomas	Baccaro	104

(c) High Inland.

M. I. G. Purney	M dd. Ohio	113
Bernice L. Deal and W. Christopher	Centreville	114
Beatrice Jewers	Union Square	56
E. A. Fancey	Conquerall M	18
Flora Mae Ernst	Big Lots	106

REGION III.

Annapolis and Kings Counties.

(a) Coast.

Mildred L. Adams	Parker's Cove	16
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(c) High Inland

K. R. Dawson	Grand Pre	8
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REGION IV

Colchester and Hants Counties.

(a) Coast

Edna C. Morse	Up. Economy	8
I. F. MacKinnon	Tarbet	14
M. A. Wickwire	Brooklyn	5
Gertrude M. Chase	Maitland	8

(b) Low Inland.

E. L. Hennigar	Northfield	11
Una H. Mosher	Rhynes Crk	7

(c) High Inland

O. J. Fulton	North River	15
I. A. Hines	Fort Ellis	6
L. M. Johnson	Manganese M.	4
Grace Phillips	Truro Road	6

REGION VII

Pictou, Antigonish and Cumberland Counties.

(b) Low Inland

L. E. Hickey	P'wash Jct.	87
Merle Mason	Mt. William	183

(c) High Inland.

A. F. Inglis	Island	8
H. M. Johnson	Mt. Adams	24

REGION VIII.

Richmond and Cape Breton Counties.

(a) Coast.

E. A. McKinnon	Beaver Cove	7
W. L. Power	Boisdale	7
E. J. Cash	Ball's Bridge	13
A. B. King	Pont Aconi	36
Jean McKay	Catalone	11
Mary C. Smith	Bateston	9
Rosie Burke	Baneline	12
E. C. Somers	L'tl. L'rairie	6
S. Chisholm	Eskasoni	6
M. A. McGillivray	G Narrows	16
C. McKenzie	Catalone Gt.	12

(b) Low Inland.

Lily Boutilier	Sandfield	10
W. D. McKenzie	Ball's Creek	13

(c) High Inland.

G. Johnstone	U.L't'ches C.	21
C. B. McDougall	Highlands	24

REGION IX.

Inverness and Victoria Counties.

(a) Coast.

C. E. Au'Coin	Prairie	22
J. B. Morrison	N.Gt.St.An's	46
D. A. MacDonald	S. Lk. Ainslie	9

**Comments by the Members of the Compiling Staff on
the Phenological Observations Recorded by
the Teachers in the Various Regions
of the Province.**

REGION NO. II.

Queens and Shelburne Counties.

R. H. Wetmore, Compiler.

In Shelburne all reports were from the coast belt. Of these two were exceedingly well done and have many extra interesting details. In general the statistics were but fair in completeness.

In Queens County the teachers in the high inland belt had excellent reports in most cases, with many supplementary entries.

Two papers showed carelessness or lack of care in verifying the children's reports, e.g., one teacher reported the ripe Strawberry being found forty-two days before the first blossom was seen. The same list of dates had others equally impossible. This surely tends to destroy the good work of many efficient and careful teachers in working out the averages should the observation be accidentally included.

Many teachers, I believe, look upon this schedule as a task, while it should be a big incentive and help in the nature work of the schools. If more interest were taken, we should never get some of the carelessness and inaccuracies that show in a few of these returns.

Species No. 1. Two observers of *Alnus incana* evidently did not wait for the pollen to be falling.

3. One reported Mar. 2 for *Epigea repens*. Of course, such a record is of no value. Occasionally blossoms are found in the autumn. Yet either of these are useless in getting information re the general flowering of the plant.

8. *Hepatica triloba* reported once in Shel. Co., once in North Brookfield, Queens Co.

10 & 11. Ripe Strawberries reported being found on Mar. 23rd. We don't publish the teacher's name, this time—perhaps we should.

24. Evidently there is a lack of readiness in distinguishing the different buttercups. Possibly some are confusing *Ranunculus bulbosus*, our commonest buttercup in South Queens, with one of the two on the schedule.

28. *Cornus Canadensis* reported ripe 30 days before blooming in one section.

33. May 10 was reported for seeing *Sisyrinchium angustifolium*. Evidently an error in this teacher's report.

34, 35, 36. These were also reported, by the above teacher, long before it was possible to find them.

There is such a variation in the reports of *Kalmia glauca* and *Kalmia angustifolia*, that I imagine teachers are confusing these.

42. One reported *Rubus strigosus* on April 15.

52. One report gave May 31 as the date for the first green leaf showing on trees, and June 12 for trees becoming green generally.

75a. June 2 is rather late for a hard frost.

BIRDS.

In general the birds are very poorly reported. *Junco hiemalis* is a winter resident with us, as well as a summer resident. This probably accounts for many of the too early dates given for this bird. Robins *sometimes* stay with us winters. A few have been reported this winter. Robins or Juncos seen before March 20 are not *migrants*.

82a. May 31 is too late for Wild Geese to migrate.

88. Two teachers reported Kingfishers in early April. They evidently do not know the bird.

90. The warbler reported on April 15 was probably the Myrtle Warbler.

89. A few teachers had the Myrtle Warbler on supplementary sheets. They did not seem to recognize it under this name.

98. The Nighthawk seems a much mistaken bird. This is a late migrant with us, not being seen commonly until the last of May. Those thinking they hear it before this time probably hear the Wilson's Snipe.

REGION III.**Annapolis and Kings Counties.***Miss Merna M. Frank, Compiler.*

Thirteen observation schedules were sent me from Kings Co.; six from Cornwallis Valley; one from South Mt.; three from North Mt., and three from Annapolis Valley.

Five of the schedules had many interesting observations, in addition to the ones asked for.

When copying from the schedules, any dates, which I thought were misleading, I omitted.

Nos. 5 and 8 were reported by only two schools.

Very few reports on birds were given, also on observations from No. 70 to No. 82.

In many cases the teachers were not careful in placing the day of the year directly opposite the name of the observation.

In three instances, the day when first seen, was the same as the day when becoming common, in another the date for becoming common was earlier than the date for when first seen.

A number used the date of the month instead of day of year.

REGION NO. IV.**Hants and Colchester Counties.***Miss Estelle Mackenzie, Compiler.*

Altho many of the schedules showed accuracy and neatness, there were cases where the compiler found it impossible to tell to which of two observations the date was to be affixed, as it was in line with neither.

Several teachers added additional observations showing they were in the habit of "observing nature" not "filling in the observation list" merely.

REGIONS VI (A) AND VI (B).**Cobequid Slope to South and Chignecto Slope to North-West.***Seldon C. Bryson, Compiler.*

Of the schedules received most were reasonably accurate only one or two showing carelessness. I should like to point out a few errors for the benefit of future observers.

The "when-becoming-common" is very unsatisfactory—many leaving it blank and some entering such careless dates as a plant "becoming common" a day after it was first seen. Some enter the same dates for both columns; this probably means that when *you* first saw the plant it was becoming common. In this case it would be better to leave the first column blank, as the purpose of the schedule is not to find out when *you* first saw a plant, but when it first made its appearance.

Have the pupils on the lookout for each plant. Find out the approximate date of appearance of each plant or bird; get the pupils to tell you and each other where they are likely to find a certain plant first, and then caution them to keep their eyes and ears open. Encourage fishing and hunting trips among the boys, and walking trips among the girls. Above all get your pupils interested—create an enthusiasm—and your observations are safe in their hands.

All dates from the Amherst teachers are correspondingly later than those from adjoining sections—sometimes a difference of a month. Probably the city teachers have not so good an opportunity for finding plants so early.

One teacher reports only two days difference between the first strawberry blossom and "fruit ripe." Another has June 10th. for blueberry blossom and June 30th for "fruit ripe." While these are probably errors in copying yet the compiler casts doubt upon a sheet in which such irregularities occur.

If dashes were put in where no observation is made it would simplify the compiler's work. Indian Pear and Red Cherry "fruit ripe" are not observed. One observer has the same date for Tall and Creeping Buttercups. Remember that the Creeping Buttercup is the later plant. Some teachers record only one of these plants and leave the compiler with the impression that they do not recognize both. The Creeping Buttercup has certain marked characteristics besides that indicated by the name. When you see a buttercup about three or four inches in height it does not necessarily follow it is a Creeping Buttercup; for a Creeping Buttercup may be quite as tall as the other species, or something may have occurred to have stunted the growth of the Tall Buttercup. Only two observers reported both correctly.

June 28th and 17th, are too late for the Painted Trillium. I always associate this beautiful blossom with my 24th of May fishing trip.

No. 28 had no observers.

A few confused the Star Flower, Gold Thread and Spring Beauty. The last named appears first and may be distinguished from the others by its linear leaves and tuberous root,

Star Flower has a whorl of leaves on a wiry stem; the Gold Thread may be recognized by the color.

No. 37 had few observers. Also Nos. 41, 42, 44 and 51 are not reported, yet these must be common in every section.

It is interesting to note the correspondence between the dates of thunder storms in adjoining sections. Please notice that the schedules call for the *number* of storms, with the dates to be given below.

The following dates are too early; 133 for Ox-Eye Daisy; 148 for Pitcher Plant; Field Horsetail 95; White Violet 102; Blue Eyed Grass 125.

There are also some errors so glaring that it is useless to point them out, such as, last snow to fly in air—June 30th.

Several schedules had a large number of added observations, among which were Miss O'Regan's of Parrsboro; Miss Glennie's of Amherst and Miss Coates's of Truemanville. The extra observations take in such plants as Red Trillium, Hobble Bust, Smilacina, Speedwell, Hempnettle, Gooseberry, Dutchman's Breeches, Elder, Bluet, Chickweed, Shepherd's Purse, Twisted Stalk, etc.

May 24th is too late for Song Sparrow.

One teacher reports the robin on March 1st. I think it probable that this Redbreast remained north all winter. On another sheet we have the "Yellow Crowned Warbler," and also the "Myrtle Warbler" as an extra observation, but a different date. It would be interesting to note that these are the same bird, also known as the "Yellow Rumped Warbler"—the yellow patch on the rump being quite as discernible as the patch on the crown. These birds may easily be recognized by their numbers and song—a clear broken trill. March 22nd. is too early for this bird:

The Meadow Lark is reported from West Amherst.

The migration of ducks and geese is indicated only twice.

Senecio jacobaea reported not found in Harrison Settlement, Amherst and Sand River. Brown Tail Moth not reported.

Special credit is due Miss O'Regan of Parrsboro and Miss Fage of West Amherst for the neatness and accuracy of their observations.

The compiler will be pleased if he can answer any question or solve the identity of any plant for any teacher in his region. If you are sending a plant to be identified, please pack in moist moss.

REGION VII.**Antigonish County.***Mr. William A. Doane, Compiler.*

Most of the schedules show careful observation and are fairly complete. The plants seem to be better known than the birds. Additional information is given in four cases, one schedule having twenty-nine additional items. The data concerning the locality are not always fully filled in at the head of the schedule.

In one instance, the name of the month, as well as the day of the year, was placed in the date column which is not necessary and tends to confuse.

Other points are:—

No. 26. Rhodora in one case is reported first seen June 25 and about sixteen days earlier in a near by section.

No. 61. Lilac, "first seen" June 30, apparently should be "common."

Nos. 71 and 78. Dates given 246 and 308 that should have appeared in an earlier schedule.

No. 68. Reported "first seen" and "common" on the same day. The former observation is of no value as "first seen" implies the first actual planting.

No. 98. March 13 is too early for the appearance of the night hawk.

REGION NO. VII.**Cumberland County.***Miss Flora M. Zwicker, Compiler.*

On the whole, the schedules of this particular county were fairly accurate and complete. Many of the teachers sent in additional observations, one teacher sending fifty, many of which were very interesting.

The most noticeable errors were the following:—

Rhodora, *Kalmia glauca* and *K. angustifolia* taken one for the other. For instance, one teacher had *K. glauca* and *K. angustifolia* both flowering the same date, viz. 28th May, which is too early for either, certainly so for *K. angustifolia*, which is barely ready in any sufficient quantity for Grade IX botany class before school closes. In all probability she took it for the Rhodora. Over half the teachers from this belt,

who sent in reports made this mistake. This shows that teachers yet do not know the difference between the *Rhodora* and the *Kalmia*.

REGION NO. VIII.

Cape Breton and Richmond Counties.

Miss Mary B. Macdonald, Compiler.

For purposes of compilation the region is divided into three belts:—

(a) Coast, (b) Low Inlands, (c) High Inlands.

Belt (a) had thirty three observers. The majority of its schedules were very well filled up. Belt (b) had nineteen observers; its schedules were not very complete. Belt (c) had eight observers. A few of its schedules were fairly filled up. In all, the region had sixty observers, many of whom took great pains to secure correct dates and make many observations.

NOTES.

1. A few observers forgot to fill in fully the blanks at the head of the schedules.
2. The year should always be clearly indicated.
3. It is also necessary that only dates between January 1st and June 30th be given in schedule sent in with July returns.
4. Some observers used the date of the month instead of the day of year.
5. Some observers sent in additional observations. One had thirty additional ones, which was quite creditable.
6. It is interesting to note how the number of thunderstorms with dates agree in the different schedules.

RURAL SCIENCE TRAINING SCHOOL.

The next summer session of the Rural Science Training School will be held at the Provincial Normal and Agricultural Colleges, Truro, N. S., from 12 July to 10 August, 1916.

The first meeting will open at 10 a. m. in the Convocation room of the Normal College, when all students should be present in order to qualify for full attendance.

The full general program, diploma course and syllabus of studies followed will be found in the April, 1915, **Journal of Education**, beginning at page 44.

The Regulations of the Council of Public Instruction governing Rural Science education will be found complete in the October, 1914, **Journal of Education** at page 209.

The following changes from the program published in April 1915, have been made at the suggestion of the Director of Rural Science—(A) Travelling Expenses; (B) Exemptions; (C) Scholarships.

(A) **Reg. 91 (5) part:**—Students who have done satisfactory work **for the full four weeks** in at least two scientific subjects are recouped the amount of the actual travelling expenses.

(B) **Diploma Course (IV):**—Normal College Graduates will be exempt from examination in the “minor” courses (a), (b) and (c) under IV.

(C) **In lieu of bonus:**—About forty scholarships of \$10 each and forty of \$5 each will be open for competition to students in the various Science classes. Only those who expect to teach in Nova Scotia the following year will be eligible for these scholarships or for any other financial assistance.

Students will have an opportunity to observe Supervised Playground exercises on the Truro school grounds.

Further particulars may be had by applying to L. A. DeWolfe, M. Sc., Director of Rural Science, Truro, N. S.

PROVINCIAL EXAMINATIONS OF HIGH SCHOOL STUDENTS.

92. "High School Students" shall be held to mean all who have passed the County Academy Entrance Examination and are studying the subjects of any high school grade, or who are certified by a licensed teacher as having fully completed a Common School course of study, and are engaged in the study of subjects beyond Grade VIII.

93. A terminal examination by the Provincial Board of Examiners shall be held at the end of each school year on subjects of the first, second, third, and fourth years of the High School Program, to be known also as Grades IX, X, XI, and XII respectively of the Public Schools.

94. The examinations shall be held during the last seven days of June, according to the time tables published for Grades XII, XI, X, and IX, and the "Minimum Professional Qualification" of public school teachers, at each of the following stations, viz.—1, Advocate; 2, Amherst; 3, Annapolis; 4, Antigonish; 5, Arichat; 6, Baddeck; 7, Barrington; 8, Bear River; 9, Berwick; 10, Bridgetown; 11, Bridgewater; 12, Caledonia; 13, Canning; 14, Canso; 15, Chester; 16, Cheticamp; 17, Church Point; 18, Digby; 19, East River St. Mary's; 20, Glace Bay; 21, Great Village; 22, Guysboro; 23, Halifax; 24, Inverness; 25, Joggin Mines; 26, Kentville; 27, Liverpool; 28, Lockeport; 29, Louisbourg; 30, Lunenburg; 31, Mahone; 32, Maitland; 33, Margaree Forks; 34, Middle Musquodchoit; 35, Middleton; 36, New Glasgow; 37, North Sydney; 38, Oxford; 39, Parrsboro; 40, Pictou; 41, Port Hawkesbury; 42, Port Hood; 43, Pugwash; 44, River John; 45, Sheet Harbor; 46, Shelburne; 47, Sherbrooke; 48, Springhill; 49, Stellarton; 50, St. Peter's; 51, Stewiacke; 52, Sydney; 53, Sydney Mines; 54, Tatamagouche; 55, Truro; 56, Upper Stewiacke; 57, Wallace; 58, Freeport; 59, Westville; 60, Windsor; 61, Wolfville; 62, Wood's Harbor; 63, Yarmouth.

95. (a) Application for admission to the Provincial High School examination must be made on the prescribed form to the Inspector within whose division the examination station to be attended is situated, not later than the 15th day of May. Applications for the M. P. Q. examination are henceforward required to be sent in at the same time.

(b) Candidates applying for the Grade IX examination, or for the next grade above the one already successfully passed by them shall be admitted free. But for every grade omitted

between the highest grade of certificate held and the grade of certificate applied for, a fee of one dollar must accompany the application form to the Inspector.

(c) For the Teachers' Minimum Professional Qualification Examination the fee is one dollar for each paper except for the first *three* qualifying for third rank, which shall be free; but this fee should not be forwarded with the application for it has been found more convenient to have it paid to the Deputy-Examiner on the day when the candidate presents himself for examination. The Deputy-Examiner shall transmit the same to the Superintendent with his report.

(d) The prescribed form of application which can be obtained free from the Education Department thru the Inspectors, shall contain a certificate which must be signed by a licensed teacher having at least the grade of scholarship applied for by the candidate whose legal name must be fully and plainly written out on the application.

(e) When a candidate presents himself for examination and his name is not found on the official list as having made regular application in due time, the Deputy-Examiner may admit him to the examination provisionally on his written statement that application was regularly made in due time, which with a fee of one dollar is to be transmitted with the Deputy's report to the Superintendent. If such candidate's statement is verified the dollar shall be returned. Providing there is sufficient accommodation, the Deputy-Examiner may admit any candidate on the payment of one dollar for any Grade in addition to the regular fees required under Reg. 95 (b) and (c).

96. Each Inspector shall forward to the Superintendent of Education, *not later than June 1st*, a list of the applications received for each grade of examination and for M. P. Q., at each station within his division, on the prescribed form supplied from the Education Office, together with all fees duly credited.

97. The Deputy-Examiner, when authorized by the Superintendent of Education, shall have power to employ an assistant or assistants, who shall each receive two dollars per day for the time so employed.

98. The Superintendent of Education shall cause to be prepared and printed suitable examination questions for each examination in accordance with the regulations of the Council,

and shall forward to each Deputy Examiner a sufficient supply of the same, together with copies of such rules and instructions as may be necessary for the due conduct of the examination.

99. The maximum value of each paper shall be 100; the questions being made as nearly as possible equal in value. Should the *values* of questions be unequal, their values shall be stated near the margin of each question.

100. Each examiner shall mark distinctly by colored pencil or ink at the left hand margin of each answer on the candidate's paper its value, placing the sum of the marks on the back of the folded sheet. From this sum the number of misspelled or obscurely written words, is to be deducted to show the net value of the paper; provided, however, that from one to three may be added by the Examiner for specially good writing.

101. The "High School Pass" on all grades shall be as defined under the regulations from year to year.

102. The "Teachers' Pass" shall be as defined under the regulations from year to year.

103. (a) Candidates failing to make a High School pass in the grade applied for shall be ranked as making a High School pass in the grade next below, provided an average of 40 per cent. with no subject below 25 (in the case of two papers an *average* of 25) be made; and as making a pass in the grade second below, provided an average of 30 per cent. be made.

(b) Candidates failing to make a Teachers' pass in the grade applied for shall be ranked as making a Teachers' pass in the grade next below, provided an average of 50 per cent. be made with no subject below 30 (in the case of two papers an *average* of 30); and as making a teachers' pass in the grade second below, provided an average of 40 per cent. be made. A High School pass of any grade ranks as a teachers' pass of the grade next below.

(c) No appeal from the examination of a candidate's answer paper at the Provincial High School examination, shall be entertained by the Superintendent unless it is accompanied by a fee of fifty cents for each paper to be re-examined to cover the minimum expense, and not even then unless a responsible person vouches for the good standing of the appellant.

104. Each candidate, provided no irregularity has been reported, shall receive from the Superintendent of Education a certificate containing the examination record in each subject. If the candidate has made a "High School Pass," the certificate will bear the title "High School Certificate," and show the grade passed under the arm of the Education Department, but candidates failing to pass shall receive an equally detailed statement of their examination record on the various subjects, if there is no irregularity.

105. Candidates passing the various grades in consecutive order shall be admitted free to the regular Provincial High School Examinations, provided their application and procedure have been regular. For all other cases a scale of fees as given in 95 (b) and (e) has been fixed to cover the cost of examination and extra labor likely to be incurred.

106. The subjects, number and values of the papers for the different examinations and the general scope of the examination questions are indicated generally by the texts named in the prescribed High School Program. Examination may demand description by drawing as well as by writing in all grades of High School and M. P. Q. answers.

Provincial Examination Rules.

107. No envelopes shall be used to inclose papers. *Two* hours is the time allowed for writing each paper, except in the case of the M. P. Q. examinations, where the time allowed for each paper shall be *one* hour. The following rules must be exactly observed:—

(1) Candidates shall present themselves at the examination room punctually half an hour before the time set for the first paper of the grade for which they are to write, at which time the deputy examiner shall give each candidate a seat. The candidate's name shall be represented by a number which must therefore be neither forgotten nor changed. Candidates who *present* themselves shall be numbered from 1 onwards in consecutive order (without hiatus for absent applicants who cannot be admitted after the numbering) beginning with grade XII, then coming to XI, X and IX in order. Candidates for "Supplementary" examinations need not present themselves until the hour fixed for their papers in the regular time table, provided they have sent in their applications and the titles of the papers on which they intend to write.

(2) Candidates shall be seated before the instant at which the examination is fixed to begin. No candidate late by the fraction of a minute has a right to claim admission to the examination room, and any candidate leaving the room during the progress of any examination must first hand in his or her paper to the deputy examiner, and not return until the beginning of the next paper.

(3) Candidates shall provide themselves with pens, pencils, mathematical instruments, rulers, ink, blotting paper, and a supply of good, heavy foolscap paper of the size thirteen inches by eight.

(4) Candidates may write upon both sides of their paper. When more sheets than one are used they must be fastened together. Each sheet should bear the Candidate's grade and number. In order to secure high values from examiners neat writing and clear concise answers are much more important than extent of space covered or the number of words used.

(5) Each such paper must be *exactly* folded: First by doubling bottom to top of page, pressing the fold (paper now $6\frac{1}{2}$ by 8 inches); next by doubling again in the same direction pressing the fold flat so as to give the size of $3\frac{1}{4}$ by 8 inches.

(6) Finally, the paper must be exactly indorsed as follows:—A neat line should be drawn across the end of the folded paper one-half inch from its upper margin. Within this space, $3\frac{1}{4}$ inches by $\frac{1}{2}$ inch, there must be written in very distinct characters, 1st, the Roman letters indicating the grade; 2nd a vacant parenthesis of at least one inch within which the deputy examiner shall afterwards place the private symbol indicating the station; 3rd, the candidate's number. Immediately underneath this space and close to it should be neatly written the title or subject of the paper.

For example, candidate No. 18 writing for Grade XI on Algebra should indorse his paper as shown below:—

XI () 18	Algebra
-------------	---------

(7) The subject title, grade and candidate's number may be written within over the commencement of the paper also; but, any sign or writing meant to indicate the candidate's name, station or personality may cause the rejection of the paper before it is even sent to the examiners.

(8) Any attempt to give or receive information, even should it be unsuccessful, the presence of books or notes on the person of a candidate or within his reach during examination, will constitute a violation of the examination rules, and will justify the deputy-examiner in rejecting the candidate's papers, and dismissing him from further attendance. No dishonest person is entitled to a provincial certificate or teacher's license. And where dishonesty at examination is proven, provincial certificates already obtained and licenses based on them will be cancelled.

(9) It is not necessary for candidates to copy papers on account of erasures or corrections made upon them. Neat corrections or cancellings of errors will allow a paper to stand as high in the estimation of the examiner as if half the time were lost in copying it. Answers and results without the written work necessary to find them will be assumed to be only guesses and will be valued accordingly.

(10) Candidates are forbidden to ask questions of the deputy-examiner with respect to typographical or other errors which may sometimes occur in examination questions. The examiner of the paper alone will be the judge of the candidate's ability as indicated by his treatment of the error. No candidate will suffer for a blunder not his own.

(11) Candidates desiring to speak to the deputy examiner will hold up the hand. Communications between *candidates* at examination even to the extent of passing a ruler or making signs, is a violation of the rules. Any such necessary communication can be held thru the deputy examiner only.

(12) Candidates should remember that the deputy examiner cannot overlook a suspected violation of the rules of examination without violation of his oath of office. No consideration of personal friendship or pity can therefore be expected to shield the guilty or negligent.

(13) Candidates intending to apply for license upon a record made at this examination, should fill in a form of application for such license as is expected. The deputy examiner is provided with blank forms for those who do not already have

them. The applicant should have his certificate of age and character correctly made out and signed, and should fill in the number, station and year of any previous examination he has taken, whether he has been successful in obtaining a certificate thereon or not. He should also fill in his number, station, etc., and grade of certificate or rank of M. P. Q. expected. This latter should be placed in *brackets*, which will be understood to mean that it is not yet obtained but is *expected* to be obtained.

(14) All candidates will be required to fill in and sign the following certificate at the conclusion of the examination, to be sent in with the *last* paper—written by them.

Certificate.

Examination Station..... Date.... June, 191..

Candidate's No. ()

I truly and solemnly affirm that in the present examination I have not used or had, in the Examination Room any book, printed paper, portfolio, manuscript, or notes of any kind, bearing on any subject of examination; that I have neither given aid to, nor sought nor received aid from, any fellow-candidate; that I have not wilfully violated any of the rules, but have performed my work honestly and in good faith.

Name in full *without any contraction in any of its parts*..

.....

P. O., to which certificate is to be sent.

(Full Address)

.....

108.

(a) TIME TABLE.

County Academy Entrance Examination, June, 1916.

Date.	Time.	Subject.
Thursday, 29 June	9 to 11 a. m.	2. English Language.
	2 to 3.30 p. m.	3. Drawing and Book-keeping.
	3.30 to 5 p. m.	4. Geography and History.
Fri. 30 June.	9 to 11 a. m.	5. Mathematics.
	2 to 3.30 p. m.	6. General Knowledge.

1. Reading to be examined at the end of each session, or whenever found most convenient by the Principal.

(b) TIME TABLE.

Regular Provincial High School Examination, June, 1916.

Day of Week	Grade.	Examinations. 9 a. m., to 11 a. m.	Examinations. 11 a. m., to 1. p. m.	Examinations. 3 p. m., to 5 p. m.
Saturday 24 June.	XII. XI. X.	German German German	Greek (a)	Chemistry.

Monday 26 June.	XII. XI. X. IX.	English (a) English English English	Greek (b) Greek Greek	French. French. French. French.
Tuesday 27 June.	XII. XI. X. IX.	Geometry Geometry Geometry Drawing	General History	Physics. Ancient History. English History. Geography.
Wednesday 28 June.	XII. XI. X. IX.	Algebra Algebra Algebra Algebra	Latin (a)	Botany. Physics. Chemistry. Science.
Thursday 29 June.	XII. XI. X. IX.	Latin (b) Latin Latin Latin	English (b)	Trigonometry. Prac. Math. Arithmetic. Arithmetic.

(c) TIME TABLE.

M. P. Q. Examination, June, 1916.

Friday, 30 June.

Time a. m.	Subject.	Time p. m.	Subject.
9.00 to 10.00	1. School Law and Forms.	2.00 to 3.00	4. School Management.
10.10 to 11.10	2. Theory and Practise.	3.10 to 4.10	5. History of Education.
11.20 to 12.20	3. Hygiene and Temp'n'e	4.20 to 5.20	6. Pedagogy.

109.

(d) TIME TABLE.

University Graduates' Examination.

At the Normal College, Truro, 24 to 30 June, 1916.

[Minor and one-half Major *Examinations].

Saturday,	9 a. m.,	French,	2 p. m.,	Geology.
Monday	9 a. m.,	English,	2 p. m.,	Greek,
Tuesday,	9 a. m.,	Latin,	2 p. m.,	German.
Wednesday,	9 a. m.,	Mathematics,	2 p. m.,	Biology.
Thursday,	9 a. m.,	Physics,	2 p. m.,	Chemistry.

Higher halves of Major Examinations to be arranged by Deputy Examiner.

*One of the examination papers in the Major subject may be the Minor paper in the same subject.

Licensing of Teachers.

110. No person can be a teacher in a public school entitled to draw public money without a License from the Council of Public Instruction. Before obtaining a license a candidate must obtain *first*, a certificate of the prescribed **Grade** of Scholarship; *second*, the prescribed certificate of professional **Rank** as a teacher, either from the Provincial M. P. Q. Examination (which must be supplemented for all classes higher than *third class*, by the prescribed certificate of ability to give effective physical training to pupils), or from the Provincial Normal College; *third*, the prescribed certificate of age and character from a minister of religion or two Justices of the Peace; and *fourth*, a certificate of health. The value of a license is distinguished by the term **Class**; of scholarship by the term **Grade**; of professional skill by the term **Rank**. Full information as to the licensing will be found in Regulation 111 to 124 inclusive but the following collocation of the terms used will help to explain their general significance and relation:—

Generally,

	(1)	(2)	(3)
	"Teachers' Pass Scholarship."	Normal Diploma.	Age & Character.
Academic Head Master	Univ. Grad. & Test Ex.	Academic Rank	22 years.
Class A	requires ... Grade XII	Superior First	20 years, etc.
Class B	" ... Grade XI	First Rank	19 years, etc.
Class C	" ... Grade X	Second Rank	18 years, etc.
Class D	" ... Grade IX	Third Rank	17 years, etc.
Class D (Temp.)	" ... Grade IX	(M. P. Q.)	16 years, etc.

111. No diploma of the Provincial Normal College shall be awarded any candidate who is found defective (below 40%) in the scholarship of any of the subjects of the Provincial Program in the corresponding grade, until the Faculty is satisfied that creditable proficiency has been made in each subject.

112. When a candidate obtains a teachers' license without graduation from a teachers' training college, it can be only of a *class* one degree lower than the "teachers' pass" *grade* of scholarship.

Graduation from the Provincial Normal College will include the prescribed certificate for Physical Training. No permanent license higher than third class shall henceforward be awarded without this qualification.

113. No certificate, combination of certificates, nor any other qualification except the possession of a lawfully procured

License gives a person authority to teach under the law in a public school. The regulations governing the issuance of licenses are as follows:—

The permanent Licenses of Public School teachers shall be under the **Seal** of the Council of Public Instruction signed by the Secretary of the Council, shall be valid for the whole province during the good behavior of the holder, and shall be granted on the fulfilment of the conditions more fully specified in the succeeding regulations, namely; the presentation of the prescribed proof of (1) age, character and health, (2) scholarship, and (3) professional skill.

114. There shall be five classes of such licenses, which may be designated as follows:—

Academic Class.

Class A—Superior First Class.

Class B—First Class.

Class C—Second Class.

Class D—Third Class.

115. The certificate of professional qualification of skill shall be (a) the academic, superior first, first, second or third **Rank** classification by the Normal College, or (b) the *minimum* (which shall rank one degree lower than the *normal*), and shall be the academic, superior first, first, second, or third rank pass on the following papers:

MINIMUM PROFESSIONAL QUALIFICATION EXAMINATION.

116. The questions set for the minimum professional qualification examinations shall be on the following syllabus and may require free hand drawing in any question when desirable:—

1. *School Law and Forms.*

(a) The Acts of the Legislature and Regulations of the Council of Public Instruction bearing on public education with their latest amendments, with a knowledge of the way in which the law is to be administered; and the intimations in the two latest **Journals of Education**. "*The Manual of School Law.*"

(b) The proper keeping of the School Register, the making out of neat and accurate School Returns, and a knowledge of all the ordinary forms required by school boards in administering the affairs of the section. "*The Handbook for Teachers.*"

2. *Theory and Practise of Teaching.*
Calkin's "*Notes on Education.*"

3. *Hygiene and Temperance.*
Lyster's "*School Hygiene*" (Univ. Tutorial Press). The Education Act Regulations, and the text books prescribed for the public schools.

4. *School Management.*
Lectures on Teaching, by Sir Joshua Fitch (MacMillan Co.).

5. *History of Education.*
Monroe's "*Brief Course*" (MacMillan Co.).

6. *Pedagogy.*
Bagley's *The Educative Process* (MacMillan Co.).

For *Third Rank M. P. Q.*—An aggregate of 150 on 1, 2 and 3, with no subject below 40 per cent.

For *Second Rank M. P. Q.*—An aggregate of 200 on 1, 2, 3 and 4, with no subject below 45 per cent.

For *First Rank M. P. Q.*—An aggregate of 300, on 1, 2, 3, 4, and 5, with no subject below 50 per cent.

For *Superior First Rank M. P. Q.*—An aggregate of 360 on 1, 2, 3, 4, 5 and 6, with no subject below 55 per cent.

For *Academic Rank M. P. Q.*—An aggregate of 390 on full syllabus with no subject below 60 per cent.

The M. P. Q. Examination may now be passed by partial examinations in more than one year; but in these cases, every paper for a Third rank pass must be at least up to 55; for Second rank 60; for First rank 65; for Superior First rank 70, and for Academic rank 75. Papers valued at these percentages need not be written at a subsequent examination for the respective ranks.

117. The Provincial Normal College at Truro is recognized as the appropriate source of certificates of professional qualification for public school teachers, but the certificates of other Normal or teachers' training schools whose *curricula* may be satisfactorily shown to the Council to be at least the equivalent of those of the Provincial Normal College, may be accepted when qualified by the addition of the three following conditions; (a) a pass certificate of the Provincia

“minimum” professional qualification examination of the corresponding rank, (b) a certificate of a Public School Inspector, before whom or under whose supervision the candidate has demonstrated by the test of actual teaching for a sufficient period his or her qualifications for the class of license sought, and (c) the prescribed certificate for Physical Training.

In the case of candidates whose course of professional training had been completed before the grade of scholarship necessary for the class of license afterwards applied for was obtained, no license shall be issued until after the lapse of a year from the date of the certificate of high school grade required for the said license, except in the case of the promotion of trained *first* class teachers.

118. The prescribed certificate of age and character is given in the following blank form of application for license, which will be supplied to candidates by the Education Department thru the Inspectors or the Principal of the Normal College:—

Form of Application for a Teacher’s License.

To.....

Inspector of Schools, Division No.....Nova Scotia.

I hereby beg leave thru you to make application to the Council of Public Instruction for a Teacher’s License of Class..... and here- with I present evidence of compliance with the conditions prescribed, namely:—

I. The prescribed certificate of age, character and health hereto attached which I affirm to be true.

II. My certificate of high school grade.....obtained at Examination Station as No.....in the year 191.....(Further information below).

III. My certificate of professional qualification of.....Rank No..... obtained at.....191.....in the month of.....

IV. The prescribed certificate for Physical Training, No.....obtaineddate.....

(Name in full).....

(Post Office address).....

Date.....

County.....

Certificate of Age, Character and Health.

I, the undersigned, after due inquiry and a sufficient knowledge of the character of the above named candidate for a Teachers’ License, do hereby certify

That I believe the said candidate.....(name in full), was born on the.....day of.....in the year.....and is apparently in good health and physically fitted for effective teaching: and

That I believe the moral character of the said candidate is good, and such as to justify the Council of Public Instruction in assuming that the said candidate will be disposed as a teacher to "inculcate by precept and example a respect for religion and the principles of Christian morality and the highest regard for truth, justice, love of country, loyalty, humanity, benevolence, sobriety, industry, frugality, chastity, temperance and all other virtues."

.....(Name and title).

.....(Church or Parish).

.....(P. O. Address).

Date

(When the certificate given above is signed by "two Justices of the Peace" instead of a "Minister of Religion" the word "I" should be changed by the pen into "we," and after the signature on the second line the words "Church or Parish" should be cancelled by a stroke of the pen.)

The correct quotation of the High School certificate in II above will be considered as equivalent to its presentation. When the candidate makes application at the High School Examination Station, the grade or rank of certificate written for and expected may be entered, but shall be enclosed in a parenthesis, which will be understood to indicate the expected result of the Examination.

The correct quotation of the Provincial M. P. Q. Certificate or the Provincial Normal College Diploma in III and the Physical Training Certificate in IV above, will be considered as equivalent to its presentation.

Any certificates from Normal Schools, etc., which are not regularly recorded in the Education office must accompany this application as evidence of the correctness of the statement.

Further Information From Applicant.

1. Class of license already heldNo.....Year.....

2. University Degrees, Scholarship, Professional Training, experience, or any other information candidate may wish to state.
.....
.....

3. Provincial Examinations taken in addition to that specified in II above, whether a "High School Pass" certificate was obtained or not.

Univ. Grad. Text Exam. at Examination StationNo.....	Year.....
On Grade XII	"	"
" XI	"	"
" X	"	"
" IX	"	"

**General or Special Indorsation or Remarks by Inspector
(or Principal of Normal College).**

.....
.....

Place and Date. Inspector

License Standards.

119. For an Academic License, the following conditions are necessary:—

- (1) A certificate of moral character signed by a Minister of Religion or two Justices of the Peace, as in the prescribed form, to the effect that the candidate is of the full age of twenty-two years, and presumably likely to perform the duties required by law.
- (2) A recognized degree from a recognized University (no degree or University shall be recognized unless the course is proven to be one of at least four years following the Provincial high school pass of grade XI, or a matriculation standard shown to be its full equivalent); and a pass on the University Graduate's Test Examination. [Grade XII is the standard recommended in the more essential subjects for the standard University Matriculation.]
- (3) A certificate of Academic rank from the Provincial Normal College. In the awarding of this certificate, the Faculty of the Provincial Normal College may accept at their true value the certificates of the Normal training schools, of the Education Faculties of Universities and of Inspectors, in lieu of a portion of the minimum attendance prescribed by the Council, provided (i) the candidate has made an Academic pass on the M. P. Q. syllabus, (ii) has obtained the prescribed Physical Training certificate, (iii) has taught successfully for at least two years, one of which must be as a full teacher in a department of high school grade, and (iv) has demonstrated satisfactory professional proficiency in the art of teaching before the Normal College Faculty by whom the candidate shall also be examined *viva voce*.

120. For a Class A (Superior First) License the following conditions are necessary: (1) A certificate of the full age of twenty years and moral character as in the foregoing regulation. (2) A teachers' pass certificate of grade XII. (A B. A. or a B. Sc. degree from a recognized University may be accepted in qualifying for a Teachers' License as the equivalent of a Teachers' Pass of Grade XII.) (3) A certificate of superior first rank professional qualification from the Normal College; or a Univ. Grad. Test Exam. certificate with a superior first rank M. P. Q. and the prescribed Physical Training certificate.

121. For a Class B (First Class) License, the following conditions are necessary: (1) A certificate of the full age of nineteen years and moral character as in the foregoing regulation. (2) A teachers' pass certificate of grade XI. (3) A teachers' certificate of first rank professional qualification from the Normal College; or a teachers' pass certificate of grade XII, with a first rank M. P. Q. and the prescribed Physical Training certificate.

122. For a Class C (Second Class) License the following conditions are necessary:—(1) A certificate of the full age of eighteen years and moral character as in the foregoing regulation. (2) A teachers' pass certificate of grade X. (3) A certificate of second rank professional qualification from the Normal College; or a teachers' pass certificate of grade XI with second rank M. P. Q., and the prescribed Physical Training certificate.

123. For a Class D (Third Class) License the following conditions are necessary:—(1) A certificate of the full age of seventeen years and moral character as in the foregoing regulation. (2) A teachers' pass certificate of grade IX. (3) A certificate of third rank professional qualification from the Normal College; or a "teachers' pass" certificate of grade X with third rank M. P. Q.

Temporary and Special Licenses.

124. (a) A third Class (Temp.) License, *valid only for one year*, may be granted (but not previous to the 15th day of September in any school year unless the candidate holds at least a pass certificate of grade X and proposes to attend the Normal College during the following year) on regular application when the following *four* conditions are fulfilled:—
 (1) A certificate of the full age of sixteen years and moral character as in the foregoing Regulation. (2) A pass certificate of at least grade IX. (3) The third rank minimum professional qualification. (4) A recommendation of the candidate as a temporary teacher for a specified school by the Inspector who must previously be assured by the trustees of the said school that altho reasonable effort was made to employ a regular teacher of permanent class, one could not be obtained, and that the candidate would be acceptable to the school section as a teacher for the year. Such license can be re-issued for another year when the candidate has demonstrated an advance of *grade or rank* in his qualification at a *subsequent* Provincial Examination.

(b) On the recommendation of the Normal College at Truro, the Council of Public Instruction may award Kindergarten Diplomas of *first* or *second* rank to approved candidates who have respectively the scholarship qualifications of *first* or *second* class teachers, and who have successfully taken a full year course in the Truro Kindergarten affiliated with the Provincial Normal College; and such diplomas shall be taken by the Superintendent of Education as the equivalents respectively of *first* and *second* class licenses in the distribution of the provincial aid to the teachers holding them.

(c) On the recommendation of the Superintendent of Education and the Principal of the Provincial Normal College, normal-trained teachers from any part of the British Empire may be awarded a temporary license for one year of a class as high as the scholarship and professional training of the candidate may warrant. On the advance of the candidate's qualifications according to the Nova Scotia regulations, and on the inspector's recommendation, the license may be continued for a subsequent year until a permanent license is qualified for.

Application for such temporary license should be made to the Superintendent with (1) a certificate of good standing in the profession at date from the chief educational authority of the province or country which granted the license, and (2) certificates and programs proving in detail the character of the scholarship, professional training and experience of the candidate.

(d) Should arrangements be made for the exchange of teachers for one year from any portion of the Empire or from foreign countries the council may, on the recommendation of the Superintendent and Principal of the Normal College, award a provisional license of the same class to the foreign substitute.

VACATION AND HOLIDAYS.

125. (a) The summer vacation shall be in the months of July and August, as intimated from time to time in the **Journal of Education**.

(b) But school trustees with the consent of their inspectors may take the same length of time as vacation in January and February, and continue school during the summer vacation term, for which a separate return must be made, and of which intimation should be indorsed on the regular term return sent in to the inspector during the first week of July. The money

grants payable for services during the summer vacation term shall be payable at the next following regular time of payment of the respective public grants.

126. The following days shall also be holidays in all the public schools: Sundays, Saturdays (except as hereinafter provided), Victoria Day, the King's Birthday, Good Friday, Dominion Day, Labor Day, any day proclaimed by the Governor-General or the Lieutenant-Governor, and two weeks at Christmas, according to the following scheme:

When Christmas falls on	Vacation shall begin on	Schools shall re-open on
Sunday,	Saturday, Dec. 24.	Monday, Jan. 9.
Monday,	" Dec. 23.	" Jan. 8.
Tuesday,	" Dec. 22.	" Jan. 7.
Wednesday,	" Dec. 21.	" Jan. 6.
Thursday,	" Dec. 20.	" Jan. 5.
Friday,	" Dec. 19.	" Jan. 4.
Saturday,	Friday, Dec. 24,	" Jan. 10.

127. In order that the due inspection of schools, as required by the law, may be facilitated, each inspector shall have power, notwithstanding anything in the foregoing regulations, to give notice of the day on which he proposes to visit any school in his inspectorate for the purpose of inspection, and to require that on the day so named such school shall be kept in session.

128. When for any cause the trustees of a school shall deem it desirable that any teaching day should be given as a holiday, the school or schools, may be kept in session on the Saturday of the week in which such holiday has been given, and such Saturday shall be held to be in all respects a legal teaching day.

129. When, on account of illness, or any other urgent cause, a teacher loses any number of regular teaching days, with the consent of his trustees he may make up such loss by teaching on Saturdays, provided the following regulation is not violated.

130. No public school shall be kept in session under any regulation on two consecutive Saturdays, nor for more than five Saturdays in any quarter, nor for more than five days per week on the average (vacations not being counted) between

the opening and closing of the teacher's service in the school, except as authorized by the inspector to adjust local conditions to the Provincial examinations.

131. If a school is closed by order of a board of health or a duly registered physician to prevent a serious and otherwise unpreventable epidemic of contagious or infectious disease, the teacher will be entitled to receive provincial aid for as many as twenty days, and the trustees the municipal fund due to the employment of the teacher for the same time, provided the inspector approves the said order for the closing of the school, to the "return" of which the said order must be attached.

But no municipal fund shall be paid on account of the attendance of pupils while the school was closed.

132. The hours of teaching shall not exceed six each day, exclusive of the time allowed at noon for recreation. Trustees however, may determine upon a less number of hours. A short recess should be allowed about the middle of both morning and afternoon sessions. In elementary departments, especially, trustees should exercise special care that the children are not confined in the school room too long.

217. SPECIAL PRESCRIPTIONS FOR COMMON SCHOOL GRADES.

Program for graded schools with a teacher for each grade.

Grade I.

Reading. First, from blackboard; later, from N. S. Primer, brief phonic practises and word-building to accompany.

Language. Directed conversation centering around nature topics and children's homes, between pupil and teacher and among pupils themselves (a) to promote familiarity and freedom from restraint (b) to cultivate distinctness and purity of utterance (c) to develop a sense of grammatical correctness and a perception of the sentence (d) Recitation from memory of appropriate portions.

Writing and Drawing. Careful copying of letters, short words, and easy sentences used in phonic practise, chiefly on blackboard. Drawing in mass with colored-crayola, to illustrate the language and nature lessons; stick-laying, paper-folding.

Arithmetic. Perception of number and number relations thru use of objects, counting objects, adding, subtracting, doubling, trebling, halving, quartering, etc.,—the processes to involve generally numbers no higher than 20.

Nature. The seasons, as they pass; and occupations appropriate to each. Direct observations of sky, weather, germination and growth, flowering and fruiting, coming and going of birds and butterflies. Perceiving substances as heavy and light; colors as red, blue, green, yellow. Elementary hygiene; cleanliness, eating and drinking; care of eyes, nose, teeth.

Music, Physical Drill, etc. As under 'General Prescriptions.'

Grade II.

Reading. N. S. Reader No. I. Brief phonic exercises covering most of the consonant and vowel sounds; word analysis and word-building; names of letters of alphabet.

Language. As in grade I, continued, avoiding repetition and monotony.

Writing and Drawing. As in grade I, continued. Free-arm practise in repeated ovals or o's, in vertical or slanting strokes; in repeating connectedly the strokes that compose the first parts of the letter *n*, the letter *i*, the letter *e*. Mass-drawing, as in grade I; Drawing of squares, rectangles, circles.

Arithmetic. As in grade I, with numbers up to 1000. Drill in addition table and in multiplication table to 'six times twelve.' Measuring with the foot-rule.

Nature. As in grade I.

Music, Physical Drill, etc. See 'General Prescriptions.'

Grade III.

Reading. N. S. Reader No. II. Occasional phonic practise, as in grade I. Increasing attention to expression in reading and reciting.

Language. As in preceding grades, with enlarging perception of the sentence; Practise using the connectives *and*, *but*, *because*, *if*, *when*. The perception of same-words or nouns; common nouns and particular or proper nouns. Recitation, written exercises, correction of speech errors.

Writing and Drawing. As in grades I and II., with added free-arm practise of the elements composing script letters, and of short easy words without looped letters. Drawing and coloring as in preceding grades; also, easy outline drawing; drawing squares; rectangles, circles, triangles, of given dimensions; construction exercises in paper and cardboard.

Arithmetic. Notation and numeration to 100,000; multiplication table completed and applied to concrete as well as to drill-problems; short division; Measuring in feet and inches; estimating lengths and distances. Dollars and cents.

Nature. The weather chart; position of sun at different seasons. Wild flowers recognized; sprouting of seeds, opening of bulbs, buds, and blossoms, observed in schoolroom; growing plants from slips; fruits and seeds; how seeds travel; domestic animals and birds described. The neighborhood and its surface features noted and sketched on horizontal and later on blackboard. Hygiene; pure air and breathing; structure, use, and care of the teeth; water, tea and coffee, alcoholic drinks.

Music, Physical Drill, etc. As in 'General Prescriptions.'

Grade IV.

Reading. N. S. Reader No. II. Exercises in utterance and expression, as in grade III. Spelling, etc., as in 'General Prescriptions.'

Language. Short stories reproduced orally and in writing. Brier oral and written descriptions of things seen and done in the nature class, on the farm, or in any industry. Writing short letter to schoolmate, to teacher, to dealer ordering goods; attention to period, question-mark, comma, capitals, abbreviations. The sentence; subject and predicate; noun, pronoun, verb (in finite relation only). Correction of errors of speech.

Writing and Drawing. Copy-book practise for form and connexion of letters; free-arm practise on loose paper for fluency. Plan of schoolroom showing teacher's desk and other details; plan of schoolground with road and schoolhouse. Drawings to easy scale. Drawing flower, fruit, and animal forms, and of borders and patterns formed by repeating or alternating these. Free cutting, from colored paper, of simple figures; mounting these; making a blank-book, a cornucopia, a wall-pocket, etc., needlework.

Geography and History. Observe closely the physical features of the neighborhood, especially the natural drainage; inter-relation of slope, brook, swamp, pond; industries, means of communication and main routes of travel in Nova Scotia. The larger natural features of Nova Scotia. The outer world; oceans, continents, Canada, the British Isles, the United States. Sand maps and wall maps. Stories of explorers, heroes, the early settlers, settlements and conditions of life. The lapse of time; lifetime, century, A. D.

Arithmetic. Notation and numeration extended; continual drill in the four fundamental operations, written, and 'mental' for accuracy and speed. Long division, easy factoring, long and avoirdupois measures. Practise in measuring involving half, quarter, eighth; problems of home and shop. Judging lengths distances, weights, values.

Nature. Study of flowers and plants, as in grade III, parts of flower and purposes; trees, grasses, shrubs. Life history of two or three common insects observed and studied; e. g., housefly, cabbage and currant worms. Birds; identify four by plumage, song, food, habits. Four common rocks or minerals of Nova Scotia.

Music, Physical Drill, etc. See 'General Prescriptions.'

Grade V.

Reading. N. S. Reader No. III. Perception of poetical rhythm and of varying vowel-length.

Language. Oral and brief written exercises, as in grade IV but with attention to form and detail. Narration of the doings of any holiday, outing, etc. Orderly description. Simplest letter-writing, business and social, with attention to courteous forms of expression, punctuation, paragraphing. The parts of speech and the more obvious relations between words; i. e., the adjectival, the adverbial, the objective, the possessive, the subjective.

Writing and Drawing. Writing, as in grade IV. Easy drawings to scale, with measurement of rectangular surfaces. Mass-drawing of objects significantly grouped. Designing (a) by repetition of easy forms, as in wall-paper; (b) by disposing figures, leaves, etc., symmetrically within a square or oblong. Careful outline drawings of cup, vase, hammer, ink-bottle, etc. The more obvious shortening of circular and square surfaces. Paper and cardboard construction of regular solids and useful articles; working drawing of, say, a wall-bracket, needlework.

Geography and History. The school-section, its physical features, its industries. Similarly, Nova Scotia, its towns, rivers, distances, industries, products, means of communication. North America, with Canada in slight detail. The poles, the equator, latitude. Leading events of Nova Scotian history; the Indians; our racial origins, explorers, pioneers, primitive conditions.

Arithmetic. Drill for accuracy and speed. Multiplication, addition, subtraction and division of fractions, vulgar and decimal (easy problems) presented in concrete and abstract. Canadian-money.

Nature. Plants; weeds and their habits; conception of family in plants; e. g., the *cruciferae*. Comparative studies of domestic animals and birds; injurious insects; common minerals; rock and soil; the magnet, the compass; the heavenly bodies; the candle-flame; oxygen and carbon-dioxide; ventilation. Hygiene, Ontario Public School; Hygiene in pupil's hands.

Music, Physical Drill, etc. See 'General Prescriptions.'

Grade VI.

Reading. N. S. Reader No. III. Rhythm and rime more carefully noted; vowel quantity or length.

Language. Oral and brief written exercises, as in Grade V. The verb, its three tenses; its principal parts, with stress upon compounding with the past-participle only, to form new verbal locutions. Number, case, person, and errors of syntax involving these. Those few rules of syntax which avail in correcting wrong forms of speech. The several parts of speech. Practise in use of connectives.

Writing and Drawing. Copy-book and free-arm practise, as in Grade V. Pictorial sketching, in mass, of incidents in child-life. Line drawing of flowers and their parts, vases, articles of furniture. Perspective of cube, rectangular solid, house, road-way, doorway, trees in field, etc. Mathematical drawing; drawing to scale; working-plans for wood and cardboard construction, as in Grade V. Needlework and constructive exercises.

Geography. The continents and oceans; European countries, capitals, rivers; the British Empire. Canada, in some detail, geographical, racial, industrial, commercial, civic. Longitude; the seasons; unequal day and night observed, without detailed explanation; latitude and elevation as affecting climate and products. Map interpretation.

History. Lives of great Canadians. The chief migrations to Nova Scotia, Canada, and New Brunswick; French, English, German, Scottish, Loyalist. The American Colonies and the Revolution. Other British colonies. France and her colonies. Story of England to Cromwell's time. The relative antiquity of British, Roman, Greek, Egyptian and Babylonian civilizations. Rudimentary notions of government as obedience to authority.

Arithmetic. Fractions, vulgar and decimal, mentioning rate per cent. Weights and measures, completed, with practical exercises and concrete application. Cubical content.

Nature. Continuation of work of Grade V. Hygiene, as in text

Music, Physical Drill, etc. See 'General Prescriptions.'

Grade VII.

Reading. N. S. Reader No. IV. Special attention to vowel length. Metrical accent observed. Metaphor and simile recognized.

Language. Composition, as in Grades V and VI. Synthesis of sentence. Practise in use of connectives; *however, moreover, still, nevertheless, in view of,* etc. Inflection. The phrase and clause functioning as noun, as adjective, and as adverb. Enlargements and extensions. Letter-writing, business and social; punctuation.

Writing and Drawing. As in preceding grades, with much practise of free arm movement and attention to connecting and spacing and to uniformity of height and slope. Drawing, as in Grade VI, but involving increased skill. Designing and decorating oil-cloths, book-covers, wall-brackets, paper knives, photograph frames. Construction in cardboard and wood; working-drawings. Linear (freehand) perspective drawing, and color-work, needlework.

Arithmetic. More difficult problems in weights and measures; square root; percentage, and its applications to interest, taxes, discount; promissory notes; mensuration of surfaces.

Geography. Home geography, physical and dynamical; Civics; federal and provincial governments; social and philanthropic institutions, and moral reforms.

Countries of North and South America, especially those of commercial importance.

History. Canada, its great events and personages, from 1713 to 1867. England, from Cromwell to George III, with story of American Revolution as in *Brief History of England*, with interpretation and explanation by teacher. Renewed reference to ancient peoples and bible-lands.

Nature. Continuation of study of plant, animal, bird, and insect life—additional types to be studied, and family relationships noted. Structure of flower; pollination; usefulness of bees and other insects, of wind, etc., in pollination. Soils studied; chemistry of air, of flame, of water. Hygiene, as in text.

Music, Physical Drill, etc. See 'General Prescriptions.'

Grade VIII.

Reading. N. S. Reader No. IV. Meter and rime; careful discrimination of vowel-length; simile, metaphor, personification and allegory. Private reading discussed.

Language. Oral and written composition, as in preceding grades. Description of mechanical and industrial processes, of playing of games of life like

stories of insects, of natural features of district; letter-writing; abstracts and synopses; synthesis of sentences. Practise in use of connectives; e. g., *therefore*, *accordingly*, *altho. in spite of*, *if*, *provided* etc. Grammatical relations between words in sentences; complex sentences; orderly parsing and analysis revealing only the more obvious relations. Punctuation.

Writing and Drawing. As in Grade VII with the addition of conventionalizing of natural forms as in historic ornamentation, borders, rugs, wall-papers etc.; occasional rough sketching from nature. Constructive exercises and needle-work as in Grade VII.

Geography. Latitude and longitude, how determined; seasons, long and short days explained

Europe, especially the British Isles, France and Germany, and our commercial and racial relations therewith. Asia, especially Palestine, Japan, China, India, Persia; Africa, especially the South African Dominion, Rhodesia, Egypt, Morocco, Tripoli; Australasia and the island colonies of Britain. Commercial geography; lands, routes, means of transport, peoples, languages, products, Government, trade-treaties, tariffs, postal systems.

History. Canada from 1867 with review of important events since 1713; England from George III to the present time, as in *Brief History of England*, with interpretation and enlargement by teacher, and with review of important events since Cromwell. The principles of representative and of responsible government.

Arithmetic. Metric weights and measures and their English equivalents. Application of percentage extended; stocks, debentures, insurance. Mortgages, bills of sale, notes, paper money, methods of remitting money; day-book, cash-book, and ledger entries *Marshall's Bookkeeping* for text. Algebraic notation and the evaluation of formulas, especially the use of *x* to solve easy problems as equations.

Nature. As in grade VII, with added orders and families of plants, insects, animals, birds. Cross and longitudinal section study of bean, corn, woods. Effects of seed selection; of fertilizers. Injurious insects and weeds and methods of extermination; insects as disease carriers, blights and fungus diseases of plants; fungicides. Birds as the farmer's friend. The thermometer, the barometer, the rain-gauge, electricity, magnetism, solar heat, storms; tidal phenomena. Hygiene, as in text. [The "first year" course and the closing chapters of *Britain's Elem. Agriculture and Nature Study* on "fruit-growing" and "common weeds" will be valuable for general reading as well as for the practical application of Botany—and for the teacher in giving Nature Study lessons in Grade VIII.]

Music, Physical Drill, etc. See 'General Prescriptions.'

218. OUTLINE OF TECHNICAL COURSES FOR 1916-1917

(Which may be Substituted for the Regular Grade Work in the same subjects.)

MECHANICAL DRAWING.

Grade VII.

Plate I. Use and care of different instruments; exact measuring of lines; drawing of lines to exact given length; drawing circles of different radii.

Plate II. (Drawings full size).

1. Shaft key. $\frac{1}{2}$ " x $\frac{3}{4}$ " x 4' ;
2. Square anchor-bolt washer with hole;
3. Round stamped washer, 3",—1" hole;
4. Hexagonal blank nut;
5. Blank pipe flange, four holes, 6" outside diameter.

Plate III. Lettering exercise, 60%; plain block letters.

Plate IV. Introduction of the principles of projection and of hidden and dotted lines.

All work to be third angle projection.

All drawings full size.

Plan, elevation or section of the following:

1. Shaft key, $4'' \times \frac{1}{2}'' \times \frac{1}{2}''$;
2. Hexagonal blank nut;
3. Blank pipe, flange, 6 holes.

Plate V. Further practise in work similar to that of former plates, drawings full size.

1. Threaded bolt $5'' \times 1''$ square head and hexagonal nut off;
2. Same with nut on;
3. $6''$ pipe clamp—two views drawn half size.

Plate VI. Ideas of drawing to different scales and conventional signs, introduced.

1. Lap joint $\frac{1}{2}''$ boiler plate, two rivets, round heads, plan and section;
2. Eye-bolt—two views.
3. $3\frac{1}{2}''$ cast iron plug, plan, elevation and section.

Plate VII. Ideas similar to last plate.

1. Safety set collar for $2''$ shaft; plan, elevation and section thru set screws;
2. $3''$ tee joint for flanged pipe, elevation and plan, half size;
3. Cast iron clamp box, half size.

Plate VIII. Geometrical problems using only ruler and compasses.

1. Drawing perpendicular to a line—from a point;
2. Bisection of an angle;
3. Proportional division;
4. Drawing triangle having given three sides;
5. Drawing parallel lines.

Grade VIII.

Plate IX. Review of principles taught in grade VII.

1. Bushing, hole $1\frac{1}{2}'' \times \frac{3}{8}'' \times 4''$;
2. Packing nut from a valve;
3. Wire rope sheaf, $6''$ in diameter;
4. Piece of octagon tool steel, $4'' \times 1\frac{1}{2}''$.

Plate X.

1. Wrought iron crank; two views, drawn full size;
2. Flanged pipe coupling threaded, bolts and nuts in place; elevation and section full size.

Plate XI. Plotting Introduction of Protractor.

1. Measure given angles.
2. Plot angles of 10° , 18° , 57° , $36'$, 105° , 169° .
3. 3 to 9. Plotting triangles and quadrilaterals from data supplied.

Plate XII. Mensuration and measurement of heights and distances.
1 to 9. Problems, data to be obtained by pupils as directed by teacher.

Plate XIII.

1. Hand wheel of 'globe valve,' $9''$ in diameter, two views.
2. Development of 90° stove-pipe elbow, 2 pieces.

Plate XIV.

1. Flanged shaft coupling; three views plan, end and section.

MINING SCIENCE.

Grades VII and VIII.

1. Preparation of oxygen from Mercuric oxid. Show effect of burning splinter, charcoal, sulphur and iron wire
2. Prepare carbon dioxid. Show properties and test.
3. Preparation of nitrogen. Show properties.
4. Atmosphere. Show that it contains the three gases previously studied.
5. Prepare Hydrogen. Show properties.
6. Water. Composition as shown by analysis, electrolysis and synthesis.
7. Combustion. Burn Zinc dust, magnesium, etc., to show that burning gives a gain in weight. Burn charcoal and test product.
8. Examination of a flame to learn its parts.
9. Effect of cold body and gauzes on a flame.

Grade VII.

Physics.

1. Forms of matter. Show that form depends on conditions. Practically illustrate by water, lead, sulphur, naphthelene, etc.
2. Effects that changes of temperature produce on the length, diameter, volume, etc., of solids, liquids and gases.
3. Construction and uses of a thermometer. This must be illustrated by actual construction of a thermometer.
4. Modes of transmission of heat, illustrated by experiment and discussion; application to the industries and to every-day life.
5. Diffusion in liquids and gases. Illustrate by colored liquids.
6. Weight of air, demonstrated by actual weighing.
7. Barometer. Construction and practical application.
8. Boyle's Law worked out from experiments with a Boyle's Law tube.

Grade VII.

Physical Geography.

The earth as a globe; the atmosphere, climate, temperature, seasons, weather; the ocean, currents, waves, tides; the land, continents, rocks, wearing away and building up of land, plains, coastal plains, wells, action of rivers, faults, mountains, life history of mountains, folded mountains, valleys, volcanoes, lava; rivers and valleys, underground water, geysers, deltas, history of a river; waste of the land, formation of soil—floods, lakes, effect of winds, deserts, glaciers; shore lines, reefs, elevation and depression of land; earth's magnetism.

Different kinds of rocks, interior, exterior; volcanic and sedimentary.

Rocks classified according to their method of formation;

- | | |
|-------------------------|---------------|
| Volcanic..... | Granite. |
| Deposited by water..... | Sandstone. |
| | Slate. |
| | Limestone. |
| | Conglomerate. |

Formation of coal:—story of the formation of coal in its simplest form.

Grade VIII.

Physics.

1. Review of work of grade VII. The experiments in heat are here to be performed quantitatively as far as possible. Barometer, diffusion of gases, and Boyle's Law reviewed with a fuller discussion of their uses in the industries.

2. Pumps—Common Lifting and Force—introduced and their construction and action explained.

3. Experiments in the weight of equal volumes of different substances. Specific gravity and its application.

4. Mechanics and Machines.

(1). Experiments with levers to show their uses and advantages. Bring out the relation between lengths of arms and loads.

(2). Classes of levers. Illustrate by models and, as far as possible, by practical application in machines.

(3) Experiments with the wheel and axle and windlass to bring out construction, relation of parts, uses and advantages. Here note particularly their practical application.

(4). Experiments with inclined plane to bring out the relation of power and resistance to height and length of slope.

5. Screw—construction and practical application

All the work outlined above must be thoroly illustrated by experiments and its practical application to modern industry clearly pointed out.

Grade VIII.

Physical Geography.

Thoro review of work of seventh grade with a much more detailed treatment. Earth-solar system, history of descent of earth from a body like the sun.

Glaciers; glacial history of Nova Scotia.

The sea and sea shores, sea deposits. Movements of the earth's crust, folding, faulting, earthquakes, volcanoes, underground structures of volcanic origin.

Different kinds of rocks;

Volcanic:—Quartz, Granite, Syenite.

Aqueous:—Conglomerate, Sandstone, Millstone Grit.

Fireclay, Marl, Limestone.

Shale, Slate,

Earth's history as told by geology

Common fossils, kinds and significance.

Simplified story of various ages.

Recent:—Quaternary (appearance of man), Tertiary (age of mammals), Cretaceous (age of reptiles).

Middle:—Jurassic, Triassic

Primary:—Carboniferous (age of luxurious vegetation), Devonian (age of fishes), Silurian (age of shell fish), Cambrian (age of simple life, worms, etc.)

Foundation:—Archaean.

How to know common minerals such as pyrite, quartz, calcite, mica, hematite magnetite, chalcopryrite, fluorite and galena.

This course, which at the option of any school board can be substituted for the corresponding work of the regular course of study for the public schools, will probably be extended next year into grade IX. In this event, optional examination papers will be provided, to be taken as substitutes for the corresponding regular high school papers of grade IX.

[Optional questions will be provided in the County Academy Entrance Examination papers, for candidates taking these substitution subjects instead of the corresponding ones of the regular course.]

219. PROGRAM FOR RURAL SCHOOLS WITH ONE TEACHER.

Covering Grades I to VIII of the Common Schools.

[The work presented in each class should occupy in general two years.]

There should not be separate classes made for each grade. All pupils coming into the class for the first time should be marked in the Register as of the lower grade. All the pupils whom the teacher thinks likely to be promoted to the next class next year should be marked as of the higher grade in the Register.

Inspectors may recommend this course for other schools where they deem it advisable.

Teachers shall file a time-table with inspectors as soon after opening school as convenient, but not later than October 1st in each year.

Physical drill must be given twice daily in all classes.

Class 1. (Grades I and II).

Reading:—Not less than three lessons daily, chiefly from blackboard while the Primer is used. Words—names of familiar objects and sentences from these words. Phonetic practise, word building, sounds of the letters derived from the words. N. S. Reader—Primer. Continued drill in word analysis and word building. N. S. Reader—First Book for second year, with continued drill in words, both oral and written. Spelling and meaning of all words used. Use script or written forms of the letters from the beginning.

Note. Teachers should avoid teaching the names of the letters to beginners. The sounds of the letters should be learned from the words. Not until children are familiar with the sounds of the letters should they be given the names.

Language:—Daily. Sentence building, story telling, conversation between teacher and pupils centering around nature topics and children's homes. Correcting wrong forms of speech. Recitations from memory of select passages. Summary of stories read by teacher. Children should be encouraged to express themselves freely, concisely and in sentences.

Writing:—Daily. Forms of letters taught from blackboard. Careful copying of letters, words and sentences. Free-arm practise in repeated ovals as *o*, strokes that compose *m* and *n*, the letters *i*, *e*, etc. Connecting these to form letter and words. Prescribed copy-books 1 and 2.

Drawing:—Daily. Stick-laying and drawing the designs thus formed. Drawing to illustrate language and nature lessons. Simple drawings in flat only, as in Augsburg's or Prang's. Drawing of leaves, buds, roots, fruit, trees, in outline, or in mass-drawing with crayola and pencil. Original designs. Pupils should be encouraged to create designs and draw them.

Arithmetic:—Daily. Numbers up to 1000. Ideas of number developed from objects. Units, tens and hundreds developed. Addition, subtraction, multiplication, and division developed orally, beginning with small numbers and advancing gradually as pupils become familiar with smaller combinations. Table of tens. Daily drill orally in the four rules. Counting by twos, threes, and fours, etc. Analysis of numbers into units, tens, hundreds, etc.

Note. During the first year pupils should not deal with numbers beyond 50. They should be given short oral drill two or three times each day so that they may become thoroly familiar with the combinations of these numbers instead of forming the habit of counting, which is neither rapid nor accurate. Insist on absolute accuracy from the beginning in every attempt.

Nature:—Daily. Talks with the children on Seasons. Points of compass. The sun in winter and in summer. Frost, rain, snow, sky, weather, etc. Growth of plants, etc. Birds, insects; substances, heavy and light. Colors as red, blue, green, yellow. Elementary hygiene; care of eyes, teeth, mouth, nose; cleanliness, drinking cups, etc.

Music:—At least three times daily. Inspectors should not accept any excuse for absence of singing in a school. Simple songs by rote.

Note. There will always be some pupils who can lead the singing, even if the teacher cannot do so.

Class 2. (Grades III and IV).

Reading:—Two to three lessons daily.

Note. Before beginning a reading lesson teachers should see that all pupils in their seats have work to do, and under no circumstances whatever, should they give their attention to anything else while the reading lesson is being conducted.

N. S. Reader—Second Book. Special attention must be given to pronunciation, expression, the meanings of words and to the story of the lesson. Drill in spelling, partly oral but chiefly written. Pupils should be able to give a good summary of each lesson before it is passed over, and should be encouraged to get and use a small dictionary.

Language:—Daily, as in preceding grades. Story telling, short summary of reading lessons. The summarizing of stories read by teacher and of oral lessons. Correcting wrong forms of speech. Use of capital letters and common punctuation marks as illustrated in reading lessons, etc. The "Sentence" should be fully understood at this stage.

Note. This work should be largely oral at first and later both oral and written. Each pupil should have an exercise book for language to be examined by inspector, parents or any visitor.

Writing:—Daily. Practise in free hand movements of the elements composing letters. Copy books 3 and 4.

Note. Writing should be carried on by the whole school at the same time, and the teacher should give the lesson her undivided attention.

Drawing:—Daily. Mass-drawing with crayola. Easy outline drawing. Practise in drawing fruits, roots, leaves, buds, outlines of animal forms, action figures, borders, original designs. Drawing of triangle, square, rectangle, etc. Using these to introduce outline drawings of tents, barn, basket, bird cage, etc. Grouping of familiar objects such as posts, trees, camps, etc. Augsburg's or Prang's.

Note. Teachers should not attempt to represent solids until pupils have first had the principles of perspective clearly outlined.

Arithmetic:—Daily. Notation and numeration continued up to 1000000. Daily class drill in four fundamental rules to secure accuracy and rapidity. Analysis of numbers. Long division. Idea of fractions such as halves, thirds, fourths, etc., developed orally. Factoring division by cancellation; measuring feet, inches; estimating lengths, distances, weights, time, etc.; dollars and cents. (*N. S. Com. School Arithmetic* to p. 63.)

Geography and History:—(On alternate days). Geography of Nova Scotia orally and from map. Map of Nova Scotia by pupils. Natural resources, industries, products, leading ports and lines of railways, etc. Stories of early settlers and explorers orally.

Nature:—Daily. Work of class I extended. Day and night. The seasons. Sprouting of seeds and bulbs. Observing buds and blossoms, dispersal of seeds. Evergreen trees, cones, etc. Weeds injurious to farmers. Life history of one or two insects, as the housefly, cabbage worm, currant worm, potato bug, etc. Hygiene; pure air, breathing, pure water, alcoholic drinks, etc. The leading minerals of the province.

Music:—As in Class I, with elementary facts of musical notation and time. Tonic sol-fa, or staff notation.

Class 3. (Grades V and VI).

Reading:—At least one lesson daily. See Note under Class 2 Reading. —N. S. Reader—Third Book. Attention to expression, punctuation, meanings of words and interpretation of literature of the lesson. Substance of lessons given orally by the pupils. Spelling, written and oral, of all words used.

Language:—Written sketches of lessons read. Sketches of stories read by teacher. Letter-writing. Sketches of oral lessons. Synthesis of sentences. Parts of speech. Parts of sentence. Punctuation reviewed and extended. Parsing and analysis begun.

Writing and Drawing:—Alternate days. See note under writing, Class II. Copy books Nos. 5 and 6.

Drawing:—Principles of perspective fully taken up and illustrated by drawings, such as rectangular solids, house, roadway, trees at different distances in a field, etc. Model and object drawing, with crayola and pencil. Teachers can easily secure a variety of models such as cup, ink bottle, vase, pitcher, knife, hammer, etc. Easy designs as in wall paper, book covers, etc. Easy drawings and scale with measurement. Augsburg's or Prang.

Arithmetic:—Daily. Work of Class 2 thoroly reviewed. Fractions, vulgar and decimal, reduction, weights and measures thoroly taken up and reviewed, making out of bills. Canadian money, square measure, cubic contents. (Arithmetic to p. 157).

Note. Not less than ten minutes daily should be devoted to class drill and explanations in connexion with the different subjects taken up, in addition to the regular desk work period.

Geography and History:—Alternate days. Geography of North America with the Dominion of Canada in detail, orally at first, later from the book. Map of North America and Dominion of Canada in detail. Our trade relations with other countries. Our resources, industries, routes of travel, seaports, etc., fully taken up. History of Canada orally.

Note. Highroads of History and Highroads of Geography (T. Nelson & Sons), should be on every teacher's desk.

Nature:—As in Class II continued. Heat effects—expansion, ventilation, combustion. Buoyancy of fluids. Hygiene, orally at first, later from the book.

Music:—As in Class II with corresponding advance

Class 4. (Grades VII and VIII).

Reading:—Daily. (See note Reading Class 2). Prescribed Reading. N. S. Reader—Fourth Book. Critical study of passages read. Memorizing of select passages. Spelling, oral and written. Teachers should take care that pupils read clearly, distinctly and with expression.

Language:—Daily. Letter writing, weekly essays and sketches. Parts of speech fully taken up. Synthesis of sentences. Parsing and analysis extended. Phrase and clause functioning as noun, adjective, and adverb. Different kinds of sentences, paragraph, figures of speech. Text: Goggin's *New Elementary Grammar* (Educ. Book Co.)

Writing:—Practise in free arm movements with attention to spacing and to uniform height and slope. Prescribed copy books Nos. 7 and 8.

Drawing:—Practise in perspective as in Class 3. Drawings from natural objects, flowers, fruits, trees, etc. Decorative drawing, wall paper, oil cloth, book covers, borders, rugs. Sketching from nature. Augsburg's or Prang's.

Note. Pupils in this class might use colored crayolas with good effect.

Arithmetic:—Thoro review of Class 2 and Class 3. Special review of fractions, vulgar and decimal. Weights and measures, percentage, interest, taxes, discount, insurance, stocks, debentures. Promissory notes, bills of sale, mortgages, drafts, bills of exchange, etc., cheques, etc., day book, cash-book, ledger, posting of simple accounts, algebraic notation, evaluation of formulae using x to solve easy problems as equations. (Arithmetic text completed and reviewed) Marshall's Book-keeping (MacKinlay).

Note. Not less than twenty minutes daily should be devoted to class drill and explanations of the principles involved in each subject, in addition to the regular desk work.

Geography and History:—Alternate days. Countries of North and South America, especially those of commercial importance. Europe, especially British Isles, France, Germany, Asia and Africa—those of commercial importance. Climatic phenomena, commercial geography, land routes, means of transportation, peoples, products, governments, trade relations, postal system, etc.

History of Canada in detail. Federal and provincial governments. Responsible government. English history from George III to present time.

Nature:—Hygiene completed and thoroly reviewed. Chemistry of air, flame, water. Simple electrical effects. Conduction of heat. Insects injurious to plants, injurious weeds and how to exterminate them, study of rocks and minerals, birds, etc.

Music:—As in previous classes, but with a corresponding advance.

Note. While the singing will be common with all the classes, advanced pupils should be given lessons in musical notation sufficient to enable them to read simple music correctly in either the tonic sol-fa or staff notations.

A specimen of time-table for such a school used to be published from year to year in the "Journal of Education." Teachers desiring such an aid in the preparation of their time-table should turn up the files of old "Journals" kept in the school library.

222. COUNTY ACADEMY ENTRANCE EXAMINATION 1916.

The regular mode of admission into county academies shall be by an entrance examination in the last week of the school term in June, *mainly on the subjects of Grade VIII*. There shall be six subjects of examination as follows, the questions being sent out from the education office:—(1) *Reading*—to be tested by the examiners on the Grade VIII reading. *Music*—Candidates known from individual or class exercises, or from reliable certificates, to be able to sing especially when they have a practical acquaintance with any system of musical notation, may receive an extra mark as a bonus under this head at the option of the examiner, provided the *Reading* is passable. (2) *Language*. (3) *Drawing and Book-keeping*. (4) *Geography and History*—especially the Geography of Asia, Africa, Oceania in detail with a review of Canada and *History of Canada* as in Calkin's Brief History of Canada. (5) *General Knowledge* including (a) The five families, Crowfoot, Rose, Heath, Violet and Lily; with the important native trees, and the common weeds and insects injurious to agriculture. [Brittain's Elementary Agriculture—"First Year Course" and "Common Weeds."] (b) The common rocks and minerals of Nova Scotia. (c) A few of the common birds. (d) *School Hygiene*. (e) *Mechanic or Domestic or Rural Science*. (f) *Music as in Regulations and Physical Training*. (6) *Mathematics*.

For a pass, 60% will henceforward be required on both English and Arithmetic. Dictation of memorized literature and correct writing of a list of commonly misspelled words may be required.

SPECIAL PRESCRIPTIONS FOR HIGH SCHOOL GRADES.

223. HIGH SCHOOL PROMOTIONS.

(1) Description by drawing as well as by writing may be required in any question and should always be used when brevity or clearness may be gained.

(2) Generally the "High School Pass" in all grades shall be an average of 50% with no mark below 30% on a group of six subjects for grades IX, X and XI; and a group of nine papers with no subject below 30% (in the case of two papers an average of 30%) for grade XII.

(3) Generally the "Teachers' Pass" shall be an average of 60% on a group of six subjects in grades IX, X and XI; and on a group of nine papers for grade XII, with no subject below 40% (in the case of two papers an average of 40%). 50% however must be made on *English* in each grade for a "Teachers' Pass."

(4) Candidates may write on more than the six subjects or nine papers indicated in (2) and (3). In such cases the "pass" shall be determined by the group including the *highest* six subjects or the minimum group of subjects as the case may be. A "pass" requires the fulfilment of all conditions specified in special regulations which refer to it elsewhere, as well as the general regulations above.

(5) Two hours shall be given at examination for each paper which shall contain eight questions.

(6) When a candidate wishes to raise a "High School Pass" to a "Teachers' Pass", he shall be required to make an average of at least 60% on each subject not previously up to *this* standard. That is, a "Teachers' Pass" by partial examinations will require at least sixty per cent. on every subject. This can be necessary only when a candidate is not writing for higher grade, and therefore all such supplementaries can be taken on the papers of the regular examination.

(7) The "High School Pass" admits to the corresponding class in the Provincial Normal College, whose faculty can raise it to the "Teachers' Pass" on evidence of improved scholarship without which the Normal diploma cannot be awarded.

(8) Candidates for Grade XII certificates (High School Pass) who fail on account of being too low in not more than two subjects, but who have made the High School average pass on the other subjects and 50% on English, shall have the privilege of completing the *pass* at a subsequent examination by making at least 50% on each of the nine papers not previously up to *this* standard and 60% on English.

(9) Candidates for Grade XII certificates (High School Pass) who fail on account of being too low in not more than two subjects, but who have made a high school average pass on the other subjects and 50% on English, shall have the privilege of completing the *teachers' pass* at a subsequent examination by making at least 65% on English, and 60% on each of the nine papers not previously up to *this* standard.

(10) From one to three points may be added by the examiner for specially good writing. Bad writers have no right to be admitted to an examination except on certificate of physical defect, and if examined, the papers are subject to a deduction of marks. One point shall be deducted for every mis-spelled word.

(11) The High School subjects to be taught in a rural, or incompletely graded high school, shall be determined (subject to the school law) by the school board in agreement with the principal, with an appeal to the Inspector and from him to the Council, in case of disagreement or dissatisfaction.

(12) Any subject deemed to be of importance in any community may be put on the program of a school by the school board, with the consent of the Education Department.

(13) No school is advised to undertake the work of Grade XII with less than a staff of four regularly employed high school teachers.

(14) A candidate who has taken Latin and no French in Grade IX, may take the IX French paper instead of the regular one in Grade X and the X French paper in Grade XI, provided a 60 or 50 per cent. mark is made respectively for a Teachers' or a High School pass in each case. But the substitution of a lower grade work for that of a higher will be allowed under no other conditions than specified above. The candidate should state this fact in his application for examination as well as in his final examination declaration so as to allow of its verification.

(15) Teachers are required to make themselves acquainted with the probable future requirements of pupils by consultation with them and their parents or guardians, before advising the selection of the optional subjects. Those who are likely to attend the universities, etc., should select the subjects required for matriculation. The same policy will apply to other vocations.

"High School students who look forward to teaching and who have in view their professional preparation at the Normal College should, as far as possible prepare themselves in the mathematics and natural sciences of the high school grades. Postponement of the study of these branches till the Normal College period places a candidate at a serious disadvantage not only in seeking the diploma of the Normal College, but, later, as a teacher in the public school." *Reg. IV. Nor. Coll.*

"Candidates for a Domestic Science Diploma must hold a class B License or a High School certificate of grade XI, with a teachers' pass in the science subjects of grades IX, X, XI, or their equivalents." *Reg. 261 (b) C. P. I.*

("The Advisory Board recommends that every high school pupil take at least one foreign language during each year of the high school course; and where more than one foreign language is taken, the Board recommends that one of these languages be Latin. The Board considers that a knowledge of Latin and another foreign language by all teachers is highly desirable.")

224.—HIGH SCHOOL PROGRAM.

For the Year Beginning August, 1916.

(Note.—The prices of the various books may be found in the price list of the **Nova Scotia School Book Bureau**; see page 138).

Grade IX.

(English and any other *five* subjects imperative).

1. **English**.—(a) **Literature**.—*Ontario High School Reader* by Marty (Can. Pub. Co.), from page 169 to the end

of book, including the introductory chapter on the "Principles of Reading," with critical study, word analysis, prosody and recitations. (b) **Composition**:—*Ontario High School English Composition* (Copp, Clark) Part 1, pages 1-159, with essays, abstracts and general correspondence so as to develop the power of fluent and correct expression in writing. (c) **Grammar**:—*N. S. English Grammar* (MacKinlay) except notes and appendix, with easy exercises in parsing and analysis.

2. **Latin**:—*Ontario High School Latin Book* by Robertson and Carruthers (Educ. Book Co.), to end of Lesson XLII, page 152, omitting the (B) exercises.

[The Roman (phonetic) pronunciation of Latin is to be used. Great care should be taken from the very beginning to teach the student to pronounce accurately, giving attention both to quantity and accent, and to read the Latin fluently and intelligently. The various work-lists thruout the book should be thoroly mastered with a view to the acquiring of a good working vocabulary. Recitation of memorized passages and conversation should be practised in every foreign language studied.]

3. **French**:—*Ontario High School French Grammar* by Fraser and Squair (Copp, Clark), Lessons I to XXX inclusive. *Bertenshaw's First Conversational French Reader* (Longmans), Lessons 1 to 30 inclusive.

4. **Geography**:—Physical and Astronomical. *Calkin's General Geography* (MacKinlay), for general geography of continents and British Empire in detail.

5. **Arithmetic**:—*Academic Arithmetic* (Allen), to page 63.

6. **Algebra**:—*N. S. High School Algebra* (MacMillan), to page 164, inclusive

7. **Drawing**:—(a) *Morton's Mechanical Drawing* (Allen), with the construction of the figures in Euclid, Book 1.

(b) Model and object drawing and *Thompson's Manual Training, No. 2* (D. C. Heath).

8. **Science**:—(a) **Botany**:—*Bailey's Beginners' Botany* (MacMillan), and the study of the Wild Plants of the Phenological Observations, with the more common ferns in detail. (*Spotton's Botany* contains the most concise flora yet published for the use of students).

(b) **Agriculture**:—*Brittain's Elementary Agriculture and Nature Study, M. P. Edition* (Educ. Book Co.), "Second Year" Course, pages 115 to 243.

[The "first year" course and the closing chapters of the book on "fruit-growing" and "common weeds" will be valuable for general reading as well as for the practical application of Botany—and for the teacher in giving Nature Study lessons in Grade VIII.]

Grade X.

(English and any other *five* subjects imperative).

1. **English**:—(a) **Literature**: The same as in Grade IX, but more advanced scholarship required. (b) **Composition**: *Ontario High School Composition*, Part II, pages 160 to end of book, with special attention to the development of readiness and accuracy in written narrative, description, exposition and general correspondence.

(c) For outside reading and theme writing: Eliot's *Silas Marner* by Herrick (Longmans).

(d) **Grammar**:—*N. S. English Grammar* complete.

2. **Latin**:—*Ontario High School Latin Book*, from Lesson XLIII, to the end of page 299, omitting the B and C exercises.

[The Roman (phonetic) pronunciation of Latin is to be used. Great care should be taken from the very beginning to teach the student to pronounce accurately giving attention both to quantity and accent, and to read the Latin fluently and intelligently. The various word-lists thruout the book should be thoroly mastered with a view to the acquiring of a good working vocabulary. Recitation of memorized passages and conversation should be practised in every foreign language studied.]

3. **Greek**:—White's *First Greek Book* (Ginn & Co.), lessons I to end of XL.

4. **French**:—*Ontario High School French Grammar*, Lessons XXXI to LX inclusive with a review of the preceding lessons. *First Conversational Reader*, lessons 31 to end of book, including the section on "Conversation."

5. **German**:—Joynes-Meissner's *Grammar* (D. C. Heath Co.), first 25 exercises, with Buchheim's *Modern German Reader*, part I (Ox. Univ. Press), first division only.

6. **History**:—*Ontario High School History of England* by Wrong (MacMillan), from Chapter IX to the end of the book. (The provincial examination questions shall be confined to this part of the History only altho the whole book is to be read by the pupils in class.) Oral lessons by teachers based on *Canadian Civics*, *N. S. Edition* (Copp, Clark).

7. **Chemistry**:—Evans' *Elementary Chemistry for High Schools* (Educ. Pub. Co.), omitting Chapter XV.

8. **Arithmetic**:—*Academic Arithmetic* complete.

9. **Algebra**:—Hall & Knight's *Elementary Algebra* (MacMillan), Chapters XV to end of XXV, omitting examples XVI (e), XVIII (b), XXIII (b), XXIII (c).

[For 1917-18 N. S. High School Algebra, pages 165 to 292, both inclusive.]

10. **Geometry**:—Hall & Stevens' *School Geometry*, Part I (MacMillan).

Grade XI.

(English and any other *five* subjects imperative).

1. **English**:—(a) Meiklejohn's *Outline of the History of English Literature* (Meiklejohn). (b) **Literature**:—Macaulay's *Life of Samuel Johnson* by Buehler (Longmans) and Shakespeare's *Julius Caesar* (Longmans). (c) For outside reading and theme writing: Stevenson's *Kidnapped* (Cassell).

2. **Latin**:—(a) Grammar and easy composition partly based on prose Authors read. (b) Caesar's *De Bello Gallico*, Book 1 and Vergil's *Aeneid*, Book 1; with grammatical and critical questions. (c) D'Ooge's *Latin Composition Part I*, based on Caesar (Ginn & Co.), first 46 lessons. (d) A thoro review of the accidence and syntax of the previous Grades IX and X.

[A knowledge of the elements of prosody sufficient for the scansion of the dactylic hexameter should be imparted by the teacher. The student should be taught to scan easily and accurately with attention to the meaning as well as the metrical form of the verse; and a few short passages of the Aeneid should be memorized, such, for example, as lines 148-155, 198-9, 210-3, 210, 462, 574, 630.]

3. **Greek**:—(a) Grammar and easy composition based partly on author read. (b) White's *First Greek Book* to end of Chapter LIX. (c) Xenophon's *Anabasis*, Book I, with grammatical and critical questions.

4. **French**:—Berthon's *Specimens of Modern French Prose* (MacMillan), omitting IV, VI, IX and X. *Ontario High School French Grammar*, Lessons LXI-XCII, with a review of the preceding lessons.

5. **German**:—Joynes-Meissner's *Grammar*, to lesson 44, with Buchheim's *Modern Reader*, Part I, complete. Review of Grade X German.

6. **History**:—Myers' *A Short History of Ancient Times* (Ginn & Co.).

7. **Physics**:—*Ontario High School Physics*, Parts I, II, III, IV, and VI. The Laboratory Manual, in the teachers' hands only.

8. **Practical Mathematics**:—Murray's *Essentials of Trigonometry and Mensuration* (Allen), omitting Part III.

9. **Algebra**:—Hall & Knight's *Elementary Algebra* complete except Chapters XXIX, XXXV, XXXVI, XXXVIII (b), XXXIX (b), XL, XLI, XLII, XLIII, XLIV and XLV. [For 1918-19, N. S. High School Algebra complete.]

10. **Geometry**:—Hall and Stevens' *School Geometry*, Parts II, III and IV, omitting pages 207 to 218 and pages 244 to 246 of the complete text.

Grade XII.

(Leaving Examination).

[Nine papers out of fifteen on the following twelve subjects constitute a full course. The following subjects are imperative:—English, two foreign languages, one mathematical and one scientific subject: except that those who take both Latin and Greek may omit the scientific subject and those who make an average of 70 (Teachers' Pass) or 60 (H. S. pass) on English, may omit foreign languages].

1. **English** (Two papers):—(a) **Language**:—Leunsbury's *English Language* (Bell), or Bradley's *The Making of English* (MacMillan). (b) **History of English Literature**:—Gwynn's *Masters of English Literature* (MacMillan), or Pancoast and Shelley's *First Book in English Literature* (Holt).

[After July 1917, Pancoast and Shelley's text alone.]

(c) **Literature**:—Shakespeare's *Merchant of Venice* (Longmans); Milton's *Paradise Lost*, Books I and II, edited by Hale (Longmans); and the following extracts from *Selected Speeches on Foreign Policy* (Oxford Univ. Press), namely Gladstone's "The Neutrality of Belgium" and "Right Principles of Foreign Policy," Sir Edward Grey's "Negotiations," and Lloyd George's "International Honor."

(d) With the following books for outside reading and theme writing:—Stevenson's *Master of Ballantrae* (MacMillan), Jeffries' *Longer Narrative Poems* (Macmillan), and the following extracts from *Selected English Short Stories* (Oxford Univ. Press), namely "The Squire's Story," "Rab and His Friends," "The Seven Poor Travellers," "Markheim" and "Christopher-son."

2. **Latin** (Two papers):—(a) D'Ooges' *Latin Prose Composition, Part I*, lessons 47 to 85. Sight Translation. Grammar.

[Besides a careful review of the accidence as given in the grammar and the due consideration of all the ordinary principles of syntax as they are met with in the texts which are read, it is suggested that some special attention and system-

atic study be given to the following: The expression of wishes; commands and prohibitions; questions, single and double, direct and indirect; final clauses and other ways of expressing purpose; consecutive clauses, causal clauses; conditional clauses; independent uses of the subjunctive; the main principles of the indirect discourse.]

[It is recommended that more time be given in class to sight translation and composition.]

(b) Caesar's *De Bello Gallico*, Books II, III and IV; and Vergil's *Aeneid*, Book II; with questions on grammar and subject matter.

3. **Greek** (Two papers):—(a) White's *First Greek Book*, complete and reviewed. Sight Translation. Easy Composition partly based on the prose author read.

(b) Xenophon's *Anabasis*, Books II and III, with questions on grammar and subject matter.

4. **French**:—Sandeau's *Sacs et Parchemins* by Pellissier (MacMillan); Corneille's *Polyeucte* by Braunholtz (Pitt Press); Augier & Sandeau's *Le Gendre de M. Poirier* by Preston (Blackie & Son); with questions on grammar and composition. *Ontario High School French Grammar* complete.

5. **German**:—Buchheim's *Modern German Reader*, Part II, to end of selection 10, second division; and Schiller's *Wilhelm Tell* by Carruth, Acts I, II, III and IV (MacMillan). Joynes-Meissner's *Grammar* for Grammar and Composition.

6. **Algebra**:—Hall & Knight's *Senior Matriculation Algebra* (MacMillan). (A reprint of the first 19 chapters of the old and larger text.)

7. **Geometry**:—Hall & Stevens' *School Geometry*, Parts V and VI, omitting pages 306 to 310 and pages 411 to the end, of the complete text.

8. **Trigonometry**:—(a) *Plane*: Murray's *Plane and Spherical* (Longmans). (b) *Spherical*: Murray's *Plane and Spherical*, Chapters I, II, III and IV.

9. **Physics**:—*Ontario High School Physics* complete and *Laboratory Manual*.

10. **Botany**:—Bergen and Davis' *Principles of Botany* (MacMillan).

11. **Chemistry**:—Newell's *General Chemistry*, Parts I and II (one volume) (Heath & Co.).

12. **History**:—Myers' *A Short History of Medieval and Modern Times* (Ginn & Co.). The two history texts for Grades XI and XII bound in one volume may be had from the School book Bureau.

NEW BOOKS.

List of Books received at Education Office and by the Advisory Board, since publication of the *Journal of Education*, October, 1915.

G. BELL AND SONS, LIMITED, LONDON.

- Caesar's Belgian Campaign*, by S. E. Winboldt, 1915, pp. 107, $6\frac{1}{2} \times 4\frac{1}{2}$, 1/6.
Books of Britain and The Emperors, Book I, by C. E. Marchant, 1915, pp. 96, $6\frac{1}{4} \times 4\frac{1}{4}$, 1/-.
Numerical Examples in Physics, by H. S. Jones, 1915, pp. 332, $7\frac{1}{4} \times 5$, 3/6.
Plane Trigonometry, by H. L. Reed, 1915, pp. 290+XVI, $7\frac{1}{4} \times 5$, 3/6.
Statics, Part II, by R. C. Fawdery, 1915, pp. 305+VIII, $7\frac{1}{4} \times 5$, 2/-.
 2/. *Elementary Studies in Plant Life* by Fritch & Salisbury, 1915, pp. 194, $7\frac{1}{4} \times 5$.

THE COPP, CLARK COMPANY, LTD., TORONTO, ONT.

- High School Chemistry*, by Ellis, Revised by Hodgson, pp. 198, $5 \times 7\frac{3}{4}$, 50 cents.
Britannia History Reader, Introductory Book, pp. 261, $5 \times 7\frac{3}{4}$, 25 cents.
Britannia History Reader, Book I, pp. 229, $5 \times 7\frac{3}{4}$, 30 cents.
Hygiene for Young People, by Knight, pp. 211, $5\frac{1}{4} \times 7\frac{3}{4}$, 25 cents.
Narrative and Lyric Poems, First Series, by O. J. Stevenson, pp. 174, $5 \times 7\frac{3}{4}$, 25 cents.
Narrative and Lyric Poems, Second Series, by O. J. Stevenson, pp. 170, $5 \times 7\frac{3}{4}$, 25 cents.
Laureate Poetry Books, I to VIII, pp. 48, $4\frac{3}{4} \times 7$, each 5 cents.
A Class and Field Book, pp. 188, $7\frac{1}{2} \times 8\frac{1}{2}$, 65 cents.
Mason's New English Grammar, Junior, Revised by A. J. Ashton, pp. 117, $5 \times 7\frac{1}{4}$, price 1/-.
Mason's New English Grammar, Intermediate, Revised by A. J. Ashton, pp. 218, $5 \times 7\frac{1}{4}$, price 40 cents.
Mason's Senior English Grammar, Revised by A. J. Ashton, pp. 382, $5 \times 7\frac{1}{4}$, price 3/6.

CAMBRIDGE UNIVERSITY PRESS.

Henry Button, Agent in Canada, Toronto, Ont.

- English Grammar for Beginners*, by West, pp. 120, $4\frac{1}{4} \times 6\frac{1}{4}$, 1/-.
A Book of Verse for Children, Parts I-III, by A. Rodgers, $4\frac{1}{4} \times 7$.

J. M. DENT AND SONS, LTD., LONDON.

Henry Button, Agent in Canada, Toronto, Ont.

- A Book of Patriotic Verse, Pro Patria*, by W. J. Halliday, pp. 220, $5 \times 7\frac{3}{4}$, 2/6.
Green's Short History of the English People, Vol I, pp. 430, $4\frac{1}{2} \times 7$, 1/-.
Green's Short History of the English People, Vol II, pp. 431-874, $4\frac{1}{2} \times 7$, 1/-.
The Way to Health, Part I, Junior, pp. 136, $5 \times 7\frac{1}{4}$, 10 cents.
The Way to Health, Part II, Senior, pp. 105, $5 \times 7\frac{1}{4}$, 15 cents.
An Epitome of English Grammar, pp. 77, $5 \times 7\frac{1}{4}$.

GINN AND CO., BOSTON.

- A Practical English Grammar* by Prince, pp. 256, $7\frac{1}{2} \times 5\frac{1}{4}$, 60 cents.
 255, $7\frac{1}{2} \times 5$, 80 cents. *Agriculture for Beginners*, by Buskett, Hevens and Hill, Revised Edition, pp.

EDUCATIONAL BOOK COMPANY, TORONTO, ONT.

- Junior History of Canada*, by Hendrie, pp. 311, $7\frac{1}{2} \times 5\frac{1}{4}$, 45 cents.
History of Canada, by Gammell, pp. 296, $7\frac{1}{2} \times 5\frac{1}{4}$, 50 cents.
 9 *Warner's Short History of Great Britain*, by Frier, 326, $7\frac{1}{2} \times 5\frac{1}{4}$, 40 cents.

Latin Lessons for Beginners, Manitoba Edition, by Robertson and Carruthers, 7½x5½, pp. 398, 75 cents.

Nature Study and Agriculture, Maritime Provinces Edition, by John Brittain, pp. 318, 75 cents.

Elementary Agriculture and Nature study, by John Brittain, pp. 184, 50 cents.

EDUCATIONAL PUBLISHING COMPANY, BOSTON, MASS.

Eliot's Silas Marner; Shakespear's Julius Caesar; Shakespear's Merchant of Venice; Macaulay's Life of Johnson; Burke's Conciliation with America, each 4½x6½, pp. vary, paper 15 cents; cloth 25 cents.

(From MacMillan Co., Toronto.)

Standard Classic Readers, each 7½x5, *Book I*, pp. 320, 40 cents. *Book 2*, pp. 384 45 cents, *Book 3*, pp. 415, 50 cents.

Standard Classic Readers, Fifth Reader, 7½x5, 40 cents.

MEIKLEJOHN AND SONS, LIMITED, LONDON.

Professor Meiklejohn's Series, each 7x5, limp, each 0/6, as follows:—
The British Colonies and Dependencies; Asia; Australasia; North and South America; Europe, pp. generally 96. Outlines of the History of England and Great Britain; Africa, pp. 80, 7x5, 0/4.

A Short Geography by Meiklejohn, 1915, pp. 190, 7½x5, 1/.

A Short History of England and Great Britain, pp. 266, 7½x5, 1/.

The British Isles, First Edition, 1915, pp. 94, 7x5, 0/6.

Meiklejohn's Modern Arithmetic, Books 1 to 7, limp, each 7½x4¾, pp. vary prices 0/2 to 0/6 each.

New Handbook of English, Books 1 to 6, 7½x4¾, pp. vary, prices 0/2 to 0/5.

Simple Lessons in English Grammar, in three parts, each 7x4¾, pp. vary.

A Short English Grammar, by Meiklejohn, 7½x5, pp. 174, 1/.

A Short Arithmetic, by Christian & Baker, pp. 218, 7½x5, 1/6.

MACMILLAN CO., LIMITED, LONDON AND TORONTO.

Golden Rule, Book I, pp. 160, 7½x5, 20 cents.

Golden Rule, Book II, pp. 256, 7½x5, 30 cents.

Golden Rule, Book III, pp. 352, 5x7½, 35 cents.

Golden Rule, Book IV, pp. 315, 7½x5, 40 cents.

The New Sloan Reader, Second Reader, 1915, pp. 155, 7½x5½, 35 cents.

The New Sloan Reader, Manual, 1915, pp. 68, 7½x5½, 25 cents.

Muscular Movement Writing, Elementary and Advanced Books, by C. C. Lister, pp. 66 and 94, 8½x4½.

Steps to Literature, Fifth Reader, pp. 439, 5x7½, 40 cents.

The Lay of the Last Minstrel, ed. by J. C. Saul, pp. 123, 4¾x6¾.

Rip Van Winkle, Washington Irving, pp. 115, 4¾x6¾.

The High School Arithmetic, pp. 305, 5x7½, 40 cents.

Outline of English Grammar, by J. C. Nesfield, pp. 19+168, 4½x7.

Modern English Grammar, by J. C. Nesfield, pp. 20+272, 4½x7.

McCLELLAND, GOODCHILD AND STEWART, LIMITED, TORONTO.

The Teacher's Manual in Phonics, by Jean A. Weir, 5x7½, pp. 24.

JOHN MURRAY, ALBERMARLE STREET, W., LONDON, ENGLAND.

A New English Grammar, for Junior Forms, by R. B. Morgan, 5x7½, 1/6.
Latin Translation at Sight, by T. D. Hall, 4¾x7, pp. 115, 1/-.

RIVINGTONS, LONDON, ENGLAND.

A Short British History, Period 1 by W. S. Robinson, 1914, pp. 180, 6½x4½, 1/4.

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Revision Papers in Algebra, by W. C. Borchardt, 1915, pp. 152+XXIX,

7½x5, 2/.

Macaulay's Lays of Ancient Rome by W. Edwards, 1915, pp. 205, 6½x4½, 1/6.

BENJ. H. SANBORN AND COMPANY, BOSTON.

- Secondary Arithmetic*, by Stone-Millis, $5\frac{1}{2} \times 7\frac{1}{4}$.
Essentials of Algebra, by Stone-Millis, $5\frac{1}{2} \times 7\frac{1}{4}$, pp. 412.
Le Francais et La Patrie, by Raymond Talbot, pp. 294, 5×7 .
A Progrssive Course in English for Secondary Schools, by Stebbins, pp. 366,
 $5 \times 7\frac{1}{4}$.
Caesar's Gallic War, Books I-V, edited by Johnston & Sanford, pp. 55+359+
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Cicero, Select Orations, edited by B. L. D'Ooge, pp. 87+406+146, $5 \times 7\frac{1}{4}$.

SCOTT, FORESMAN AND COMPANY, CHICAGO.

- Chicago Art Course*, Fourth Year.....10 cents.
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 Teachers' Manual

**THE FOLLOWING BOOKS ARE RECOMMENDED FOR
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- Hygiene for Young People*, 25 cents.
Britannia History Readers, Introductory Book, 25 cents.
Britannia History Readers, Book I, 30 cents.
The Heart of the Ancient Wood, by Roberts, 50 cents.
Laureate Poetry Books, I to VIII, each 5 cents.

J. M. DENT & SONS, LONDON.

- The Way to Health*, Pt. 1, Junior, 10 cents.
The Way to Health, Pt. 2, Senior, 15 cents.

**MacMILLAN COMPANY OF CANADA, LTD., TORONTO,
 ONT.**

- The First Golden Rule Book*, 20 cents.
The Second Golden Rule Book, 30 cents.
The Third Golden Rule Book, 35 cents.
The Fourth Golden Rule Book, 40 cents.

A Teachers' Manual which should accompany the above series as an aid, is published at 19 cents the copy by the Copp, Clark Company of Toronto.

HODDER & STOUGHTON, LIMITED, TORONTO.

- Canada in Flanders*, by Sir M. Aitken, 25 cents.

232. TEXT BOOKS FOR PUBLIC SCHOOLS.

In performing the duty of selecting and prescribing text books for the Public Schools, the Council of Public Instruction has availed itself as fully as possible of the knowledge and experience of those who are engaged in the practical work of education. The sole aim of recent modifications has been to secure at a reasonable cost, a series of texts *adapted for use in schools*. Change in authorized books is in itself a very undesirable thing.

Instructors and teachers are reminded—

(1) That the course of study for common schools encourages an economical expenditure for the text books by providing a system of oral instruction for junior classes. Too many teachers try to satisfy themselves in respect to their more youthful pupils by placing in their hands text books not needed in any case, and worse than useless when unaccompanied by proper oral exposition. A text book should not be required for a child until he is prepared to use it intelligently.

(2) That the regulation which makes it illegal and improper for a teacher to introduce unauthorized texts, by no means hinders him from giving his pupils the benefit of other treatises to whose explanations he may attach importance. The progressive teacher will always have such aids within reach, and will so use them as to impart variety and interest to his instructions.

Under no circumstances however, should the teacher order the pupils to purchase these other books which are *not prescribed*. The prescribed text book, on any subject, is the *only* one the pupils are expected to purchase.

(3) Under section 81 (*e*) of the Education Act, school sections can vote money for the purchase of prescribed school books and school trustees are free to arrange to distribute them at *cost, at reduced price, or free* to all pupils of their schools, or to pupils who cannot afford to buy them.

(4) *The school trustees or school boards are the proper parties to take charge of the supply of books* for they are in continual and close touch with the school. They can allow those who desire to own their books to do so; and the deserving indigent can be supplied free. Both oversight and economy can be easily maintained under the management of the local trustees. This scheme may be put into practise with very little effort on the part of the trustees or members of the school board;

and a section which once voted the money for school books could have it recouped annually, and so with very little more cost year by year could continue to supply its pupils indefinitely.

(5) Following is a list of the prescribed texts together with the grades in which they are used, which are prescribed for the public schools of Nova Scotia during the school year beginning 1 August, 1916.

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N. S. Reader No. I, Grade II.....	.08
N. S. Reader No. II, Grades III & IV.....	.11
N. S. Reader No. III, Grades V & VI.....	.16
N. S. Reader No. IV, Grades VII & VIII.....	.18
Acadian Reader No. I, Part I, Grade I.....	.07
“ “ No. I, Part II, Grade I.....	.07
“ “ No. I, Complete, Grade I.....	.20
“ “ No. II, Grade II.....	.30
“ “ No. III, Grade III.....	.35
“ “ No. IV, Grade IV.....	.40
N. S. Common School Arithmetic, Grades III to VIII.....	.18
Marshall's Bookkeeping, Grade VIII.....	.12
Goggin's Elementary Grammar, Grades VII & VIII.....	.25
Ontario P. S. Composition, Grades VII & VIII.....	.15
Ontario P. S. Hygiene, Grades V to VIII.....	.20
Calkin's Brief History of Canada, Grades V to VIII.....	.25
Brief History of England, Grades VI to VIII.....	.15
Calkin's Junior Geography, Grades V to VIII.....	.60
Royal Crown Copy Books 1 to 12, Graded Series.....	(each) .05
Augsburg's Drawing Books 1 to 8, Graded Series.....	(each) .10
Frang's Drawing Books 1 to 8, Graded Series.....	(each) .12
School Day Melodies Pts. 1 & 11, Cover all grades (Tonic-sol-fa) (each).....	.10
The Common School Book of Music for Miscellaneous Schools (Staff).....	.40
The New P. S. Music Course, (Staff notation) Graded Series.....	
Book I.....	.20
Book II.....	.25
Book III.....	.30
Book IV.....	.30
Book V (F. Clef).....	.30
Book V (G. Clef).....	.30
Mixed Classes.....	.30
Girls' Classes.....	.30

For Teachers' Use:

Primary Reading Manual.....	.13
Reading Manual with Readers II, III & IV.....	.26
Arithmetic Manual.....	.20
Syllabus of Physical Exercises.....	.25
Song Teacher's Guide.....	.30
Augsburg's Drawing Manuals, Books I, II & III.....	(each) .75
Common School Course of Study (Hand Book).....	.10
Manual of School Law (1911).....	.25
Journal of Education (Semi-annual).....	.10
Brittain's Elementary Agriculture & Nature Study, M. P. Edition.....	.75

BOOKS PRESCRIBED FOR HIGH SCHOOL GRADES.

Ontario High School Reader, Grades IX & X [July 1918].....	.40
Ontario High School Composition, Grades IX & X [July 1920].....	.18
N. S. English Grammar, Grades IX & X.....	.23
Eliot's Silas Marner, Grade X.....	.25

	List Price.
Macaulay's Life of Johnson, Grade XI25
Meiklejohn's Outlines of History of English Literature, Grade XI35
Shakespear's Julius Caesar, Grade XI25
Stevenson's Kidnapped, Grade XI25
Shakespear's Merchant of Venice, Grade XII40
Milton's Paradise Lost, Books 1 & 2, (one vol.) Grade XII25
Stevenson's Master of Ballantrae, Grade XII15
Jeffries' Longer Narrative Poems, Grade XII25
Selected English Short Stories, Grade XII25
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Bradley's The Making of English, Grade XII	1.25
Pancoast & Shelley's First Book of English Literature, Grade XII60
Ontario High School Latin Book, Grades IX, X & XI50
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Caesar's Gallic War Book 1, Grade XI30
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Bertenshaw's First Conv. French Reader, Grades IX & X60
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Schiller's Wilhelm Tell, Grade XII30
Kennedy & O'Hearn's Academic Arithmetic, Grades IX & X50
N. S. High School Algebra, Grade IX75
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Newell's General Chemistry, Complete, Grade XII75
Brittain's Elem. Agriculture and Nature Study, M. P. Edition, Grade IX50
Bailey's Beginners' Botany, Grade IX	1.50
Bergen & Davis' Botany, Grade XII65
Ontario High School History of England, Grade X	1.10
Myers' Short History of Ancient Times, Grade XI	1.10
Myers' Med. & Mod. History, Grade XII	1.50
Myers' General History (the two texts for Grades XI & XII in one volume)90
Calkin's General Geography, Grade IX90
 For Teachers' Use:	
Canadian Civics, N. S. Edition35
Ont. H. S. Physics Lab. Manual35
Calkin's Notes on Education	1.00
Lyster's Hygiene & Temperance	1.25
Munro's Brief Course in History of Education	1.00
Fitch's Lectures on Teaching	1.25
Bagley's Educative Process90

THE NOVA SCOTIA SCHOOL BOOK BUREAU.

The Nova Scotia School Book Bureau has been established by the Government in connexion with the Department of Education and is under the regulations of the Council of Public Instruction. The aim of the Bureau will be to provide the people of the Province with the prescribed school books not only at as low prices as possible, but at prices which will be uniform thruout the Province, and which also in the majority of cases will be lower than heretofore.

All books prescribed for both the common and high school grades, as well as the books necessary for the M. P. Q. examinations, are kept in stock at the wareroom of the Bureau, in the Government Building Annex, Hollis Street, Halifax, N. S. A full list of the books supplied by the Bureau is printed on the Bureau's Requisition Form. No book not on this list is kept in stock by the Bureau. Among other things this list contains the retail prices at which the books, supplied by the Bureau, are to be sold, and the purchaser should know that the book dealers have agreed with the Bureau not to sell any books at a price higher than that which is shown on the Bureau's price list. The proportion of postage per copy necessary on small orders is also given.

The Bureau will supply its books to any person, dealer or otherwise who remits the necessary amount with his order, which order should always be filled in on the printed Requisition Form supplied by the Bureau. School trustees and teachers who wish to purchase the supply of books for the use of the pupils of the section will be supplied with the same by the Bureau on the conditions laid down herein.

IMPORTANT.—TO TRUSTEES AND TEACHERS.

All of the texts mentioned in the foregoing lists are kept in stock by the Nova Scotia School Book Bureau. School trustees and teachers may now purchase all the prescribed books for the use of the pupils of the section direct from the Bureau. When school trustees or teachers send in an order to the Bureau, amounting to **three dollars list price or over**, and certify that the books are ordered for the use of the schools of the section, the Bureau will allow a discount of 10 per cent. from the list price of the Bureau,

Further, on all orders of **Three dollars or over** the Bureau will pay **transportation charges**, under the following conditions. The Bureau will endeavor as far as possible, to ship by the route designated in the order received from the

teacher or trustees, but the Bureau reserves the right to ship the cheapest way, if such is considered of equal advantage with that specified in the order.

The Bureau will however, always pay the "freight" equivalent on any order of \$3.00 and over received from teachers and trustees as above, if shipment is *demand*ed to go forward by Express or other more costly conveyance. Balance of transportation charges must be paid by person sending in the order.

The teacher or trustees ordering must, in such cases, sign the Agreement on Requisition Form, and they are at liberty to arrange to distribute the books at cost to them, or at reduced price. They must not, however, demand more than the price on the price list of the Bureau.

All orders **under three dollars**, ordered to be sent by post, must be accompanied by full list price—together with necessary postage per copy as on price list of the Bureau; when ordered to be sent by other conveyance full transportation charges must be borne by purchaser.

TO BOOK DEALERS.

How books may be obtained by dealers from The Nova Scotia School Book Bureau.

1. Dealers, when ordering books from the Bureau, should always use the printed Requisition Form, and should be very careful to fill in exactly and carefully all spaces showing number of copies, shipping instructions, name and address, etc. This will obviate many mistakes that are liable to occur when orders are sent in not on the printed form.

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3. Dealers who wish to keep a stock of the books supplied by the Bureau, to sell at retail, must sign the agreement on Requisition Form, when sending in their initial order. This agreement will cover future orders as well.

4. The Bureau will pay **freight** charges on orders amounting to \$10.00 (list price) or over, but purchasers are expected to take delivery from the railway, steam boat, schooner or stage company at the nearest available station or point, and to defray

thereafter the cartage or other transportation charges. On orders of \$10.00 or over to be shipped by Express, the Bureau will pay an amount equal to the freight charges, as outlined above, the difference between freight and express to be borne by the purchaser. On orders of less than \$10.00 (list price) transportation charges from Halifax to destination, by whatever conveyance, must be borne by person sending in the order. The Bureau reserves the right to ship the cheapest way if such is found equally advantageous with that specified in Requisition Form.

5. The Bureau agrees to repurchase from dealers, at the actual prices which they paid to the Bureau, all unused books on hand in good condition which had been previously purchased from the Bureau, if and when, such books cease to be prescribed for use in the schools of Nova Scotia. In this case those returning books to the Bureau must pay the transportation charges.

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Any person, dealer or otherwise, may obtain single copies or small lots of the books from the Bureau on sending in requisition for same. Each and every Requisition must be accompanied by payment in full for the books ordered calculated at the full prices on the Bureau's price list together with the stated amount per copy shown in column for postage. The books will then be sent by book post, or parcel post, without further cost to the purchaser. (Note) It is not expected that dealers will send in orders to go by Post, as being allowed 15% discount they must send in **full postage**.

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	Acadian Reader No. 1, Pt. 1.....	.07	.01	
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	Acadian Reader No. 1.....	.20	.02	
	Acadian Reader No. 2.....	.30	.02	
	Acadian Reader No. 3.....	.35	.02	
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	N. S. Com. Sch. Arithmetic.....	.18	.04	
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	Ontario P. S. Composition.....	.15	.04	
	Ontario P. S. Hygiene.....	.20	.04	
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	Morton's Mechan. Drawing.....	.40	.02	
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	Brittain's Elem. Agric.....	.75	.05	
	Beginner's Botany.....	.50	.05	
	Bergen & Davis Botany.....	1.50	.05	
	Evans' Elem. Chemistry.....	.50	.03	
	Newell's Chemistry.....	1.20	.05	
	Ont. H. S. Physics.....	.90	.05	
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	Ont. H. S. History of England.....	.65	.05	
	Myer's Ancient History.....	1.10	.05	
	Myer's Med. & Mod. History.....	1.10	.05	
	Myer's General History.....	1.50	.10	

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.....N. S.,191..

I,ofin the County of, Province of N. S., in consideration of the terms offered to purchasers of school books thru or from the School Book Bureau, (which terms are set forth and described in the April "Journal of Education," 1916, under the heading entitled "The Nova Scotia School Book Bureau") do hereby promise and agree to and with the said Bureau that I will not sell or cause or permit to be sold any of the said books at a price greater than the list price above given.

(Signed)

To Dealers: The Bureau will not supply books to anyone violating above Agreement.

No order will be filled unless full amount necessary is received.

Dealers are allowed 15% discount on all orders.

Freight will be paid by Bureau on orders of \$10.00 (total) and upwards.

On orders of \$10.00 and upwards, ordered by Express, the Bureau will pay only the freight equivalent, balance to be borne by purchaser.

Dealer must pay transportation charges in full on all orders under \$10.00. It is not expected that dealers will order by Post. If small lots are so ordered dealers must enclose sufficient to cover full postage.

All inquiries and correspondence relating to the Nova Scotia Book Bureau should be addressed to H. R. Shinner, Manager, Nova Scotia School Bureau, Education Office, Halifax, N. S.

CADET INSTRUCTION.

Owing to the heavy expenses in connexion with the War, there will be no Cadet Instructor's Course or Cadet Camps held during this mid-summer vacation.

Corps of School Cadet Instructors.

Teachers who have qualified as Cadet Instructors and who are actually instructing a bona-fide organized and gazetted Cadet Corps, will be appointed to the Corps of School Cadet Instructors with the rank of Lieutenant in the Militia. The mere fact of holding a Cadet Instructors' certificate will not, however, be considered sufficient qualification for according Lieutenant's rank in the C. S. C. I.

A Lieutenant in the Corps of School Cadet Instructors may be promoted to the rank of Captain after having held the rank of Lieutenant in that Corps for five years, and must during that time have instructed a Cadet Corps to the satisfaction of the Inspecting Officer, and must have also attended a further course of instruction in military training, and have obtained a certificate qualifying for the rank of Captain in the Active Militia.

Such further course of military training is not, however, to be taken until after the officer has instructed a Cadet Corps for the period of at least two years.

Uniform for Corps of School Cadet Instructors.

JACKET.—Reefer of double breasted pattern of blue black cloth or serge, of ordinary civilian sack coat length; fastened in front by two rows of four buttons each, of Canadian Militia pattern.

Sleeves to be plain with two small buttons of Canadian Militia pattern at bottom of back seam. Shoulder straps, blue cloth, with gilt metal rank badges.

TROUSERS.—Of serge to match color of jacket; no stripe at seams.

CAPE.—Forage, N. P.

As an alternative the Khaki service Uniform, officers' pattern, may be worn.

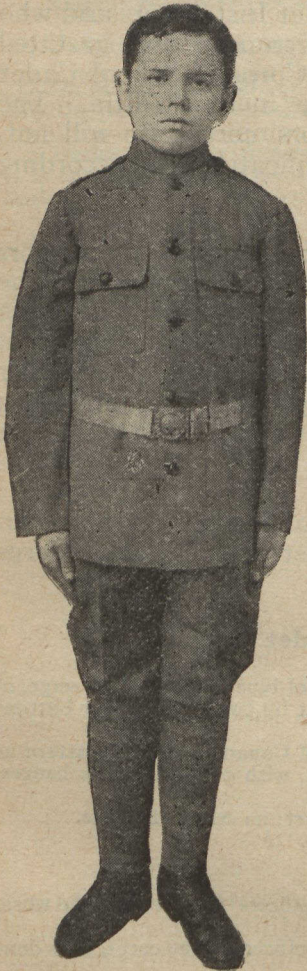
Uniform and equipment to be provided by the officers of the corps, as is done by other officers.

Allowances to Cadet Instructors.

For the training of a Cadet Corps during the school year, subject to the certificate of a Military Inspecting Officer that the Cadet Corps has been well instructed in the course of Military training laid down for it, an allowance of \$1.00 per Cadet may be paid annually to qualified Cadet Instructors under conditions as follows:—

(a) The above allowance will be calculated on the number of enrolled cadets present at the Annual Inspection, and in addition, those whose absence can be satisfactorily accounted for to the Inspecting Officer.

(b) In the case of a Cadet Corps authorized subsequent to 1st of March in any year, a proportion of the above allowance, if any, that may be paid will be decided at Militia Headquarters.



CADET UNIFORMS.

The authorized Cadet Uniform consists of Felt Hat, Jacket, Service pattern of Khaki Serge or Olive Green Denim; Breeches, semi-riding; Serge Puttees or Khaki Stockings. Hats and Belts are furnished by the Department of Militia and Defense. Jackets, Breeches and Puttees or Stockings are purchased by the Cadet Corps or individual members of the Corps. The prices are henceforward as follows:

Suits: Denim—\$3.00 to \$3.85 according to size.
 Serge —\$4.50 to \$5.35 " "
 Serge Puttees 60 cents per pair.
 Khaki Stockings 40 cents per pair.

This illustration of the uniform is from a photo of a sealed pattern furnished Messrs. Clayton & Sons of Halifax, N. S., by the Militia Department. For detailed description see page 82, April *Journal of Education*, 1913.

It has been intimated that the Department of Militia and Defense will be unable to give the usual bonus of \$1.00 for each smart and serviceable uniform shown at the Annual Inspection this year.

Cadet Corps in Schools.

It is to be regretted that in some High Schools and Academies the opportunity for the organization and carrying on of a Cadet Corps is not embraced. The fact that schools in which are the most efficient Cadet Corps, usually stand highest also in scholarship attainments, is not only an answer to those who say they have no time for such work but should be an added incentive to the carrying on of this very important branch of education.

School Boards should also realize that a definite bargain has been made with the Militia Department and financial assistance received from that Department for our teachers in both Physical and Military drill, in consideration of the encouragement of Cadet Corps in the schools. Some schools are living up to the agreement. Others are profiting by the increased efficiency of the teachers in physique and disciplinary ability imparted by the Physical Training Courses which they have undergone, but are not successful in completing their side of the bargain by training Cadet Corps.

It is hoped that the present crisis will not in any way affect the training and drill of all Cadet Corps, but that it will have the effect of even more interest being taken in the work.

Cadet Inspections.

The Annual Inspection of Cadet Corps will include the following subjects:—

- (a) Physical Training or Physical Drill.
- (b) Infantry Training:—Squad, Section and Company Drill, Reconnaissance, Scouting and Skirmishing.
- (c) Map Reading and Field Sketching:—See Chapter IV.
- (d) Manual Field Engineering:—Chapter X, Sections 57, 61, 63 and 67.
- (e) Rifle Exercises, Musketry and Judging Distance. (Scores made at Musketry Practise should be produced for the information of the Inspecting Officer.)
- (f) Signalling:—A knowledge of the Semaphore alphabet.
- (g) Ceremonial:—March Past.

Military Drill Competitions.

Cadet Corps belonging to Public Schools in Nova Scotia are eligible to compete for prizes in the Military Drill Competition, given from the Strathcona Trust Fund. This compe-

tion is held at the Annual Inspection of Cadet Corps and the following is the percentage of marks to be allotted by the Inspecting Officer:—

Company Drill	40%
Extended Order	30%
Discipline, C/O Arms, etc., and Cleanliness	20%
Scouting	10%

50% to be allotted while the corps is under command of the Cadet Instructor and 50% while under command of Cadet Officers or Non-commissioned Officers.

Fifteen prizes according to order of merit are awarded as follows:—(1) \$50, (2) \$45, (3) \$40, (4) \$35, (5) \$30, (6) \$25, (7) \$20, (8) \$15, and seven \$10 prizes. One-half of the prize goes to the Cadet Instructor and the other half is to be invested for the benefit of the Cadets.

The prizes may be increased this year, if the Cadet Corps show an all round interest in the work and there are sufficient funds available.

Best Shot Badges—Rifle Shooting.

Under the conditions of the Strathcona Trust for Nova Scotia, Best Shot Badges will be awarded to the "Best Shot" in each Corps as follows:—

I Best Shot Badge for Sub-target Gun Practise.

I Best Shot Badge for Gallery or .22" Rifle Practise.

Instructors should keep a record of all scores made by Cadets for the information of the Inspecting Officer; and the presentation of the Badges will be made at the Annual Inspection, *if* possible.

Note:—Cadet Instructors are particularly urged to endeavor to have their Corps proficient in the training laid down in the Syllabus, as far as their equipment etc., will allow them. This will enable the Inspecting Officer to make all due allowance for that part of the training the Corps has been unable to cover due to no fault of the Instructor.

It is hoped therefore that all Corps will turn out for Inspection and do their best, never minding under what disadvantageous circumstances some may have been laboring.

Sub-Target Gun Machines.

(1) It is the desire of the Militia Department to place sub-target gun machines in those educational institutions which may have a teacher qualified as a military instructor.

(2) The space required in which to set up a sub-target rifle machine is 61½ feet from the center of the base of the target, plus 5 or 10 feet for the recruits and instructor.

In many cases this accommodation is not available and it is suggested that these machines might be usefully employed in smaller space by,

(a) placing the target at the prescribed distance outside the building and aiming thru a window.

(b) by placing the target beside or behind the machine and aiming at the reflection of the target in a mirror placed on the wall at half the prescribed distance.

(3) Forms for application for these machines may be obtained from the Organizer and Inspector, Cadet Corps, Halifax, N. S.

(4) When sub-target gun machines are out of working order, and the instructor is not able to make the repairs a report to this effect should be made to the Senior Ordnance Officer, Halifax, N. S., so that an expert may be sent to place the machine in working order.

Cadet Corps Stores.

All stores on charge to Cadet Corps, including Rifles, Hats, Belts, Flags, Drill Books, etc., must be produced at the Inspection of Corps, and so arranged as to be readily counted by the Inspecting Officer. Deficiencies in stores will be chargeable to the Cadet Instructor.

Principals of schools where Cadet Corps exist will assist the Militia Department to a great extent if on changing their residence at close of school year they will notify the O. & I., Cadet Corps, Halifax, N. S., in order that they may receive instructions as to the disposal of Cadet Stores. In any case the stores should be handed over to the School Board for safe keeping during the mid-summer vacation.

Promotions.

(a) The following school teachers and officers in the Corps of School Cadet Instructors have been promoted to the rank of Captain:

1915. Lieut. G. D. Blackadar, Yarmouth, N. S., from 26 October,

(b) The following school teachers and officers in the Corps of School Cadet Instructors have qualified for the rank of Captain:

Lieut. F. J. Phelan, C.S.C.I., of Halifax, N. S., at the course held at the Royal School of Instruction, Halifax, N. S., 19/7/15 to 2/8/15.

ROLL OF HONOR, CADET CORPS.

(Circular Letter from Capt. R. Robinson Black, O. & I.,
Cadet Corps.)

"It having been brought to my notice in the course of my recent visits to the respective Cadet Corps in the 6th Divisional Area that many Cadets and ex-cadets and Instructors have volunteered and already joined the Canadian Expeditionary Forces, I consider it is highly proper and desirable that a complete list of all the boys so serving or having joined in any capacity with our Comrades in Arms in the World Empire struggle for British Freedom, should be prepared by each of the respective Cadet Corps, giving the full name, address and number of the Cadet Corps with which they have been or are at present affiliated.

I will therefore be pleased to receive at the earliest moment from each Cadet Corps the required information, so that when the proper time comes for recognition and distribution of Honors at the hands of the proper authorities, I will be in a position to submit to the Hon. the Minister of Militia a record and Roll of Honor of the Services rendered by the Cadet Boys to the Empire.

May I count on your co-operation and interest in this splendid and heroic work, so that no boy who has joined the Expeditionary Forces should be omitted from appearing on this Roll of Honor, which will in the Annals of History yet to be written form one of its proudest pages."

PHYSICAL TRAINING COURSES.

Physical Training Courses for teachers will be conducted at the Rural Science Training School, Truro, N. S., during the Midsummer vacation. At least two hours drill per day will be required in these courses.

Candidates in these courses as well as at the Normal College, will be required to furnish themselves with gymnasium shoes and clothing appropriate to the work. Ladies who take the course will find that a one-piece dress which allows freedom of movement, will add greatly to the comfort of the pupil and success of the instruction.

Grade "B" Physical Training Certificates.**Mount St. Vincent Academy, (1 Sept. 1915 to 15 Oct. 1915).**

- 8743—Bernard, Anne Elizabeth
- 8744—Bond, Mary Ann
- 8745—Brown, Marie de Chantal
- 8746—Campbell, Elizabeth E.
- 8747—Campbell, Elizabeth
- 8748—Costello, Mary Elizabeth
- 8749—Donahoe, Bridget Agnes
- 8750—Doucet, Mary Isabella
- 8751—Downing, Mary Josephine
- 8752—Doyle, Agatha Ellen
- 8753—Glynn, Alice Margaret
- 8754—Hartigan, Marion Eleanor
- 8755—Jessome, Eliza
- 8756—Kelley, Angela Imelda
- 8757—Kelly, Marie Margaret
- 8758—Kennedy, Margaret Katherine
- 8759—Kilduff, Marcella Teresa
- 8760—McCabe, Helen Frances
- 8761—McCarthy, Margaret Agnes
- 8762—McCarthy, Mary Alice
- 8763—McDonald, Minnie Blanche
- 8764—McDonald, Martha Margaret
- 8765—McNeil, Matilda
- 8766—Magee, Anna Marion
- 8767—Murray, Katherine Emily
- 8768—O'Brien, Emma Margaret
- 8769—O'Donnell, Teresa Elizabeth
- 8770—Power, Mary Gertrude
- 8771—Roche, Teresa
- 8772—Ryan, Mary Agnes
- 8773—Scanlon, Marion Frances
- 8774—Sullivan, Margaret Teresa
- 8775—Surette, Alma Katherine
- 8776—Trahan, Rose Anna
- 8777—Traynor, Gertrude Veronica
- 8778—White, Mary Leonida

Mount St. Vincent Academy, (13 Sept., 1915 to 15 Oct., 1915).

- 8779—Burke, Romaine Bernadette
- 8780—Comeau, **Nellie Mary**
- 8781—Davies, Constance Mary, Halifax.
- 8782—Dwyer, Annie Clare, Halifax.
- 8783—Glawson, Hilda Elizabeth
- 8784—Horne, Geraldine Elizabeth
- 8785—LeBlanc, Anne Christine
- 8786—McDougall, Marjorie Claudine
- 8787—McIsaac, Ann
- 8788—McIsaac, Mary
- 8789—McNeil, Annie May
- 8790—Melancon, Louise Elizabeth
- 8791—Murray, Geneva Marguerite
- 8792—O'Keefe, Sarah
- 8793—Prisk, Iva Grace, Halifax.
- 8794—Skerry, Gertrude Loretta
- 8795—Healy, Gertrude Marie

Convent of Sacred Heart, Halifax, N. S., (1 Oct., 1915 to 30 Oct., 1915).

- 8796—Bigney, Ellen, Halifax.
- 8797—Foley, Irene, Halifax.

- 8798—Craigie, Jessie Elizabeth, Halifax.
 8799—Cragg, Grace, Halifax.
 8800—Cunniff, Rose, Halifax.
 8801—O'Connor, Madame Genevieve, Halifax.
 8802—Codie, Madame Teresa, Halifax.

Normal College, Truro, N. S., (1 Nov., 1915 to 27 Jan., 1916).

- 8803—Miss Barbara Smith L. Anderson New Aberdeen Cape Breton.
 8804—Miss Irene S. Andrews Oakland Lunenburg.
 8805—Miss Emma Elizabeth Atkinson West Brook Cumberland.
 8806—Miss Esther Belle Brady Halifax Halifax.
 8807—Miss Esther Brody Glace Bay Cape Breton.
 8808—Miss Ella May Brydon Weston Kings.
 8809—Miss Verna Leslie Brown South Uniacke Hants.
 8810—Miss Bernice Winnifred Bower Upper Clyde Shelburne.
 8811—Miss Jean Louise Baxter Newport Hants.
 8812—Miss Josephine M. Banks Lawrencetown Annapolis.
 8813—Miss Jennie Cynthia Bent Belle Isle Annapolis.
 8814—Miss Ethel G. Byrne North Sydney Cape Breton.
 8815—Miss Zillah Lillian Bollong Halifax Halifax.
 8816—Miss Margaret Alfreda Bonny Pictou Pictou.
 8817—Miss Marie Amy Belliveau Belliveau's Cove Digby.
 8818—Miss Agnes Rebecca Coady Margaret Forks Inverness.
 8819—Miss Jennie Charman Wallace Cumberland.
 8820—Miss Louisa Cameron Sherbrooke Guysboro.
 8821—Miss Donna Grace Chisholm New Glasgow Pictou.
 8822—Miss Annie Campbell Whitney Pier Sydney.
 8823—Miss Isabel Cameron Thorburn Pictou.
 8824—Miss Florence Jean Corkum Dartmouth Halifax.
 8825—Miss Gladys Perry Collings Halifax Halifax.
 8826—Miss Hazel Dell Coates (R.R. No. 2) Fenwick Cumberland.
 8827—Miss Charlotte E. Crowell Clark's Harbor Shelburne.
 8828—Miss Irene Bridget Connors New Waterford Cape Breton.
 8829—Miss Mary McD. Cruikshank Elderbank Halifax.
 8830—Miss Annie Dawson MacLellan's Brook Pictou.
 8831—Miss Catherine A. Davidson Amherst Cumberland.
 8832—Miss Bessie Jean Dill Great Village Colchester.
 8833—Miss Catherine Belle Doane Atlantic P. O. Shelburne.
 8834—Miss Johanna Matilda Doyle Poulamond Richmond.
 8835—Miss Mary Lena Deveau Meteghan Digby.
 8836—Miss Theresa Deveau Mavilette Digby.
 8837—Miss Katherine C. Fraser Sydney Mines Cape Breton.
 8838—Miss Vera Gertrude Friggens Hebron Yarmouth.
 8839—Miss Mary Hannah Finigan Freeport Digby.
 8840—Mrs. Maude N. Farncombe North Brookfield Quac.as.
 8841—Miss Elenora Mae Finigan Freeport Digby.
 8842—Miss Laura Jessie Fogarty Hazel Hill Guysboro.
 8843—Miss Greta Blanche Graham Fox River Cumberland.
 8844—Miss Barbara Helen Graham Carleton Yarmouth.
 8845—Miss Helen V. Gilliat Granville Center Annapolis.
 8846—Miss Elizabeth H. Griffin Bridgetown Annapolis.
 8847—Miss Mary Josephine Graham Grand Pre Kings.
 8848—Miss Ethel Ward Harrison Dartmouth Halifax.
 8849—Miss Marjorie King Haley St. Stephen N. B.
 8850—Miss Ella Herman Yarmouth Yarmouth.
 8851—Miss Catherine Baillie Hayman Westville Lunenburg.
 8852—Miss Myrna Amelia Hyson Mahone Bay Kings.
 8853—Miss Jean Smith Hardy Kentville Pictou.
 8854—Miss Maria Elsie Hamblen Durham Pictou.
 8855—Miss Olivia Naomi DeWolf Heal Guysboro Guysboro.
 8856—Miss Florence Mary Harris Dartmouth Halifax.
 8857—Miss Rebecca Mary Hines Halifax Halifax.
 8858—Miss Ada Pauline Herkes Hebron Yarmouth.
 8859—Miss Carmita Mae Ingraham North Sydney Cape Breton.

8860	Miss Etta Robina Johnson	Valley	Colchester.
8861	Miss Dorothy Maie Jeffrey	Truro	Colchester.
8862	Miss Florence Eliza King	River Philip	Cumberland.
8863	Miss Bertha Alice Kempton	Milton	Queens.
8864	Miss Mary Elizabeth Kay	Sydney Mines	Cape Breton.
8865	Miss Pauline Mary Keats	New Waterford	Cape Breton.
8866	Miss Mary Evangeline Longley	Paradise	Annapolis.
8868	Miss Eva Florence Lukeman	Hazel Hill	Guysboro.
8869	Miss Ada Brooklyn Matheson	Springhill	Cumberland.
8870	Miss Kathleen H. Morrison	Pictou	Pictou.
8871	Miss Katherine Munro	Trenton	Pictou.
8872	Miss Mercedes M. Melanson	Grosses Coques	Digby.
8873	Miss Kathryn Holmes Marsters	Berwick	Kings.
8874	Miss Beryl Blanche Mitchell	Truemanville	Cumberland.
8875	Miss Eva Louise Maguire	Guysboro	Guysboro.
8876	Miss Annie Jane MacDonald	Green Hill	Pictou.
8877	Miss Margaret Jessie MacMaster	Long Point	Inverness.
8878	Miss Audrey Anna MacCrae	Port Maitland	Yarmouth.
8879	Miss Flora Anne Macdonald	Baddeck	Victoria.
8880	Miss Jessie Ellen MacDonald	Port Richmond	Richmond.
8881	Miss Jeanette Annie MacKay	The Falls	Colchester.
8882	Miss Isobel M. Macleod	Sydney	Cape Breton.
8883	Miss Rose May Ruth MacPhee	(R. F. D. No. 1) Elmsdale	Hants.
8884	Miss Margaret Jean MacQueen	Kings Head	Pictou.
8885	Miss Jessie M. MacLennan	Upper Middle River	Victoria.
8886	Miss Margaret MacDaniel	Margaree Forks	Inverness.
8887	Miss Catherine MacDonald	Victoria Mines	Cape Breton.
8888	Miss Mineola R. MacKay	Truro	Colchester.
8889	Miss Bertha Ella MacLaughlan	Halifax	Halifax.
8890	Miss Annie Isabel MacIntosh	North Earltown	Colchester.
8891	Miss Marjorie Britton McCully	Truro	Colchester.
8892	Miss Ethel M. McPherson	Glace Bay	Cape Breton.
8893	Miss Mary Agnes McArthur	Port Hood	Inverness.
8894	Miss Eva Kathleen McAloney	Torbrook	Annapolis.
8895	Miss Joanna Agatha McDonald	Windsor	Hants.
8896	Miss Cora Beatrice McLaughlin	Lower Economy	Colchester.
8897	Miss Reta McLellan	Bass River	Colchester.
8898	Miss Vera Laura McLellan	Amherst	Cumberland.
8899	Miss Sadie Mae McNamara	Halifax	Halifax.
8900	Miss M. Lexina MacDougall	Glace Bay	Cape Breton.
8901	Miss Violet Foshay Olive	Truro	Colchester.
8902	Miss Amy Canfield Purdy	Wentworth Valley	Cumberland.
8903	Miss Dorothy Pauline Phalen	Stellarton	Pictou.
8904	Miss Isabel Denoon Phillips	Truro	Colchester.
8905	Miss Jeanette Melissa Pitman	Brooklyn	Yarmouth.
8906	Miss Jean Peacock	Northport	Cumberland.
8907	Miss Jean M. Pothier	Yarmouth	Yarmouth.
8908	Miss Mary Alexandra Parker	Middleton	Annapolis.
8909	Miss Annie C. Peach	Port Morien	Cape Breton.
8910	Miss Agnes Isabel Reid	Gabarus	Cape Breton.
8911	Miss Annie Isabel Rose	New Glasgow	Pictou.
8912	Miss Alice Robertson	Digby	Digby.
8913	Miss Nellie Romkey	Lower LaHave	Lunenburg.
8914	Miss Grace Rebecca Saunders	Guysboro	Guysboro.
8915	Miss Mary Louise Starr	Port Williams	Kings.
8916	Miss Muriel Curtis Secord	Amherst	Cumberland.
8917	Miss Grace E. Stoddard	Clam Harbor	Halifax.
8918	Miss Elizabeth Sanford	Halifax	Halifax.
8919	Miss Laura M. Sanford	Up. Burlington	Hants.
8920	Miss Genevieve Pearl Stevens	Freeport	Digby.
8921	Miss Daphne Smithe	Lockeport	Shelburne.
8922	Miss Gladys Mae Schurman	Amherst	Cumberland.
8923	Miss Nettie May Smith	(R.R. No. 2) Nappan Sta.	Cumberland.
8924	Miss Villa E. Stonehouse	Springhill	Cumberland.
	Miss Ella Fraser Sutherland	Lansdowne	Pictou.

8925—Miss Hilda Thompson.....	Elmsdale.....	Hants.
8926—Miss Ethel M. Verge.....	Barss' Corner.....	Lunenburg.
8927—Miss Hazel Rosanna Walker....	Truro.....	Colchester.
8928—Miss Harriet Isabel Wentzell..	Bear River.....	Digby.
8929—Miss Edith Weldon.....	Selma.....	Hants.
8930—Miss Lillian R. Whitman.....	Bridgetown.....	Annapolis.
8931—Miss Hazel Mae Woodbury.....	Spa Springs.....	Annapolis.
8932—Miss Beatrice Helen Wolfe.....	East Port Medway.....	Queens.
8933—Miss Bertha Alice Wright.....	Upper Brookside.....	Colchester.
8934—Miss Olive B. Young.....	Tancook.....	Lunenburg.
8935—Miss Bessie W. Young.....	Lunenburg.....	Lunenburg.
8936—Miss Ella Sophia Zinck.....	Lunenburg.....	Lunenburg.
8937—Miss Ida Mary Dickinson.....	(R.R. No. 2) Fenwick.....	Cumberland.
8938—Miss Bertha C. McPherson.....	Sydney.....	Cape Breton.
8939—Miss Barbara McLellan.....	(R.F.D. No. 2) N. Glasgow	Pictou.

Grade "C" Certificates.

Convent of Sacred Heart, Halifax, N. S., (1 Oct. 1915 to 30 Oct. 1915).

189—Waugh, Mary.....	Halifax.....	Halifax.
190—Johnston, Mary.....	Halifax.....	Halifax.
191—Sinnott, Mary.....	Halifax.....	Halifax.
192—Chisholm, Ellen.....	Halifax.....	Halifax.
193—Cable, Clare.....	Halifax.....	Halifax.
194—Lawlor, Madeline.....	Halifax.....	Halifax.
195—Donahoe, Agnes.....	Halifax.....	Halifax.

Normal College, Truro, N. S. (1 Nov. 1915 to 27 Jan., 1916.)

196—Miss Mathilda Amirault.....	Amirault Hill.....	Yarmouth.
197—Miss Emilie Amirault.....	Amirault Hill.....	Yarmouth.
198—Miss Rose Emma Bourque.....	Eel Brook.....	Yarmouth.
199—Miss Tena Buchanan.....	South Gut of St. Ann's.....	Victoria.
200—Miss Maude Crossman.....	Anderson.....	N. B.
201—Miss Myrtle Cornealy.....	Indian Harbor Lake.....	Guysboro.
202—Miss Annie May Ferguson.....	St. Peters.....	Richmond.
203—Miss Edna Almeda Hagar.....	Round Bay.....	Shelburne.
204—Miss Zella Mina Harding.....	East Side of Ragged Island.....	Shelburne.
205—Miss Gladys Maude Horton.....	Roachvale.....	Guysboro.
206—Miss Minnie Mary Hubley.....	Seabright.....	Halifax.
207—Miss Annie J. B. Hamilton.....	(R.R. No. 1) River John.....	Pictou.
208—Miss Freda E. Halliday.....	Westchester Station.....	Cumberland.
209—Miss Mary Cecilia LeBlanc.....	Belle Cote.....	Inverness.
210—Miss Mary Delvina LeBlanc.....	Friar's Head.....	Inverness.
211—Mr. Jeffrey Duncan LeBlanc.....	West Arichat.....	Richmond.
212—Miss Mary Susan Ley.....	Little Lorraine.....	Cape Breton.
213—Miss Marie Frances Macdonald..	Big Tracadie.....	Antigonish.
214—Miss Mary McKenzie.....	Hazel Hill.....	Guysboro.
215—Miss Almira E. Smith.....	Necum Teuch.....	Halifax.
216—Miss Ella Mae Stevens.....	Tancook.....	Lunenburg.
217—Miss Rose Hermeline Surette.....	Eel Brook.....	Yarmouth.
218—Miss Rebecca Jean Stoddard....	Clam Harbor.....	Halifax.
219—Miss Marie Leontine Pertus.....	Poulamond.....	Richmond.
220—Miss Plessa Mathilda Russell....	Clam Harbor.....	Halifax.

Rural Science Bulletin.

Vol. II.

TRURO, 17 APRIL, 1916.

No. 6.

Editor L. A. DeWOLFE, M. Sc., Normal College, Truro, Nova Scotia.

GRANTS TO SCHOOL GARDENS.

As is well known, a grant from the Municipal Fund may, on the Inspector's recommendation, be paid to trustees for a well-kept school garden. To encourage the establishment of school gardens, nearly all the Inspectors have agreed to recommend a grant of five dollars for a school garden of 1000 square feet in area. This is simply a *pro rata* division of the grant already allowed by law.

The condition of the garden at the end of the summer vacation would determine whether the grant can be allowed or not. Remember the grant can in no case exceed the actual expenditure the trustees have made on the garden.

An Inspector, in his last Annual Report, says:—"I received very few reports of special Arbor Day celebrations. Here is something else in which the Rural Science teachers can take the lead, and set a good example for others."

Every Rural Science teacher is expected to have trees, shrubbery and flowers planted on Arbor Day.

MAKE GARDEN WORK EDUCATIVE.

In working for School Exhibits, there is danger of losing sight of the educational value of the work. If the money prize is the only goal of a child's ambition, we are setting up low standards. The prize is secondary.

So far as exhibitions are concerned, *how* to grow vegetables and flowers is the only requirement. But, educationally, *why* is the all-important consideration. Use, therefore, the garden as a basis of ordinary school work. But take advantage of the natural spirit of rivalry to make such work pleasant. Simply working for a prize may become drudgery. To compete with each other in the discovery of causes and principles lends keenness to the contest. And, incidentally, the child is acquiring a useful education without his knowing it.

GROW VEGETABLES FOR PATRIOTIC FUNDS.

Patriotic contributions have drained the children's pocket-books dry. They would like to give more, but they can't. Has it occurred to them to sell garden produce for Patriotic Funds? If every school child in Nova Scotia would grow

one dollar's worth of produce this year, our funds would be increased by \$100,000. Every child won't do it. How many will? Even a quarter of a dollar from every child would be of great assistance. To beg contributions robs someone. To grow the money out of the ground robs no one. It adds to the wealth of the world.

An important feature of gardening should be the keeping of an expense account. The child should estimate the renting value of his land, the cost of labor, seeds, fertilizer and fencing. Against this he should credit the estimated value of his products. If he grow flowers, he should collect some of the seeds. They would add materially to his income. Strawberries are very profitable, if properly cared for. Try planting turnips and similar biennials for "seed."

Try rotation of crops. If a child divides his garden into four plots, he could practise a four-year rotation on these plots. If teachers don't know what a four-year rotation means, consult a text-book on Agriculture.

ANSWERS TO QUESTIONS.

What can my boys do while my girls are sewing?
Here are suggestions that a few teachers have offered.

(1) Mount pressed plants for the school collection. (2) Let the boys sew too. (3) Put up book shelves in the school-room (4) Make, fill or plant window boxes. (5) Change the borders on the black-board. (6) Study seed catalogs. (7) Read farm bulletins. (8) Read magazines, and report to the school. (9) Make mineral boxes. (10) Write essays on assigned topics.

Are teachers who belong to the spring Rural Science class of the Normal College but who did not return for the summer session entitled to the fifteen dollar grant?
Legally, they are not. That grant is intended to help defray expenses while in attendance at Summer Session. Those selected from the Normal College classes are under no additional expense during the spring term.

Furthermore, those holding only a Third Class license are entitled to no Rural Science grant. Neither are Second Class teachers who are not graduates of the Normal College.

What should I do with the bulb-bed after the bulbs have ceased to bloom? The bulbs will come up again next year. But to get best use of your ground, scatter seeds of California Poppy or Phlox Drummondii or Shirley Poppies over the bed and rake them in. Do this when the leaves of the bulb begin to die. By the way, some gardeners get still longer flowering period by planting crocus **above** narcissus. Crocuses are planted only half as deep as narcissi, and they are done flowering before the latter come up.

In this connexion, the flowering period of any particular plot can be lengthened by having late blooming flowers follow early ones. By way of illustration, plant gladiolus bulbs among the iris. The latter bloom early and will be gone by the time the gladioli begin to show color. One can dig the gladiolus bulbs in the fall without disturbing the iris.

BORDERS ALONG WALKS.

A flower or shrubby border on each side of the walk leading from the street to the school house is very effective. For protection, a single strand of wire about two feet from the ground on each side of each border is sufficient.

Flowers massed against the school building are also attractive. They too need a wire for protection. Clumps of shrubbery in the corners where walks meet, and at regular intervals along the sides of the walk relieve the monotony.

Now is the time to make plans. Planting time will be here before we are ready for it.

A secluded corner should be a multiplying bed for perennials that multiply readily. For example, a single plant of peony, or phlox or iris would in a few years produce enough plants for a whole garden. It may be that some woman who is fond of flowers would allow a small plot of her own land as a starting bed for school plants. Many old gardens exist in every Community. Why cannot these help supply the school with flower seeds and roots? A flower-exchange between individuals or between schools is worth trying.

FROM SOME PROGRESSIVE SCHOOLS.

Principal R. S. MacLeod, Florence, C. B., in speaking of his School Exhibition last October says:

"Friday morning came and the children arrived long before the usual time with sewing, cooking, mounted flowers, bouquets, writing, drawing, vegetables, etc. Altho they had never had manual training, kites, windmills and bows and arrows were much in evidence.

In the afternoon the parents came in large numbers most of them staying for hours viewing the exhibits. Everybody was delighted and one of the local ministers gave the children a very encouraging talk on home gardens of their own. Some of the parents went so far as to say they enjoyed themselves much more than when at the Sydney Exhibition the day before.

I'm sure that all the nature lessons and talks on school gardening that I intend having this winter will not create the interest that this little Exhibition has. Many of the children have already told what they are going to start for the one next year and one little girl said:—"I believe we'll be able to fill the whole building instead of one room next year." Since they have done so much with so little time and encouragement, they will certainly have a good exhibit next year."

Miss Theakston, Halifax, says:—

"The aphids on our tulips and chrysanthemums afforded an opportunity for an interesting lesson on insects, even in winter. Some of the girls voluntarily made the soap and oil solution, which they used on their plants at home as well as on those at school."

Miss Smith, Liverpool, says:—

"Last week we had quite a present given to our room. At the drug store they had quite a number of marine curios to advertise their sponges, and when they got thru with them, they very kindly gave them to us."

Principal R. T. Mack's way of inspecting home gardens in Bridgewater is suggestive. Here is what he says:

"I visited some of the gardens myself and had the boys and girls of my Grade IX Botany Class inspect the others. They worked in pairs and passed in a detailed report on each garden visited."

Principal R. H. Wetmore of Milton, Queens Co., writes:—

"We are thinking strongly of making use of the McGill travelling-libraries here. I have a list of their books now. They send out 30 volumes, pay the expenses, and you are allowed to keep them five months I believe, for \$3.00. The 30 volumes include more or less varied lists, nature work, fiction, etc. They were recommended to me by Mr. Crockett, traveller for Industrial and Educational Press."

COMMENTS.

Whitaker's Review, Los Gatos, California, May 1913, published the following, relative to the teaching of Agriculture.

The real purpose of education is to acquaint the individual with the materials of his life as a civilized being and to give him a mastery over them.

He must be able to express himself, so we give him the language group of studies; he must know how to fit himself into the complex organization we call society and the state, hence he must study history, civics and literature, the record of man's trials, achievements, plans, hopes and feelings; he must be able to compute and measure, hence he must know mathematics; finally, Nature around the growing child eternally prompts the question "Why?" which science only can answer. The most artificial life imaginable brings man hourly in contact with the natural forces, and science only can give the key to an understanding of them.

Ever since modern education took shape attempts have been made to supply the child with the means to satisfy his natural curiosity and to stimulate him to further investigation. The Nature Study fad of the past dozen years is an unorganized attempt in this direction. Much good has grown from it, but it lacked in definiteness and connexion with other school interests. Some schools have tried to meet the demand with General Science courses, generally condemned by college and high school men for its necessary superficiality, "pawing over" the subject and spoiling its interest for later work.

We believe that in the present widespread interest in agriculture a real solution of the problem is found.

"The basic materials of civilized life come from the earth and are chiefly the products of agriculture." Home-making, our strongest racial instinct, the real safe-guard of society, can have no realization without almost hourly contact with these materials. The education which makes no provision for an intelligent acquaintance with them and their significance must be hopelessly faulty.

A "knowledge of the world" has long been the peculiar mark of the cultivated and successful man. There can be no real knowledge of the world which does not include an intelligent intimacy with the most important occupation of man. The production, transportation and exchange of the materials of food, clothing and housing are the very essence of history making. "Civilization is the ultimate and logical product of agriculture, and its subsidiary arts and sciences." Chemistry, geography, botany, zoology, physics, physiology, transportation, markets, accounts, legislation and diplomacy, all wait upon the minister to agriculture. The agriculturist's knowledge and its practical application to the production of raw materials, make him senior partner in every activity of man. Without his co-operation luxury, comfort, life itself, must speedily cease.

Note:—Watch the "Production and thrift" advertising that the Dominion Government will shortly carry in every newspaper in Canada.

CONSERVATION OF BIRDS.

The following communication from the Dominion Commission of Conservation, Canada, is printed here together with the article in the March issue of "Conservation" to which reference is made.

COMMISSION OF CONSERVATION.

Ottawa, Canada, March 6, 1916.

Superintendent of Education,
Nova Scotia.

Dear Sir:—

In the March issue of "Conservation," going out to your leading school principals, is an outline of an offer to Canadian school children and teachers on behalf of bird protection.

Dr. Pearson, secretary of the National Association of Audubon Societies, 1974, Broadway, New York, has very kindly arranged that the advantages of their School Children's branch will be extended to our schools.

I think you will agree with me that this matter can be properly brought before the schools, under the heading of nature study, and would go a long way towards interesting pupils in the protection of our birds.

If you consider it advisable, I would appreciate any assistance you may be in a position to render in interesting teachers and scholars in the work.

Thanking you for same, I am,
Yours faithfully,

JAMES WHITE,
Assistant to Chairman.

OFFER TO CANADIAN SCHOOLS.

National Association of Audubon Societies Places Advantages at Disposal of Our School Children.

At the last annual meeting of the Commission of Conservation, Dr. T. Gilbert Pearson, secretary of the National Association of Audubon Societies, of New York, gave a very interesting and instructive address on Bird Reservations.

The Association is international in its scope, and an outstanding feature of its work for the protection of bird life is the education of children to a love of wild birds. Dr. Pearson has kindly arranged to extend to Canadian school children all the advantages of this work, and it is hoped that school principals and teachers will interest their pupils in the great work of saving Canada's wild bird life.

To this end Dr. Pearson says: "For the past few years we have engaged in systematic organization of the school children into classes for bird study and bird protection. The children each pay a fee of ten cents, and receive material which costs us much more than that to publish and place in their hands. This

consists of a series of excellent coloured pictures of birds, together with outline drawings, which the children, by means of water colours or crayons, can fill in and thus fasten in their minds the correct colouring of the various birds. The children also receive a very pretty bird-button bearing the words "Audubon Society." To the teacher who forms a class of ten or more, and sends in their fees to the Audubon Society, 1974 Broadway Avenue, New York, there will be forwarded free for one year the magazine Bird Lore and other matter on the subject of bird study. In 1915 about 150,000 children were thus organized in the United States."

Dr. Pearson further states: "As a further indication that there is nothing of a commercial character about this proposition I may say that this work last year cost us at the rate of 26 cents for each child enrolled. For the present school year we have at our disposal a fund of \$26,000 to use in this work, and I shall be very happy to share the advantages of this plan with the children of Canada."

There is thus placed before our school teachers an opportunity to interest pupils in this branch of nature study and at the same time secure for themselves valuable material to assist them in their work. [Conservation, March, 1916.]

The true Lords of the Universe are the insects. The number, fecundity and voracity of insects are amazing. The damage done by insects alone reaches the astounding total of \$100,000,000 a year in the Dominion of Canada alone. What prevents these ravening hordes from over-running the earth and consuming even the food supply of man? BIRDS.

How important then is the conservation of Bird Life may be seen by the teacher from the following placard distributed by the Canadian Society for the Protection of Birds.

NOTICE.

PROTECT THE BIRDS. THEY R TECT YOU.

Birds eat injurious insects.

Injurious insects destroy leaves, roots, fruits, grain.

Yearly loss to Canada by injurious insects—about \$100,000,000.

Help to stop this loss by protect ing bir s.

Write the Secretary of the Canadian Society for the Protection of Birds, for Information,—

Address.—ROYAL CANADIAN INSTITUTE,
198 College Street, Toronto.

“The Value of Birds to Man” is the title of an eighteen page pamphlet by James Buckland of London, Eng., reproduced from the proceedings of the Smithsonian Institution. This may be obtained from The Canadian Society for the Protection of Birds at the address given above.

CHILDREN'S AMBULANCE FUND OF NOVA SCOTIA.

TREASURER'S STATEMENT.

RECEIPTS		Total.	Contribution in cents per pupil.
From Schools in	No of Places		
Annapolis County	31	\$113 14	2.77
Antigonish County	6	46 34	1.85
Cape Breton County	34	518 29	2.94
Colchester County	34	145 36	2.63
Cumberland County	39	175 28	1.81
Digby County	16	44 20	1.00
Guysboro County	22	68 82	1.94
Halifax County	25	112 14	1.65
Hants County	20	53 21	1.19
Inverness County	18	61 04	1.10
Kings County	25	58 40	1.27
Lunenburg County	33	154 35	2.09
Pictou County	84	396 56	5.62
Queens County	12	47 95	2.22
Richmond County	18	35 40	1.24
Shelburne County	28	120 19	3.90
Victoria County	14	69 25	3.94
Yarmouth County	28	71 92	1.49
		\$2291 84	

EXPENDITURES.

Amount forwarded to Agent General for Nova Scotia in London, England, to purchase Ambulance. Cost £458-10-0	\$2132 05
Balance transferred to Stationary Hospital No. 7, (Nova Scotia)	110 74
Postage and telegrams	49 05
	\$2291 84

GRACE TYTUS McLENNAN, *Treasurer.*

Audited and found correct
E. L. Gilpin.
Sydney, N. S., December 20, 1915.

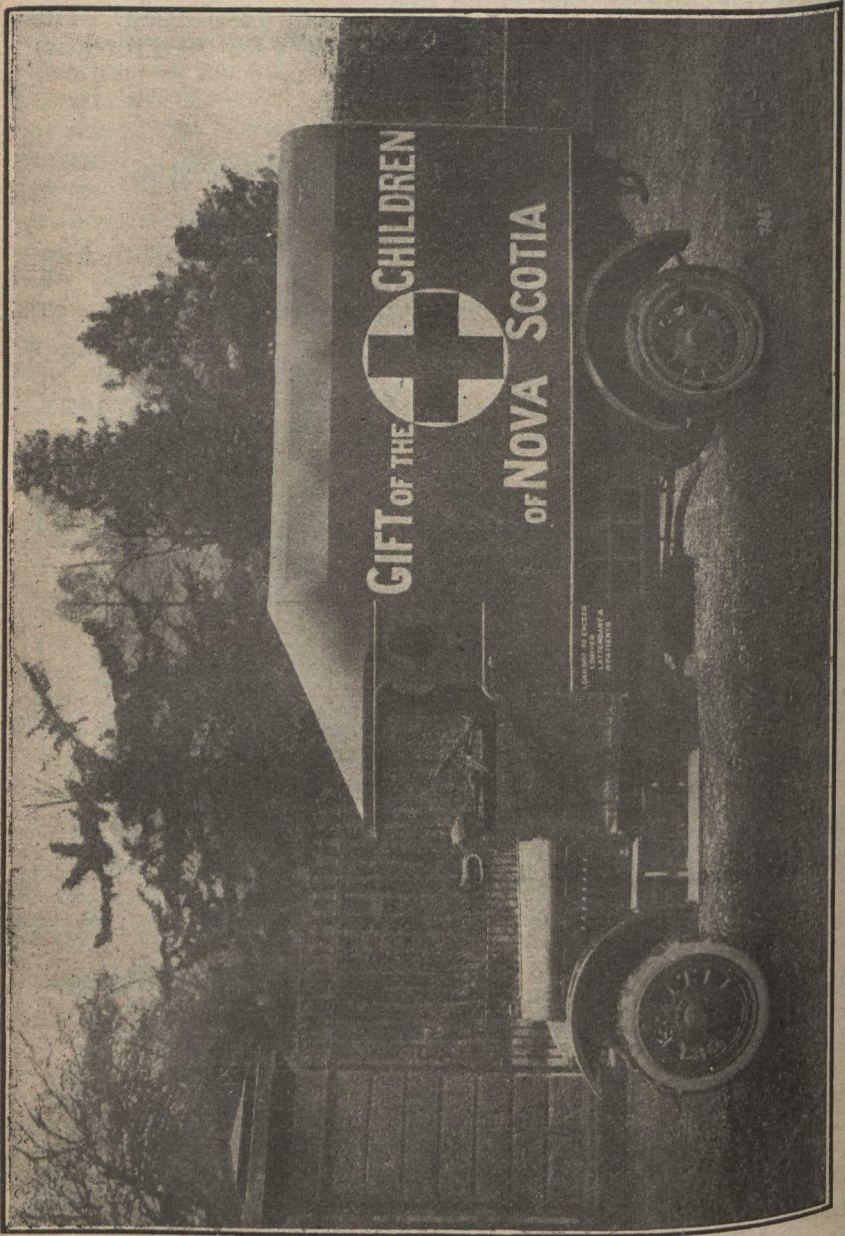
ROYAL COLONIAL INSTITUTE.

Northumberland Avenue, London, W. C.
March 31st, 1916.

Superintendent of Education,
Nova Scotia.

Sir:—

The Council of the Royal Colonial Institute, desiring to encourage the rising generation to acquire a better and more extended knowledge and appreciation of His Majesty's Empire, offer Prizes to young men and women undergoing education,



The Children's Motor Ambulance.

for Essays on subjects of Imperial concern. It is felt that the preparation of such Essays would tend to stimulate interest in the history, institutions and resources of the various countries which constitute the Empire. The subject selected for the present year's competition is

"In what ways has Scientific Invention affected the British Empire."

I append a copy of the conditions under which Essays will be accepted, and solicit your good offices in the furtherance of an object which the Council regard as one of Imperial importance.

I am Sir,

Yours faithfully,

H. F. WILSON,

Secretary.

PRIZES FOR ESSAYS.

1. One Prize of £10 and one of £5 are open to pupils of any Secondary or Elementary School in the British Empire, who have not passed their nineteenth birthday at the time fixed for sending in the Essays.
2. The Competition is open to both sexes.
3. Certificates will be awarded to the Prize Winners, and to such other Competitors as may appear deserving.
4. The length of the Papers not to exceed 5000 words, to be written or typed on one side only of foolscap paper, with an inch and a half margin on the left-hand side.
5. The Papers to be delivered at the Institute not later than 5 p. m. on 2nd October, 1916.
6. Not more than three Papers to be sent in from any one School.
7. Each envelope to be marked on the left-hand upper corner "Essay Competition," and addressed to "The Secretary, Royal Colonial Institute, Northumberland Avenue, London."
8. Each Essay to be marked with a motto or other distinguishing sign—not being the name of the writer—and accompanied by a sealed envelope, bearing a similar motto or sign, and containing the full name and address of the writer of the Essay.
9. Each Essay to be accompanied by a Certificate from some person holding a public position, *e. g.*, a Minister of Religion, Headmaster or Mistress, Professor, etc., declaring that such person has satisfied himself or herself that the Essay marked (quoting the mark or sign) is the genuine work of the writer named in the accompanying sealed envelope; that such writer is a member of the School mentioned and has not passed his or her nineteenth birthday on the latest date fixed for the delivery of the Essay at the Institute.

10. Successful Competitors to furnish any further proofs of compliance with the terms of the Competition that may be required by the Council.

11. Papers illegibly written or not complying with the regulations will be rejected.

12. The Prizes to be awarded by the Council, after consideration of the Report of the Examiner, who will be appointed by the Council. The decision will be announced on or about 1st December, 1916.

13. The Council reserve the right of withholding any Prize, and of making such supplementary Regulations in respect to the competition as may from time to time appear to them to be necessary.

14. Essays sent in for Competition will not be returned.

15. The Copyright of all Essays sent in to be deemed to be vested in the Council.

H. F. WILSON,
Secretary.

Royal Colonial Institute,
Northumberland Avenue,
London, W. C.

U. S. A.

National Educational Association.

The Annual Convention of the National Educational Association will be held in New York City, U. S. A., 3 July to 8 July, 1916. This is the first time in the history of the Association that the annual meeting has been held in New York City.

The School Garden Association of America.

The Sixth Annual Meeting of the School Garden Association of America will be held in New York City, 6 and 7 July, 1916, in connexion with the convention of the N. E. A.

**PROVINCIAL EDUCATION ASSOCIATION TO BE HELD
AT THE NOVA SCOTIA TECHNICAL COLLEGE,
HALIFAX, AUG. 30, 31 AND SEPT. 1.**

**Provisional Program.
Wednesday, August 30.**

- 9 a. m. Registration.
10 a. m. Opening Address by the President.
Address by R. V. Harris, Esq. "The Utilization of the School for Social Purposes."
Address by Prin. Brunt "Social and Civic Development thru the School" Discussion.
Choosing of Committees.
3 p. m. Address by Prin. Soloan, "A place for Hygiene in the High School Course."
Address by Rev. Father McManus, "The Providing and Maintaining of Parental Interest in the School."
Discussion.

Thursday, August 31.

- 10 a. m. Address by Inspector Robinson, "Shall High School Grades be allowed to attend Rural Schools?"
Address by Inspector Campbell, "Short Training Courses for Teachers."
Discussion, led by Inspector Phelan.
3 p. m. Provincial Teachers' Union, President Creelman.
4 p. m. Election of Teachers' Representatives on Advisory Board.
Address by Prof. DeWolfe "Science in the Rural Schools."
Address by J. E. Barteaux, Esq. "Vocational Education."
Discussion, led by Prof. Moore.
8 p. m. Public Meeting.
Addresses by Pres. Boyle of King's, Pres. Mackenzie of Dalhousie, Principal Sexton and other prominent men.

Friday, September 1.

- 10 a. m. Address by Rev. Father O'Sullivan "The Child's Voice and how it should be managed by the Teacher."
Address by A. Roy Williams, Esq., "On Teaching Music in the School."
Discussion.
Address by Prof. Bucknell. "How to teach History in Relation to the War."
Address by E. W. Connolly, M. A., "On Teaching Arithmetic."
3 p. m. Reports of Committees.
Discussion of general matters of Educational Interest.
Election of Executive.

G. K. Butler, Acting Secretary.



JOURNAL OF EDUCATION.

APRIL, 1916.

OFFICIAL NOTICES.

The full number of legal teaching days in the half school year ended February was 102; and in the half school year to 30 June is 103. School year 205 teaching days.

Summer Calendar, 1916.

April	17	Fourth Quarter began.
May	1	Final applications for Univ. Grad. Exams. due.
May	5	Arbor Day.
May	15	Applications for Provincial Exams. due at Inspector's office.
May	23	Empire Day.
May	24	Victoria Day (Holiday).
June	3	Anniversary King's Birthday.
June	22	Normal College closes.
June	24	Provincial Examinations begin.
June	26	Annual meeting of school sections.
June	29	County Academy Entrance Exams. begin.
June	30	Last authorized teaching day of school year.
July	1	Dominion Day.
July	5	Applications Rural Science course due.
July	12	Rural Science Training School, Truro, begins.
Aug.	10	Rural Science Training School course ends.
Aug.	28	First Quarter school term begins.
Aug.	30	Prov. Ed. Ass'n Convention at Halifax.
Sept.	4	Labor Day (Holiday).
Sept.	21	Normal College opens at Truro.
Nov.	13	Second Quarter begins.

DATES OF MEETINGS OF BOARDS OF DISTRICT SCHOOL COMMISSIONERS.

- Antigonish—Wednesday, 10 May.
 - Guysboro—Wednesday, 17 May.
 - (a) St. Mary—Wednesday, 7 June.
 - (b) Colchester South—Monday, 1 May.
 - (c) Colchester West—Thursday, 4 May.
 - Colchester North—Thursday, 18 May.
 - Cape Breton—Thursday, 25 May.
 - Pictou East—Monday, 1 May.
 - Pictou West—Monday, 8 May.
 - Cumberland—Thursday, 25 May.
 - Parrsboro—Thursday, 4 May.
 - Chester—Thursday, 1 June.
 - Queens North—Wednesday, 10 May.
 - Queens South—Thursday, 18 May.
 - Lunenburg—Tuesday, 9 May.
 - Inverness North—Saturday, 20 May.
 - Victoria—Saturday, 3 June.
 - Shelburne—Tuesday, 23 May.
 - Barrington—Friday, 26 May.
 - Argyle—Thursday, 15 June.
 - (d) Yarmouth—Monday, 12 June.
 - (e) Kings—Tuesday, 9 May.
 - (f) Hants East—Thursday, 27 April.
 - (g) Hants West—Wednesday, 18 May.
 - Inverness South—Wednesday, 7 June.
 - Richmond—Wednesday, 5 July.
 - Halifax East—Wednesday, 24 May.
 - Halifax West—Wednesday, 15 June.
 - Halifax Rural—Monday, 29 May.
 - Annapolis East—Monday, 15 May.
 - Annapolis West—Friday, 16 May.
 - Digby—Thursday, 18 May.
 - Clare—Friday, 19 May.
- (a) Truro; (b) Great Village; (c) Tatamagouche; (d) Kentville; (e) Windsor; (f) Elmsdale; (g) Port Hood.

DISTRICT SCHOOL COMMISSIONERS.

- Victoria—Malcolm McMillan, Big Harbor.
Neil P. S. MacLean, Lower Washabuckt.
- Yarmouth—Benjamin H. Annis, Carleton.
Mrs. Jos. M. Porter (Mary Frost Porter), Deerfield.
John McLeod, Elder, Port Bevis.
- Colchester South—A. Gilmore Creelman, Upper Stewiacke.

**Sections having Annual School Meeting First Monday
in March.**

Inverness North:—Friar's Head, No. 14.
White, No. 15.

Lunenburg:—First Peninsula, No. 2.

Sections placed on 2nd Schedule.

Snyder's, No. 21, Lunenburg, 26 April.
Cross Roads Ohio, No. 52, Antigonish, 26 April.
Woodfield, No. 66, Pictou East, 26 April.

ERRATA.

April, 1915 *Journal*—Catalog, Page 72—The following books in this list are now out of print:—

Fraser—Pictures from the Balkans.
Angus—Japan, The Eastern Wonderland.
Hudson—Stories of the Renaissance.

October, 1915 *Journal*, Page 64 add to Baddeck list.
Sadie Ella Carmichael (IX on X).
Alex J. McLeod (IX on X).
Nellie Margaret Crowdis (IX on X).

October, 1915 *Journal*, Page 75, add to Halifax (Bloomfield List).

Under IX—Mabel Clarke.

October 1915 *Journal*, Page 78 under Lockeport after Mabel Sophia Crowell add IX on X.

October, 1915 *Journal*, Page 86 add to Port Hood List under IX William Gordon Smith.

The following schedules were omitted from the general list on page 81.

Region Va. Mary A. Laurie, Middle Melford, 22 observations.

Region Vc. Alice V. Cruikshank, Caledonia, 26 observations.

Region VIIa. Stella M. Strople, Bayfield, 17 observations.

Region VIIa. Catherine M. Chisholm, Marydale, 19 observations.

Region VIIa. Sadie MacDonald, Monks Head, 43 observations.

Special Statistics 150 (a), 150 (b) and 150 (c).

The special statistics to be entered in columns of the **School Register** to be copied into the **Annual Return** at the end of the present school term, 30th June, shall be as follows:—

150 (a). How many of the pupils enrolled on the Register of this school room within the last **two** years, have enlisted for military service?

150 (b). How many teachers employed in this school room within the last **two** years, have enlisted for military service?

150 (c). How many of the pupils enrolled this present year, are members of "The Boys' Scouts," "Church Brigades," or any similar training organization (**not** including High School Cadets)?

Inspector of Schools for Division No. 4.

including the Counties of Annapolis and Digby, succeeding the late Leander S. Morse, is Mayhew C. Foster, B. A., Bridgetown, N. S.

Standard Time for Examinations.

The examination time tables must be understood at every examination station as being the standard time of the Sixtieth Meridian, in accordance with the Revised Statutes, Vol. 1, p. 8, Chap. I, 22 (25).

The History of Vaccination.

by Dr. Fraser Harris of the University of Dalhousie will be found beginning at page 33. Teachers and candidates for teachers' licenses are expected to know why vaccination is considered to be important as a public health measure.

N. S. School Book Bureau.

Full information is given about the Bureau from page 135 to 140. Teachers and trustees can after June obtain books at cost in small lots, with 10% discount and transportation fee on orders over \$3.00.

For Changes in Regulations.

See Grade X Latin and Algebra, pages 125 and 126; fees and partial exams. in M. P. Q., pages 91 and 101; common school Grammar and Bookkeeping at pages 113 and 120.

Soldiers' Certificates—High School Students

who have made sufficient progress in their various classes to enable the principal of the school to certify to his belief that they would be likely to make a "pass" in each subject necessary for a pass certificate of the Grade, and who enlisted previous to the terminal examination in June, may be awarded special certificates indicating the subjects in which they were estimated to be capable of making a *fair* pass (about 50%), a *good* pass (about 65%) or a *superior* pass (about 80%). Thus, Grade XI: English, LATIN, French, Geometry, ALGEBRA, History, Physics, would mean *fair* passes in English, Geometry and Physics; *good* passes in French and History; *superior* passes in Latin and Algebra. One underline should mean a *good* pass; two underlines a *superior* pass.

The names addresses and statistics of each such individual must be given by the Principal of the school on the ordinary examination application form, with the pass subjects indicated as shown above. They should be sent in on regular application forms for candidates to the Inspector after the 15th but before the end of May. If the Inspector knows the school and principal to be trustworthy, he shall place the names on a special list to be sent to, and kept in, the education office, until the student returns from the war or his military duties and asks for his certificate.

This certificate can not show examination percentages; but it must show subjects in which a passable proficiency was attained—or a good or superior proficiency—so that it may be of use for matriculation into a University, or for the scholarship basis of a teachers' license.

The order of the C. P. I. is as follows:

The Council has decided to accept the detailed statements (when endorsed by the school inspector) of Principals of high schools, certifying to the "pass" standing in the various subjects of the Grades of their high school students who enlist for military service; and shall grant on such statement, providing it is shown that the student owing to his military duties could not present himself at the terminal examinations, a Provincial High School Certificate indicating the subjects of the Grade in which the candidate is certified to be presumably qualified to have made a "pass". Such a certificate while not assigning percentage values to each subject, will enable the holder to present it as evidence of "pass" qualifications in the subjects specified.

Principals of schools will please take notice of this decision and send in on regular application forms for examination the names, etc., of such deserving candidates, with the subjects indicated as directed above in the column for "Remarks."

List of Teachers and Pupils who Volunteered.

It is desired to have a correct list of the teachers and pupils of the schools from 1914 down to date who volunteered to serve as soldiers, engineers, nurses, etc., in the great world war for British civilization.

Teachers are requested to make as complete lists as possible of these in each school section, and send them to their Inspector, if possible before the end of May.

The Inspectors will tabulate these lists, for each District and inspectorial Division, classifying and correcting the lists so that no one should be counted more than once, etc., and transmit the lists to the education office, where they may be on file whenever such information may be found to be wanted.

It is desirable to have not only the full name and address, but any other brief definite information, such as the branch of service, casualties etc. It is to be hoped that no school section nor volunteer may be overlooked.

School Law Amendments, 1916.

An Act to Amend Chapter 2, Acts of 1911,
"The Education Act."

BE it enacted by the Governor, Council, and Assembly,
as follows:

1. Section 47 of Chapter 2 of the Acts of 1911, "The Education Act," is repealed, and the following section substituted therefor:—

"47. (1) The trustees by their unanimous resolution approved by the Inspector may dismiss from their employ any teacher for incompetency, persistent neglect of duty, or immoral conduct; or should the teacher's neglect of duty or immoral conduct be too gross for toleration, the trustees may by unanimous resolution promptly suspend the teacher until the Inspector's decision can be obtained.

(2) Upon any such dismissal or suspension, the trustees shall immediately forward a written statement of their action and the grounds of their action with the evidence, to both the Inspector and Superintendent.

(3) Any suspension or dismissal under this section shall be subject to an appeal by the teacher to the Council, which may reverse or vary the action of the trustees.

(4) In the event of any teacher being suspended or dismissed under this section, the pay of such teacher shall thereupon cease, unless it is otherwise ordered upon appeal to the Council, but the teacher shall be paid ratably up to the time of the suspension or dismissal.

2. Section 74 of said Chapter 2 (as amended by section 23 of chapter 14 of the Acts of 1915) is repealed, and the following section substituted therefor:—

"74. When the Trustees or Commissioners of any school section provide a department for manual training in any of the mechanical or domestic arts, with adequate equipment for at least twelve pupils at the same time, and have employed a teacher certified by the Council to be competent to give practical instruction therein, and have caused such instruction to be given free for one session of two hours each week to the residents of the section, and have in these and all other respects efficiently conducted the public schools of the section in accordance with law, then the Council may pay out of the provincial treasury to such trustees or commissioners, in semi-annual instalments or otherwise, as determined by the Council, a sum of fifteen cents for each two-hour lesson to each pupil, provided that the whole amount so paid out of the provincial treasury to such trustees or commissioners shall not, in any year, exceed six hundred dollars; except in the case of the cities of Halifax and Sydney, in which the amount shall not in any year exceed twelve hundred dollars; provided, however, in no case shall any money paid under this section exceed during any year half the amount expended on the department qualifying for the grant in salaries of the teacher and janitor and the cost of material used in the class work."

3. Section 75 of said Act (as enacted by said section 24 of chapter 14 of the Acts of 1915), is amended by adding the following sub-section:—

(2) There may from time to time be paid to any special poor section out of the provincial treasury, upon the recommendation of the Inspector, and the authorization of the Council, such grant in addition to the extra aid provided for the poor section by this Act as may be recommended by the Inspector; provided, however, that in no case shall the said grant exceed the amount voted and collected by the section as sectional school rates, nor in any case the sum of \$60.

Rural School Compulsory Attendance.

Out of the 1796 school sections of Nova Scotia, all the cities and towns have compulsory attendance law in force, and about 1200 rural school sections. But the law for the rural schools has proved to be practically useless for several reasons. One reason is that it merely attempts to scare people by threatening them with a little fine next year if their children do not attend school at least 120 days this year. The law allows them to stay out; and when the day of punishment comes the trustees feel that the Act is penal and not preventive, and seldom have the heart to enforce it.

In the cities and towns Act, as soon as a pupil is noticed to be five days absent, he has to be looked after and kept in attendance. Not a single complaint has come from a city or town of the working of the Act, except in one case, where it is maintained that the children of persons in the British Army should not be exempt.

Proposed Rural School Compulsory Attendance Law.

Owing to the lateness of the introduction of the following Bill into the Legislature, and to give school trustees and the general public an opportunity to see if it would be an improvement on the present useless law, it has been left over for consideration next year. It is an effort to apply the effective law for the cities and towns to rural schools. Those approving the bill or objecting to any features of it should send their views to the Superintendent of Education who will have them brought to the attention of the next legislature.

No. 126.

BILL.

1916.

An Act to Amend Chapter 4, Acts of 1915, "An Act Respecting Compulsory Attendance at School in Cities and Towns."

BE it enacted by the Governor, Council, and Assembly, as follows:

1. Chapter 4 of the Acts of 1915, "The Cities and Towns' Compulsory Attendance Act," is amended by adding thereto the following Part:

Part II.

"37. This Part shall apply to every school section, not being a city or town, in which a resolution substantially in the form in the schedule to this Part is adopted by a vote of the majority of the qualified voters present at any annual school meeting for such section."

"38. After the adoption of such resolution as aforesaid, all the provisions of Part I, hereof (except as herein otherwise provided) shall *mutatis mutandis* on the first day of August following such adoption come into force in such section."

"39. Where said Part I, is made applicable to any school section other than a city or town, the following terms used in said Part shall, in applying the same to a school in which this Part is in force, have the meaning in this section defined, unless the context otherwise requires:

(a) The expression "The Board" means the school trustees of a school section in which this Part is in force;

(b) The expression "Police Officer" means any municipal constable or special constable appointed by the section for the purpose of enforcing the provisions of this Act:

(c) The expression "Child" means any boy or girl between the ages of seven and fifteen years, living within a section in which this Part is in force;

(d) The expression "Street Trade" means any occupation, business, trade or calling requiring the use of the public highways within a section in which this Part is in force;

(e) The expression "City or Town" in section 5 of said Part I means "School Section";

(f) The expression "Stipendiary Magistrate" means a stipendiary magistrate for the municipality in which is situated a school section in which this Part is in force."

"40. When this Part is brought into force in any school section, sections 115 to 119 of Chapter 2 of the Acts of 1911, so far as the same may be applicable to such section, are repealed.

Schedule to Part II.

"RESOLVED, that the provisions of Part II, of Chapter 4 of the Acts of 1915, respecting Compulsory Attendance at School, be brought into force in this school section No. in the District of"

2. Where the words "Part I," are used in this Act the expression means Chapter 4 of the Acts of 1915 as the same existed previous to this amending Act.

Examination Week is Grading Week.

Time spent in grading schools before examination week cannot be credited to a teacher as teaching days. Teachers taking the terminal examinations *bona fide* may get credit for the week as teaching time with the approval of the Inspector who will be able to judge of the propriety of so doing.

There are secretaries of school boards who do not yet distinguish between the terms *grade* of scholarship, *rank* of professional training, and *class* of license.

Medical Inspection Statistics.

125. *How often has the school been inspected medically or dentally during the year?* "One" should mean "that each pupil in the schoolroom was inspected *once*." If the medical or dental examiner came on several days, inspecting only a corresponding portion of the schoolroom pupils each time, the

answer to 125 should still be "once." If there should be 30 school rooms in the section the 'Trustees' returns would have for answer to No. 125 "30", which would mean that "the pupils of the 30 classrooms were each inspected *once* during the year." Were this answer 60; it would mean that the 30 school-rooms were each examined *twice* during the year. Were the answer 45, it might mean that the 30 were inspected *once*, and 15 twice.

Regulation 26

requires that the sectional rate roll shall be made out and posted by the trustees on or before the last day of September, and shall be collected as promptly as possible so as to provide for the quarterly payment of salaries and other accounts due.

NOTES AND COMMENTS.

The Flag Demonstrator

consists of three sheets of metal painted in flag colors, about 12 by 6 inches each, hinged so as to fold on the center sheet. The center sheet can be tacked, nailed or screwed to the wall, so as to allow the two side pieces to fold on it, or to be extended out. When extended, the white St. Andrew Cross of Scotland is in the center on a blue field; the red St. Patrick Cross of Ireland on a white field is on the right; and the red St. George Cross of England is on the left.

Close up the left wing and we have the first Union Jack, showing the union of the St. George and St. Andrew Cross.

Close up the right wing and we have complete Union Jack, showing the three crosses and fields combined.

A capital idea to illustrate the evolution of our flag. A printed card nearly 6 by 12 inches goes with it giving the history and chronology of the evolution. It is published by the "Map Publishing Co.," of Toronto, at fifty cents each, f. o. b., Toronto.

Our Schools Recruiting Day

which opened the Highland Brigade crusade, is reported by the London, England *Chronicle* to have been alluded to by General Sir Sam Hughes in words like these:

"No, we've got to blow the bugle of Human Liberty. Look how it rings into the souls of men wherever freedom is loved! We've raised 300,000 men in

Canada, and we can raise as many more. The other day we raised in Nova Scotia alone, a gallant little province like that, a whole Highland Brigade in a fortnight. Think of it! And these men, who speak the Gaelic, are the finest fighters in the world, serious, dour men, and everyone of them is willing to leave his bones in Flanders. What for? For Human Liberty. Oh, I tell you the spirit out there is fine—its fine. There is a freshness about it, and a greatness, and something of a beauty, too. Its the most inspiring thing in my life. I always knew Canada could do it. But the doing of it, the actual thing done before your eyes—well, its magnificent."

It was a whirlwind sweep over the whole province, In many cases the February *Journal* with instructions did not reach the school in time for Friday the 25th; but the work was done then all the more effectively a few days later. The reports of the teachers were in many cases so interesting and on the whole so worthy of presentation for historical purposes, that the Inspectors were asked to have them transmitted to the Education Office.

Increased Protection and Saving.

Dr. C. C. James, Dominion Agricultural Commissioner, is calling attention thru all Canada to the urgent necessity of increased "*Production and Thrift*." The schools are expected to stimulate the productions of not only "school gardens" but of the home gardens as well as of the farms. The pupils are instructed to carry a message from the schools to the parents: "Let us *produce*—let us *raise* as much as we possibly can; for that may be as useful as any other form of service in helping to bring this war to a successful close."

But "Thrift" is also as necessary. If the eight million people in Canada save only one dollar per head a month thru the year in dress, luxuries, or in any other way, they can raise a war loan of nearly \$100,000,000 (one hundred million dollars) from these savings alone, from which forever afterwards they may draw every year \$5,000,000 of interest in semi-annual instalments. They will thus be partners in conducting the war, shareholders in the fortunes of Canada, and perpetual annuitants of the country they helped to defend.

We have also to remember that the increased taxation to pay the cost of the war will increase the cost of living in addition to the effect of the general dislocation of many lines of business, and the many and various calls for aid which are already becoming numerous.

From the Department of Commerce, Washington, D. C., U. S. A., we have received an announcement of the imminent shortage of paper material. School and other books are beginning to go up in price. We are asked to have it announced

in every school, that all waste paper and rags should be saved carefully, instead of being burned or otherwise destroyed. Save every scrap of waste paper. It will all be needed.

School Savings Banks:—Paul L. Evans, head commercial department, Alameda High School, Alameda, Cal.

A good-sized bank account is a declaration of independence. The shadow of the dollar sign falls across our way at every turn. A good citizen is a saver. Education for life must include instruction in the simple principles of economics, training in the use of money and in habits of thrift. School savings banks have now become an integral part of our educational system in the United States as well as in Europe. Mrs. Sara L. Oberholtzer, of Philadelphia, is the leading exponent of this work in the United States. Belgium was first to instal the school bank thru one of her great educators, Professor Francois Laurent, before 1873. All Europe followed Belgium in the work. Before the present war every public school of France and Belgium enforced an intense application of the system. It was introduced systematically in the United States at Beloit, Wis., in 1876. John Henry Thiry, native of Belgium, permanently implanted school savings in the public schools of the New England states. He began about 1885. Pittsburgh is the leading city in the work today. San Francisco is prominent with 13,000 pupil depositors last year. Oakland public schools have done much with the system. The 1915 reports show over \$5,000,000 balance to the credit of school children in America, with over 1,500 grammar schools concerned. The system is now found in the high schools. California has taken the lead here. High-school savings systems are successfully operated in Berkerley High School, at San Jose, Alameda, Los Angeles Manual Training High. In these schools, pupils do all of the clerical work such as receiving deposits, bookkeeping, figuring interest dividends, making out daily financial statements, etc. In San Jose and Alameda, high-school pupils act as collectors for grammar schools as well. State Superintendent Hyatt, of California, writes:—

"I should be glad to see school savings banks in all the schools of California. They are worthy of high commendation."

(School & Society, Vol. II, No. 46,
Nov. 13, 1915).

Paragraph from Ontario Education Department Circular issued April, 1916.

The school can do more than merely teach children about saving; by the establishment of a school bank it can do what is even more important—help them to practise saving. To encourage this—the best method of teaching thrift—every assistance is given by the Penny Bank, authorized in 1905 under the Dominion Government Penny Bank Act. This institution has been enabled to extend its work thruout the country thru the generous co-operation of local branches of the chartered banks. School Boards are authorized under an Ontario Act to supply the Cash Books, Ledgers, Pass Books and other stationery for the benefit of the children. This school bank has proved itself a most efficient aid to thrift in those communities where it has been established. Thru its efforts the school children of Canada now have over \$300,000.00 on deposit with the Government.

Specimen forms and full information regarding the working of the School Bank may be obtained from the Head Office of The Penny Bank in Toronto.

**The Canadian Independent Naturalist Association for
the Protection of Wild Birds and Animals.**

has for its Head-Secretary-Treasurer, Mr. Leonard Peever, 112 Slater St., Ottawa. The C. I. N. A. Junior League publishes a magazine "Nature's Advocate."

The American Humane Association

publishes "The National Humane Review". The office of its secretaries is in the "Humane Society Building", Albany, New York State, U. S. A. The annual meeting will be held in Cincinnati, Ohio, Oct. 16-19, 1916.

Official Notice—8 May, 1916.

SUBSTITUTE EXAMINATION IN GERMAN, ETC.

The High School examination on Saturday 24th June, is necessary on account of the Regulation of the Council of Public Instruction based on the recommendation of the Advisory Board that the examinations be held on the last six week days of June. This makes it necessary this year to begin on Saturday.

Accordingly, the subjects taken by the fewest candidates were placed on the program for that day, German X, XI and XII, and two other Grade XII papers taken by very few.

Some persons who attach great importance to the observance of the Jewish Sabbath protest against examination work on that day. It is, therefore, authorized by the Council of Public Instruction to give another set of examination questions to such on the first Monday of July, beginning at nine o'clock.

This will be open free of charge to those who have already applied for examination, on the subjects of the Saturday timetable, provided they inform the Superintendent before the first day of June, of the subjects on which they desire to be examined, and make a declaration of the principle preventing their writing on Saturday

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