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THE EDUCATIONAL RECORD

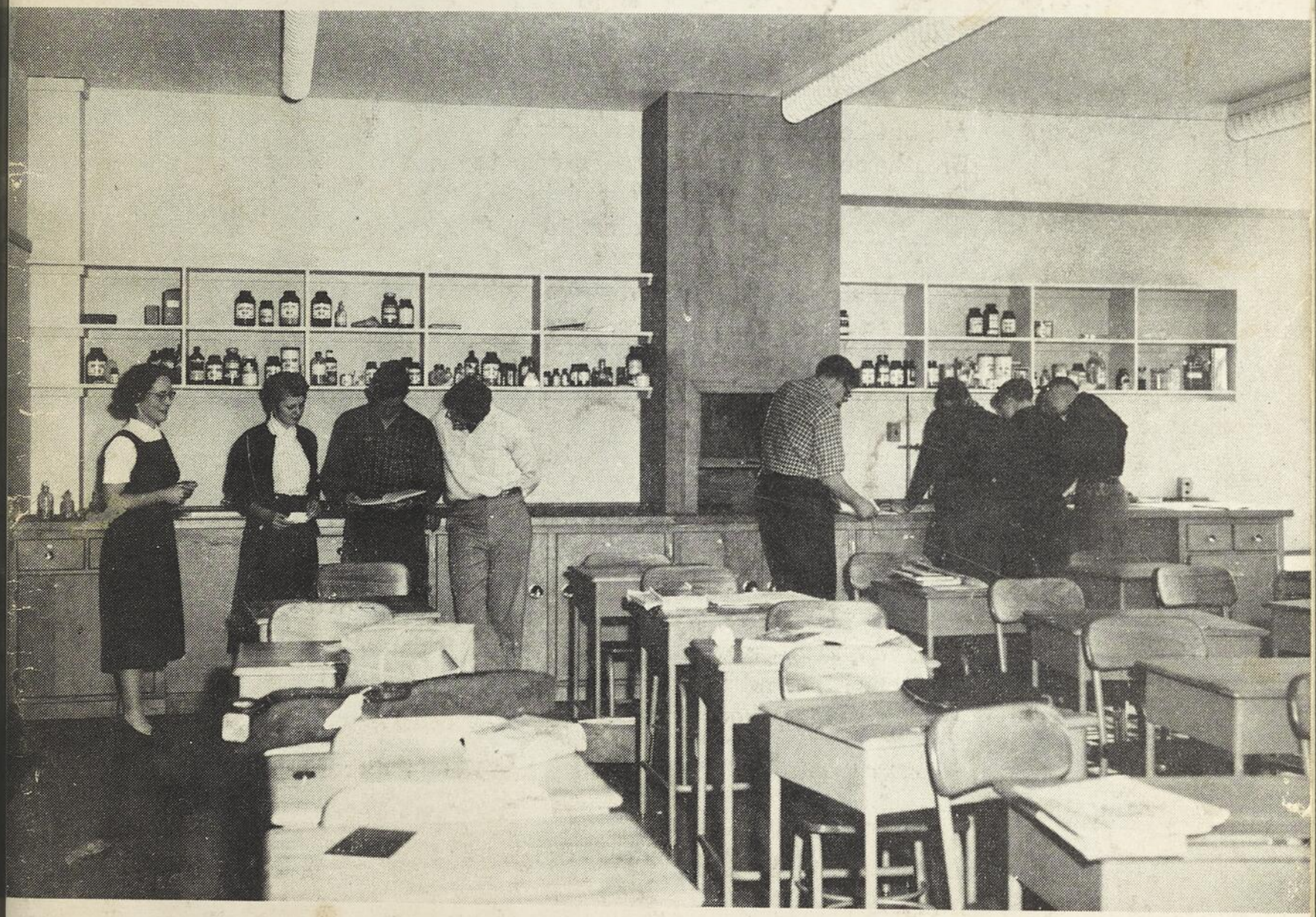
OF THE

PROVINCE OF QUEBEC

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Vol. LXXII, No. 4

OCTOBER - DECEMBER, 1956



GASPE VILLAGE HIGH SCHOOL, GASPE

WINTER

Stern and strong, great lord of the Arctic spaces,
Fierce yet fair-faced, ruler of snowy tundras,
I salute thee, hail thee as benefactor,
Kind to my country!

Noble nights, nights lit with the streaming glories
Cast abroad, bright-haired, by the Northern Dawnlight—
These enfold thee, these are thy royal mantle,
Monarch most mighty!

Sultry south-lands, sick with the suns of summer,
Swoon to death, deep-smitten with fenny fevers,
Stung by fly-foes, seized by colossal vipers
Lurking in jungles —

Ah, but here, here Canada's fragrant forests
Breathe out health, breathe peace from the south's infection.
Purged by thee, O Winter, our plains and mountains
Heal us and hold us.

Ay, and more! Thy boisterous woods have made us
Brave and man-souled, eager to wrestle danger,
Laughing loud, exultant amid thy blizzards,
Fronting thy frenzy.

See our youth, hot-hearted, assail thy snow-fields!
See them, steel-shod, tramp on thy frozen torrents!
See them fly, men-eagles, about our Arctic,
Crowning our rights there!

These proclaim thee, Winter, as friend and father,
Thanking thee, great king of the strong and daring.
Thee our land exalts, through the stalwart ages,
Sire of our greatness!

—Watson Kirkconnell.

THE EDUCATIONAL RECORD

October - December, 1956

		Page
Announcements		222
Modern Geography and Its Place in Today's Schools	George S. Tomkins	225
A Self-Contained Course in World History for Grades X and XI	A. Elizabeth McMonagle	231
Science Teaching in the High School	R. F. Rivard	237
The Concept Method of Teaching Problem Solving in Mathematics: An Illustration	Arthur M. Henry	242
The Natural Process of Language Learning	E. V. Gatenby	247
Intelligence Tests	J. E. M. Young	254
Salute to Valour	Elsie Pomeroy	262
The Grade X Examinations: June, 1956	P. N. Hartwick	267
Intermediate and High School Directories, 1956-57		274
Book Reviews		284
Minutes of the March Meeting of the Protestant Committee		287
Index of Articles Published, The Educational Record, January-December 1956		292

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Vol. LXXII QUEBEC, OCTOBER - DECEMBER, 1956 No. 4

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SALARIES OF PROTESTANT TEACHERS IN ORGANIZED SCHOOL MUNICIPALITIES OUTSIDE THE AREA OF THE SCHOOL BOARD OF GREATER MONTREAL, 1955-1956

Salary	In One and Two Room Elementary Schools			In Other Elementary Schools			In Intermediate Schools			In High Schools		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Less than $1,300	1	13	14	.....	.....	.....	.....	.....	.....	.....	.....	.....
1,300-1,399	.....	6	6	.....	2	2	.....	1	1	.....	.....	.....
1,400-1.499	1	7	8	.....	1	1	.....	.....	.....	.....	.....	.....
1,500–1,599	.....	7	7	.....	1	1	.....	4	4	2	1	3
1,600–1,699	.....	7	7	.....	.....	.....	1	6	7	.....	3	3
1,700–1,799	.....	2	2	.....	4	4	.....	16	16	.....	2	2
1,800–1,899	1	10	11	.....	2	2	.....	11	11	.....	2	2
1,900–1,999	.....	3	3	.....	2	2	.....	8	8	.....	6	6
2,000–2,099	1	7	8	1	15	16	1	12	13	.....	18	18
2,100–2,199	.....	3	3	.....	15	15	1	2	3	3	27	30
2,200–2,299	1	4	5	3	28	31	.....	17	17	1	25	26
2,300–2,399	.....	2	2	4	15	19	1	4	5	1	24	25
2,400–2,499	.....	1	1	2	9	11	.....	12	12	3	27	30
2,500–2,599	1	4	5	1	20	21	1	16	17	2	24	26
2,600–2,699	.....	1	1	5	24	29	1	12	13	6	36	42
2,700–2,799	.....	.....	.....	6	21	27	.....	15	15	7	28	45
2,800–2,899	.....	1	1	1	23	24	6	16	22	.....	48	48
2,900–2,999	.....	2	2	.....	4	4	.....	11	11	5	20	25
3,000–3,099	.....	2	2	2	31	33	5	23	28	3	48	51
3,100–3,199	.....	.....	.....	1	18	19	.....	7	7	5	25	30
3,200–3,299	.....	1	1	5	8	13	4	12	16	5	19	24
3,300–3,399	.....	.....	.....	1	13	14	2	2	4	5	16	21
3,400–3,499	.....	.....	.....	2	3	5	2	5	7	2	24	26
3,500–3,599	.....	.....	.....	4	3	7	1	2	3	2	11	13
3,600–3,799	1	1	2	5	17	22	1	7	8	13	28	41
3,800–3,999	.....	.....	.....	2	13	15	3	1	4	22	13	35
4,000–4,299	1	.....	1	2	32	34	4	5	9	20	21	41
4,300–4,599	.....	.....	.....	3	9	12	4	3	7	14	21	35
4,600–4,899	.....	.....	.....	3	5	8	3	1	4	17	6	23
4,900–5,199	.....	.....	.....	3	1	4	1	.....	1	6	9	15
5,200 and over	.....	.....	.....	11	2	13	4	.....	4	67	6	73
Total	8	84	92	67	341	408	46	231	277	211	548	759
MEDIAN	2,100	1,800	1,817	3,475	2,850	2,896	3,400	2,658	2,773	4,277	2,885	3,095

AGE-GRADE TABLE FOR ALL PROTESTANT SCHOOLS, 1955-1956

	Ages	5	6	7	8	9	10	11	12	13	14	15	16	17	18 and over	Total	Total Enrolled by Grades
Kindergarten	Boys	925	1,639	9												2,573	
	Girls	861	1,653	7												2,521	5,094
Grade I	Boys	559	2,971	2,126	247	38	6	9								5,956	
	Girls	616	2,740	1,917	160	19	13									5,465	11,421
" II	Boys		499	2,638	2,172	428	106	21	13	2						5,879	
	Girls		535	2,680	1,929	274	40	8	4							5,470	11,349
" III	Boys		11	462	2,564	2,266	604	105	38	12	4					6,066	
	Girls		6	537	2,762	2,039	412	96	22	14						5,888	11,954
" IV	Boys			3	495	2,265	1,665	546	215	56	16	5				5,266	
	Girls			7	537	2,476	1,642	374	121	28	9	3				5,197	10,463
" V	Boys				9	343	1,598	1,574	608	289	94	25	7			4,547	
	Girls				5	327	1,886	1,564	448	161	42	17				4,450	8,997
" VI	Boys					9	299	1,594	1,478	683	307	80	19			4,469	
	Girls					8	326	1,687	1,459	488	149	40	6	4		4,167	8,636
VII	Boys						12	285	1,391	1,424	723	255	72	6		4,168	
	Girls						12	375	1,523	1,475	542	147	32			4,106	8,274
" VIII	Boys							9	267	1,162	1,267	782	250	40	12	3,789	
	Girls							10	298	1,390	1,334	562	138	32	7	3,771	7,560
" IX	Boys								4	173	846	971	557	186	21	2,758	
	Girls								6	215	1,054	1,014	410	78	25	2,802	5,560
X	Boys									9	140	665	729	412	144	2,099	
	Girls									4	189	767	740	228	45	1,973	4,072
" XI	Boys										14	117	465	514	350	1,460	
	Girls										6	154	522	530	163	1,375	2,835
" XII	Boys											2	13	44	60	119	
	Girls												14	38	24	76	195
Total by Sexes	Boys	1,484	5,120	5,238	5,487	5,349	4,290	4,143	4,014	3,810	3,411	2,902	2,112	1,202	587	49,149	
	Girls	1,477	4,934	5,148	5,393	5,143	4,331	4,114	3,881	3,775	3,325	2,704	1,862	910	264	47,261	96,410
Unclassified																	250
Grand Total		2,961	10,054	10,386	10,880	10,942	8,621	8,257	7,895	7,585	6,736	5,606	3,974	2,112	851	96,410	96,660

MODERN GEOGRAPHY AND ITS PLACE IN TODAY'S SCHOOLS

George S. Tomkins, M.A., Verdun High School, Montreal

Canadian educators will find little support for their usual complacency if they read the new report on the teaching of geography in schools recently published by the International Geographical Union. This report is the outcome of four years of study and investigation by a Commission set up in 1952 by the I.G.U., which is the internationally recognized body of world geographers. The six members of the Commission were drawn from a number of countries and included world authorities on the teaching of geography.

It can only distress a Canadian teacher to learn that in his country there is appalling confusion about the content and function of geography, and tremendous ignorance about good methods of teaching it; only the coldest comfort can be derived from the knowledge that conditions are probably even worse in the United States. The sincere and thoughtful educator in both countries is bound to ask (particularly if he holds an administrative post) why this continent lags behind all others in the attention its schools give to geography. He cannot help wondering why it is a leading study at all levels of education in most European countries. In England, for example, geography outranks history as a matriculation subject.

Many North American educators tend to dismiss geography as a mere exercise of memory, fit only for young pupils in elementary school. But, have they ever asked themselves why it is an accepted university discipline throughout the world, including, paradoxically enough, most of the great universities on their own continent?

Unfortunately, few Canadian educators are likely to read the I.G.U. report. A number of factors (including, it must be admitted, some of the bad geography taught to us in school) have rendered our vision singularly myopic. This myopia, however, is not accompanied by any sense of humility where expressions of opinion on the nature and purpose of geography are concerned. The school superintendent who was formerly a teacher of English would undoubtedly tread carefully in discussing the chemistry syllabus, but in a discussion on geography he is likely to become a fountain of wisdom, happy in his tacit assumption that he knows what modern geography is.

Before condemning such presumption, however, the modern geographer or geography teacher must reproach himself for the state of affairs just described. The interminable discussions and apparent lack of agreement among geographers as to content and methodology have done nothing to improve the status of geography or enhance its prestige in the public mind. Instead, the controversy has often obscured the fact that essential agreement does exist on the scope and purpose of modern geography.

It is the aim of this article to elucidate briefly the nature of geography today and to indicate its great potential value as a school subject.

In considering the nature of geography, it is well to dispose of several misconceptions in order to make clear what geography is *not*. It has already been indicated that geography is not a mere exercise of the memory, a rote subject

comprising lists of products, names of capital cities, and locations of capes and bays. Geography study should supply a solid background of factual information, but this is only the beginning. Even when geography goes beyond rote learning and becomes more generally descriptive its essential function is still not realized. Description without interpretation comes perilously close to rote learning.

Because geography necessarily borrows material from many other disciplines, it is in danger of becoming a mere encyclopedia of these sciences. This observation leads indirectly to another misconception, involving an artificial division into the physical and human aspects. For purposes of teaching or organizing a syllabus, such a division is often desirable, as illustrated by the new Grade VIII course, which aims at providing the student with a sound knowledge of the physical basis of geography. Such an aim, however, should not be regarded as an end in itself; whenever the opportunity presents itself, the student must be made aware of the relationship between man and his physical environment, for example, the influence of the great forests, the many glacial lakes, the rapids and waterfalls, and the rock structure of our Canadian Shield on man's activities in this enormous region.

The danger of over-emphasizing the physical aspect of geography has been mentioned. Even more disastrous, however, is the exclusion of this aspect in order to present geography as a human study. This it can never really be without degenerating into the *pot-pourri* called "social studies." Without its essential physical basis geography loses its character and integrity as a real discipline.

With certain misconceptions explained, a positive approach will be taken in devising a working definition for modern geography. If difficulty is encountered, let the non-geographer realize that the problem is not peculiar to geography. It is just as difficult to work out an acceptable definition for history, psychology, or economics — all of which are largely descriptive in character. Nevertheless, these are universally recognized disciplines, and geographers demand only that their subject be accorded like status.

According to R. C. Honeybone, a leading English geographer, the regional approach to the subject is its essential heart and core. This modern view opposes the old notion which placed its emphasis on political boundaries, although, unfortunately, disregard for such boundaries has become almost a fetish with some geographers, increasing the existing confusion in the public mind as to the nature of the subject.

A history of the growth of the regional concept cannot be attempted here, however, the pioneer efforts of Vidal de la Blache in France and of A. J. Herbertson in Britain may be noted. The former successfully worked out the system of detailed regional studies, based on the use of maps and on field work; small regions were synthesized into larger ones, which served as a basis for more general and comparative studies. Herbertson developed one of the first regional divisions on a world basis. He divided the world into twelve regions, using as his criteria climate, vegetation, and structure, in that order of importance. Thus, he showed the validity of studying the Congo and Amazon basins as areas having a similar climatic basis, making them part of the world

region called the "equatorial forest." Herbertson emphasized that a study of natural regions must precede, or at least accompany, a study of social regions which are based on man's way of life.

Today, geographers recognize the region as valuable for facilitating the study of an area. The region is thus comparable to the period in history. Professor Hartshorne implies this analogy when he states that history studies the character of different times, while geography "studies the character of different areas and places." Here, indeed, is a working definition of modern geography; and, significantly enough, in the same context Hartshorne emphasizes the integrating function of geography. Whereas the systematic sciences "divide up reality into academic compartments," geography attempts to look at the whole, to interpret the meaning of the total pattern of a region, and to compare it with, or differentiate it from, other regions. For example, the meteorologist supplies us with climatic data for New England; the geologist studies the evolution of the region's complex coastline and ancient mountain ranges; and the economist studies the operation of its dairy industry, and so on. It is the geographer who, drawing on the work of these scholars, studies and interprets the whole reality of the region we call "New England." He is concerned, in other words, with what Professor Sauer calls the "personality" of the region — the quality that determines its uniqueness and differentiates it from other regions. In thus attempting "to read landscape intelligently," geography offers an intellectual challenge to our best students that is not surpassed by any other subject.

It remains for us to consider how the concept of geography outlined here can become a reality in the classroom. How can the "personality" of a region be conveyed to children living hundreds, or even thousands, of miles from it?

The I.G.U. report already referred to makes a number of valuable suggestions. "Detailed, descriptive, vivid evidence is always necessary," and a thorough understanding of the home region, through direct contact with reality by visits to local places of historic or geographic importance, forms the starting point for an understanding of other areas. It is unwise to assume that pupils have much knowledge of the home area. The writer has discovered pupils in his own school who have never been close to the Lachine Rapids (only three miles away), and have no realization of the immense significance of these waters to the geography and history of Montreal.

In addition to carefully planned excursions, a study of the local large-scale topographic map is essential to an understanding of the home region. Canadian schools are extremely lax about using such maps. Yet, so widely are they used overseas that military conscripts in European countries seldom need to be taught elementary map-reading. Large-scale maps present small areas comprehensible to children, and, in the words of the I.G.U. Commission, "show enough detail for them to be able to look through the map to the reality it depicts."

Once the home region is known, and the large-scale map introduced, students are ready to study world regional geography. Few children, however, even in high school, are able to grasp the geography of a large region at first. General introductions to large areas are usually a waste of time, for, says the I.G.U. Commission, "they are attempts to generalize first before the students know

anything to generalize about." Study of a region should start with small, typical, sample areas and use plenty of simple descriptive details to create an accurate visual image of the reality. Vivid data should describe the characteristic way of life throughout the year and give an accurate idea of the climate and scenery. Travel stories, true literary descriptions, and source books form the basic raw material from which geography lessons are developed. Of utmost importance are photographs showing the typical and normal conditions in any area to be studied. The I.G.U. Report suggests that still pictures are best, providing excellent opportunities for diligent study and questioning, and that pupils should examine carefully a few good typical views instead of gazing briefly and vaguely at many.

After the descriptive data for a small area has been presented, the children are ready to interpret what has been learned, ready to look at the small area in the setting of the large region of which it is typical; to make generalizations and draw conclusions about the larger region; and, finally, to compare it with other regions studied, including, of course, the home region. The writer has found this method highly successful in teaching the Corn Belt to Grade XI pupils. Basic data is drawn from D. M. Forsaith's *Many People in Many Lands*, an excellent series of "sample studies." An account is given of a typical Corn Belt farm located near Peoria, Illinois. The account does not generalize vaguely about the size of the Corn Belt, and the heat and humidity of the summer, nor does it utter platitudes about the growing season. Yet all these ideas are there in simple, descriptive, story form, with a wealth of detail, including diagrams, maps, and pictures. The class is left to draw conclusions and to expand its view from one typical farm to the vast reality of the great region called the Corn Belt.

It is obvious that the methods suggested here make great demands upon the teacher, particularly because geography permits, to an extent that few other subjects do, only a minimum of reliance on the textbook. But the teacher who is willing to make the extra effort required, and appreciates the value of the results, will be rewarded in his search. The writer derived a sample study of the Cotton Belt from an article in *Time* which described a plantation in the Mississippi delta region. His own colour transparencies of farming country in Montana have served as the basis for introducing the Spring Wheat Belt. A splendid article in *Geographical Review*, October, 1954, provided an excellent detailed study of an Australian sheep station.

Besides the general sources of material already suggested, many of which comprise popular journals and newspapers, there are others of interest to teachers. These include:

(a) Large-scale maps which are available from the Mapping Division, Division of Mines and Technical Surveys, Ottawa. Teachers cannot hope to have all areas of the country represented, but maps of the principal cities and a sheet from each of the major regions are usually available. For older pupils especially, a topographic sheet may be the best introduction to a region. The Regina sheet, for example, illustrates beautifully the grid pattern of the roads, the flatness of the area, the distribution of settlement,

the location of rail routes, and the general location of this interesting prairie city. Such information could be elicited from students familiar with maps of this kind and might lead them to the wider generalizations involved in understanding the vast region of the Saskatchewan plains. Similar maps are available for all regions of the United States from the United States Geological Survey at Washington.

(b) The Farm Adoption Scheme of the Association of Agriculture of Great Britain provides excellent "sample studies" of farms in selected regions of the British Isles. Each study includes a map of the farm, a large-scale map of the local area, a number of large photographs, and a detailed account of life around the year on the farm. Schools in Great Britain make the practice of "adopting" farms and keeping in touch with them throughout the year. The scheme is presently being extended to the Commonwealth, and a number of studies of Canadian farms will shortly be available. Teachers may write to the Association of Agriculture, 238-40 Abbey House, Victoria Street, London, S. W. 1.

(c) Aerial photographs are obtainable under certain conditions by communicating with the Geographical Branch, Department of Mines and Technical Surveys, Ottawa. Few countries in the world are better covered by aerial photographs than Canada, but, as with large-scale maps, our schools have been slow to make use of them. The National Film Board's Photo Services Department, 225 Sparks Street, Ottawa, provides excellent glossy prints on Canada, 8 inches by 10 inches, at 35 cents each.

Not only does modern geography present an intellectual challenge to students and make great demands upon the teacher but it also implies a synthesis of method and content almost peculiar to it as a subject. Geographical subject matter must be taught by the methods characteristic of the greatest geographers who developed the regional concept; otherwise, it lapses into a dull, mechanical, textbook subject which does not deserve the name of "geography." Its proper teaching requires teachers to have a definite philosophy of geography. The union of matter and method, and the use (at a simpler level, of course) of the techniques of the professional geographer — both involving an "intelligent reading of landscape" — give the subject an educational value that is unequalled. Thus, Sir Cyril Norwood, former headmaster of Harrow School, declared that no satisfactory scheme of education could exclude it.

In its emphasis on accurate observation and relational thinking, geography has the virtues of a scientific study; and, in its effort to create a vivid image of the living world of mankind, it ranks with the humanities. Its aim has never been better expressed than in the words of James Fairgrieve, who stated that the function of geography in school is "to train future citizens to imagine accurately the conditions of the great world stage so that they may think sensibly about political and social problems in the world."

A number of items in the following bibliography have been annotated briefly to indicate their value to interested teachers:

1. Fairgrieve, James. *Geography in School.* London: University of London Press, 1946. A classic on the teaching of the subject by one of the greatest names in the field.

2. Forsaith, D. M. *Many People in Many Lands.* London: University of London Press, 1951. A series of about a dozen detailed "sample studies," illustrative of major regions on all the continents.
3. Hartshorne, Richard. *The Nature of Geography.* The Association of American Geographers, 1939. The most comprehensive discussion of the philosophy of geography ever written.
4. Honeybone, R. C. "Balance in Geography and Education," *Geography*, (April, 1954), The Geographical Association of Great Britain. A concise and admirable statement of the regional concept as it should be applied in schools.
5. Honeybone, R. C. and Goss, M. G. *Britain and Overseas.* London: William Heinemann Ltd., 1956. The first of a new series of school textbooks utilizing a new approach whereby pupils must study maps, pictures, diagrams, etc., in order to answer questions that are included in the text. This book contains a splendid series of sample studies covering areas of the British Isles and the world in general.
6. *Report of the Commission on the Teaching of Geography in Schools.* New York: International Geographical Union, 1956. In 32 pages, this excellent report presents the most up-to-date statement on the nature and purpose of school geography, along with an account of the Commission's findings on the teaching of the subject in five countries, including Canada.
7. Kohn, Clyde, (ed.). *Geographic Approaches to Social Education.* Washington: The National Council for the Social Studies, 1948. A thorough discussion of all aspects of geography teaching by experts in the field.
8. *A Handbook of Suggestions on the Teaching of Geography.* Paris: UNESCO, 1951. A review of geography teaching from the point of view of its value in promoting international understanding, based on the work of the UNESCO International Seminar on the Teaching of Geography, held at Macdonald College in 1950.
9. Whipple, Guy M. (ed.). *The Teaching of Geography.* Bloomington, Illinois: The National Society for the Study of Education, 1933. An earlier but very complete account.

THE GEOGRAPHY TEACHER

Day after day upon my classroom walls
I spread these maps and pictures; with these tools
With books and globes, striving to build a world
Within the understanding of a child.

O while I teach them, may I have the power
To clear away the mists that still arise,
Born of old ignorance and prejudice,
Around these children! May my soul and mind
Become so broad, so all encompassing
That building on the old foundation stones
Location, surface crops, cities, trade,
I rear, firm, steadfast, clear in each child mind,
A world of other people like himself
Swayed by the selfsame longings, high and low,
Loving their homelands, as we love our own.

O may I feel that I have failed unless
I teach each child to seek in every race
The common traits of brotherhood; to feel
Within his breast the heartbeats of the world.

Anonymous.

A SELF-CONTAINED COURSE IN WORLD HISTORY FOR GRADES X AND XI

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Since any discussion of the topic will be from the teaching viewpoint, the question, "Why teach History?" seems to be a pertinent one. In no other way can the whole story of man — prehistoric, ancient, mediaeval, and modern — be known. True, the importance of much of past history is only of relative value today, nevertheless, it is still of vital importance because through it we know what our ancestors did, thought, and achieved. If all previous history were to be denied, there would develop a situation similar to that existing if an individual were to start out each new day with no conscious recollection of the previous day, week, or year. It is this rich inheritance from the past which gives life its depth and meaning.

The word "self-contained" in the title infers that the course, taught in units, has a reasonably good chance of furnishing high school students with a fair understanding of the elements of the past — dead or still living. It is unnecessary to separate history into dead and living components because history, the story of mankind, is a living thing. What seems dead to moderns was very much alive at some other time. The very crux of the Grade X course is to get students to put themselves in the place of prehistoric man and, progressively, in the place of his successors in the ancient and mediaeval periods. Where this is accomplished, the students will readily recognize that most of the course is concerned with the building of civilizations first, eventually leading to a composite civilization in which the importance of individual nations becomes apparent.

The biggest problem encountered by this writer has been persuading students to view history with large sweeping glances. As soon as a girl or boy learns to do this, history comes alive with all succeeding parts falling into place as the story develops. The introductory lesson somewhat resembles that old game of exposing unrelated articles for so many minutes and then asking the viewer to name as many items as possible. A look at history is less difficult, however, for the parts are not unrelated; there is the historic common denominator of interest, with one event leading to another or one movement resulting in another. Thus, in the Grade X History course, the theme is civilization — nonexistent, existent, and developing. There is a possible offshoot to civilization in the modern political development, when nations as such become important. This happens in the growth of national states (England, France, and Spain) and the holding back of a united Italy and Germany until the more modern or imperial period.

This political development acts as a springboard into the Grade XI History course, which begins with the development of constitutional monarchy in England and Holland and the growth of autocracy on the continent of Europe. Another springboard from the Grade X to the Grade XI course is the fifteenth and sixteenth century discovery and exploration which launched the commercial and colonial expansion of the seventeenth and eighteenth centuries; the Industrial

Revolution which, mushrooming from the expansion mentioned above, provided the ideas, new ways of work and of living which resulted, during the nineteenth and twentieth centuries, in a race by world powers for the undeveloped regions of the world (China, Africa, the Pacific Islands, and the Near East) — an unlovely picture of imperialism leading to the wars of 1914 and 1939.

Nevertheless, has nothing worthwhile come from the Industrial Revolution and Imperialism? Industrialization and scientific development form the very basis of modern living; for example, the textile machines which make possible the speedy manufacture of superior clothing, and the scientific research and experimentation which have resulted in pasteurization, anaesthetics, röntgen rays, and vitamins. The evils of industrialization and aristocratic society have produced the "Religion of Humanity" with its William Wilberforce, Lord Shaftesbury, Elizabeth Fry, John Howard, William Booth, Henri Dunant, and many other dedicated individuals who have left behind them "footprints on the sands of time."

Reactionary Europe of 1815 produced the first peace movement — the Holy Alliance of Alexander I. Indeed, the Congress of Vienna itself wanted to accomplish a hundred years of peace. Of course, its ideal of "putting the clock back to before the days of Napoleon," thus failing to meet the challenge of the French Revolution, lacks appeal in these democratic times. The Holy Alliance, though ineffective, pointed the way to the Hague Tribunal and highlighted the strange fact that both these peace movements originated in the highly autocratic tsarism of Russia. The armed camp of Europe, with its Triple Alliance and Triple Entente, was the rulers' answer to a situation which, due to imperialism, was becoming more and more impossible and would sooner or later explode into world conflict. At the end of World War I the representatives at Versailles were faced with the questions of racial determination and a world peace movement. Thus, there came independence for the Czechs and other Slavs, and independence for the Poles, Finns, and Balts. The League of Nations was organized on the "Fourteen Points" of President Wilson, as accepted at the Versailles Conference; good was born from the evil of war and oppression. A similar situation developed with the collapse of the Axis in World War II, when the victors put their hopes for a lasting peace in the United Nations and its allied organizations.

Thus man struggles on, facing new problems in his ever-changing world. Today the chief problem is a world one; it is no longer national. All peoples of the world must learn to live together — the strong helping the weak, the more advanced providing skills and money for the more backward. Co-operation, a word used much too carelessly and without due regard for its meaning, could result in the working together of all peoples in a life of peace and harmony, with brotherhood placed before self-interest.

"A Self-Contained Course in World History for Grades X and XI" is the title of this article. Let us be realistic about this. The majority of teachers have four forty-minute periods weekly in which to teach the course to high school girls and boys. This time factor means that the teacher is no longer able to provide the detail that was possible under a more liberal time allotment. With approximately three and one-half hours weekly, it formerly was possible

to conduct a detailed study and to encourage students to do more individual research which resulted in valuable and interesting class reports and discussions. Teaching time has been reduced, but much more material has been added to the course. This includes a study of World War I and World War II with some consideration of events since the latter. With restricted time assigned to History, the course must be "tailored" accordingly. This requirement, however, does not mean that the teaching of the subject must become dead and uninteresting; its successful accomplishment presents a challenge to every teacher of History.

For several years, the writer has used the Guidance Syllabus in History which is supplied by the Department of Education, for the following reasons: 1) While teaching in Saskatchewan some years ago, the writer discovered through trial and error that the unit approach to history was a sound one, and one which could be used with some facility and success by both teacher and student. 2) Three years ago, using the revised Grade XI section in the shorter time allotted to History, it was discovered that students of average ability were able to make considerable progress and, at the same time, gain some appreciation of the essentials of the subject. In addition to an introduction for each unit, the sections are divided into Special and General Study in the Guidance Syllabus. In Unit V, National States in the Seventeenth and Eighteenth Centuries, there is a section on Autocracy in France, Prussia, and Austria. The Special Study is France, Autocracy of Louis XIV and its connection with the French Revolution; the General Study is Influence of Louis XIV's foreign policy on Europe, and French autocracy before and after Louis XIV. Again, Frederick the Great is presented for Special Study, while the Rise of Prussia within Germany and Prussia's part in the European wars of the eighteenth century constitute the material for General Study.

At the beginning of the school term, every Grade XI student in this school is given a copy of the Guidance Syllabus with its Special-General Study division and with pages listed from both authorized texts. This material is kept ever present in the minds of the students, and the unit idea is constantly checked in an effort to help them see the interrelationship of the two parts of the course in the development of subsequent issues. Maps are in constant use as a means of fixing the country, the event, and the place in the minds of the students. History maps are a most valuable asset in history teaching since they give students something tangible with which to connect their information. Grade XI students also benefit from class discussion and from written work; indeed, they may benefit almost as much from these as from the actual study of a home assignment. Pupil participation in class does not, however, exclude home study; both are necessary to develop an appreciation of History.

Attention may now be directed to time allotments in the teaching of the present Grade XI History course. Allowing at least one month for review purposes before the High School Leaving Examinations in June, the following schedule is suggested:

September to Christmas: Unit V, National States in the Seventeenth and Eighteenth Centuries.
Unit VI, A Century of Revolution.

September to Christmas: Unit VII, New Industrial and Social Order and, possibly, Parliamentary Reform in Great Britain from Unit VIII.

Christmas to Easter: Unit VIII, Nationalism and Democracy.
Unit IX, World Imperialism (including World War II and events following 1945).

The revised *World History* (Hayes, Moon, and Wayland) makes the teaching of the present Grade XI course possible in the time usually available for History. But the writer would find it difficult to present the course to Grade X or Grade XI, especially the latter, without using *World Civilization* (Webster, Wesley, and Daniher). The latter book, in the writer's estimation, contains excellent material on The Industrial Revolution, Socialism, the Humanitarian Movements, Emancipation of Women, Democratic Education, Religion in Modern Society, and Civilization in Transition.

Much of what has been said about the Grade XI course applies also to the Grade X course. Students who are beginning a course in World History, however, require the authorized text, reference books, and maps to a greater degree. Short class reports, class discussions, and written work, done either in the class period or at home as an assignment, are fundamental requirements. Written work given for homework may fall into two categories: 1) A topic for discussion which will be due in two weeks' time on a day agreed upon after teacher-student consultation. 2) A short written explanation, description, or argument on a phase of work recently completed in class. In Grade X, students, in addition to acquiring a knowledge of history, must gain facility in presenting or discussing historical viewpoints. In developing this ability, the review questions at the end of each chapter in both history texts are of significant value. Maps done by individual students are invaluable, especially where each map is used to illustrate a single topic. One such assignment might be a map showing Roman Expansion in the Mediterranean World on which the stages of Roman conquest in Italy and around the Mediterranean would be marked by shading and dates.

The Guidance Syllabus in History is given to each Grade X student in this school in May. This is done to eliminate the idea that only certain pages or sections of texts are assigned. If the Syllabus were to be given at the beginning of the school year, it would be more difficult to present the course as a "self-contained" one, since students of this age group have insufficient experience in selective ability. By the end of the term their power of perception is more highly developed.

The scheme of the Grade X course may be presented by means of pupil-teacher discussion in the introductory lesson. It might be wise to keep in mind that, since the primary aim is towards a developing course on the "self-contained" idea, five phases expressed in columns with connecting links is a natural way to ease the students into World History. Thus, the fire, fixed abodes, farming, wrought stone, and writing of Prehistoric Hunters and Farmers would be connected with the early empires of the Near East which bequeathed the wheeled cart, lever, pulley, wedge, potter's wheel, and alphabet to Classical

Civilization. Trade is a connecting link running through the Classical Period to Christian Civilization, with its Christianity, imperial idea, arts, and sciences. Trade, this time coupled with the Dark Ages, is the connecting link with the Renaissance and the Age of Discovery. This, in turn, is connected by classical and vernacular literature, the work of the scholars, and trade to that part of history which tells of the three early national states and the wars of religion. It is this story of the beginnings of the modern world which provides the connecting link to the Grade XI History course. In this first lesson it might be well, also, to introduce the idea that the early lessons will be grouped around Pre-Greek Civilization followed by a few lessons in which the Far East will be contrasted with the Near East. The Far West is considered separately.

Such a series of lessons will proceed to a study of Greek and Roman Civilization, the Translation Period and Christian Civilization, the Expansion of Europe and the Upheaval in State and Church, ending with the Protestant Revolt. In *World History*, suggested teaching limits might be:

September to Christmas:	Parts I, II, III, and IV (Part IV fits in with the study of the Far East after the Cradles of Civilization have been studied).
January:	Part V.
February to March:	Parts VI and VII to New Inventions (Chapter XXIII).
April to May:	Remainder of Part VII and Part VIII to the end of the Protestant Revolt.

Because of the timing of the Easter vacation, the March-April limits are subject to change.

The Grade X teacher must make a conscientious effort to complete work requirements, otherwise Grade XI students will be inadequately prepared to cope with the involved political and social developments of the Grade XI History course.

When World History is presented as a "self-contained" course, the students are encouraged to view the various movements simply as parts of the whole just as they view the different rooms of a house as parts of the house, even though such rooms may have either a general or specific function in family living. From the instant the students catch their first glimpse of World History in Grade X, they should be made aware of developing events and helped to gain ability in distinguishing between what is important and what is relatively unimportant. Their minds must be constantly on the alert, trained to comprehend, to sort out, and to remember whatever is likely to have value in understanding and appreciating their own heritage.

From a study of the beginnings of the Modern World in Unit IV, high school students should have the necessary basis for the Grade XI course. They should experience no great difficulty in understanding the story of the National States in the Seventeenth and Eighteenth Centuries from Unit V. A Century of Revolution, the New Industrial and Social Order, Nationalism and Democracy, and finally in Unit IX, the World Imperialism, which today seems to be developing in a direction opposite to its growth during the nineteenth and early twentieth centuries, should be reasonably comprehensible for them.

Thus, the course is "self-contained" within nine units. To present a course in World History in the manner described demands considerable understanding and effort; nevertheless, this writer has confidence that teachers of History will view the undertaking as worthwhile and not impossible, one which becomes an interesting challenge when both teacher and students take an active part in its accomplishment. In our work we might adopt the motto, "Nothing ventured, nothing won." If the adventure of history can be instilled into the minds of the students, half the battle is won.

BOOKS FOUND HELPFUL IN THE CLASSROOM:

Rogers, Lester B., Adams, Fay, and Brown, Walker. *Story of Nations.* New York: Henry Holt, 1945.

Beard, Charles A., Robinson, James Harvey, and Smith, Donnal V. *History of Civilization.* Boston: Athenaeum Press, 1940.

Smith, Emma Peters, Muzzey, David Saville, and Lloyd, Minnie. *World History.* Boston: Athenaeum Press, 1946.

West, Willis Mason and Eastman, S. Mack. *World Progress.* Norwood, Mass.: Norwood Press, 1936.

Langer, William L. (ed.). *An Encyclopedia of World History.* Kingsport, Tenn.: Kingsport Press, 1948.

Godbolt, Nellie B. and Kopka, Verna M. *A Study Guide in World Civilization.* New York: D.C. Heath, 1935.

Wesley, Edgar Bruce. *Workbook in World History.* New York: Macmillan, 1942.

An unfortunate trend in our country is the increasing tendency on the part of many of our citizens to think and talk in terms of the rights and privileges of the individual in a democratic society with a lessening inclination to stress the responsibility of the individual. I should like to emphasize that it is the responsibility of the individual, rather than his rights and privileges, which gives him his strength and gives democracy its strength.

George I. Cross.

Ideals are like stars. You will not succeed in touching them with your hands; but, like the seafaring man, you choose them as your guides, and following them, you will reach your destiny.

Carl Schurz.

SCIENCE TEACHING IN THE HIGH SCHOOL

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Experienced high school teachers will agree that science teaching is a complex business. The teacher must arouse and maintain interest in the course content; must stimulate scientific inquiry and be prepared to discuss topics not on the syllabus; must give adequate attention to the fulfilment of examination requirements; must discipline and yet not discourage creativeness. Here, truly, is a task that offers an interesting challenge.

In our high schools maximum learning opportunities are provided within the classroom, nevertheless, other opportunities of learning should be employed to the extent that materials are available and circumstances permit. Classroom teaching must be supplemented with practical pupil activity — laboratory work; visits to a university or college where advanced work is being done; visits to industrial plants to observe the application of principles learned; hobbies, designed to stimulate and increase present interest, and develop permanent future interests.

This may appear to be an overwhelming task for teachers, especially where classes are large. A practical approach to the problem will be presented and the merits of the various procedures will be discussed. There is a real danger in the exclusive use of any one teaching tool. That is, one may become a "text-book teacher," a "note dictator," or the "moderator" of a classroom forum. In teaching science, as in other subjects, one must strive for a balance that will best develop the minds of the pupils concerned.

It is suggested that the text, or one of the texts, recommended by a given syllabus be used as the main reference and problem source. The presentation of course topics in the order followed in the recommended text will greatly enhance the book's value in the hands of the pupils. Supplementary material may be supplied and notes given to complement course content.

The content of the science courses is set for pupils with average or slightly above-average ability. The slow learner must, therefore, turn to the understanding teacher for help. At present, not enough is being done for the above-average or bright pupils who need a special challenge. Where classes are large, they are frequently neglected because lack of time does not allow for the preparation of special assignments. These pupils would enjoy such assignments and at the same time would work closer to capacity. Fortunately, many have the ability to carry their work forward without too much help from the teacher.

Classroom procedure must be such as to make full use of the available subject time. Before introducing a new lesson, well-directed questions should serve to review and emphasize work covered during the previous lesson. The correction of written homework may also be included at this stage. Following the lesson presentation, the written exercises will be collected and checked. We shall see later how this procedure is tied in with the whole question of written work.

The lesson introduction may be followed by the development of new ideas through directed discussion and may include laboratory work and demonstra-

tions. All parts of the work in which the necessary mathematics can be kept simple and in which the use of numerical problems can serve to clarify the desired concepts should be approached quantitatively. Class demonstrations should be performed with simplified equipment specially designed to teach the basic principles involved.

The demonstration equipment may be of the standard type available from a science supply house or it may be the "Set-Up" kit type that is becoming increasingly available. Such a kit has several desirable features: it can be used with any standard text; it is portable and can be used in any classroom; and it can be assembled quickly before the class. Colour dynamics plays an important part in the set-up. Biology models have component parts painted in bright colours; magnets have N-pole red and S-pole green; electrical circuits have positive leads red, and negative leads yellow; measuring instruments have large, coloured dials. These differentiations clarify pupil understanding.

Demonstration equipment may be home-made, built and assembled by the teacher or by the pupils, or, better still, by the combined efforts of both. This activity, especially in Grades VIII and IX, might well be part of a Science Club programme.

Dictation of notes should be reduced to a minimum. When notes are made available they should be, wherever possible, the condensation of ideas developed during the class period. The teacher simply manipulates the questions and answers and organizes the conclusions in tabular form. Such pupil participation will greatly increase the meaningfulness of the note materials. These notes have a present and future value. They help the pupil to identify the things of real importance in the vast amount of material covered in the science courses. Where the science courses extend over a two-year period the notes may be used as a basis for the review work which is necessary during the concluding months of the second year. The courses referred to are biology, chemistry, and physics in Grades X and XI. The lesson should conclude with a carefully planned home assignement, involving, if possible, some written work. Where written work is assigned it must be conscientiously checked by the teacher. Where classes are large and where the teacher has few free periods, this checking becomes a formidable task. To make this essential part of the programme practical, checking rather than detailed correcting is suggested. Reference has already been made to the correction of questions and problems during the lesson introduction where corrections are actually done by the pupils in class. Greater attention is directed to this type of correction by the pupils than to the remarks written on each paper and problem by the teacher.

The question of discipline in the classroom and in the laboratory is not to be neglected. Difficulties are seldom encountered when classroom work and laboratory activities are adequately presented and directed. There are, of course, a few pupils whose interest is difficult to obtain and even more difficult to keep. Is there any approach that can help these few? There are many parts of the work which will appeal to these pupils, and the teacher must be constantly on the watch for any indication of interest. Occasional participation by these pupils may eventually lead them into the main body of the class.

The high school sciences under specific discussion are general science, biology, chemistry, and physics. These subjects lend themselves to study through laboratory work. Here lies an opportunity to conduct a valuable programme within a programme: a programme of learning by doing. In laboratory work, provision can be made for the personal growth of the individual through group activity, for increased teacher-pupil co-operation, for creative, clear thinking, for self-expression and self-criticism, for the development of leadership abilities, and for opportunities to challenge the above-average pupil.

There is a continuing need for a well-directed science laboratory programme at the high school level. The nature and quality of laboratory work vary according to the different values assigned to it by individual teachers. The teacher may be interested but not trained in science teaching; the teacher may be interested and informed but not experienced; the teacher may be interested, informed, and experienced, doing capable work; or the teacher may have little or no interest in the subject. Variations in the conduct of laboratory work may result from the available working space or equipment. The equipment may be poor, it may be fairly good, or it may be excellent.

The high school science laboratory programme acts as foundational instruction for future studies in our colleges and universities. In June, 1955, the Department of Physics of McGill University played host to physics teachers from Montreal and district. "From the university's point of view," it was stated, "laboratory work at high school level is indispensable and cannot be started too early. The present science programme of the university is such that to enter upon it without a knowledge of fundamentals and techniques is to start with a handicap that is too often not overcome. That is, the lack of this prerequisite is a definite penalty for our future university students. The extra work involved in any laboratory programme is more than justified by the ends attainable."

The world of science comes alive to the pupil in his quest for knowledge and truth. To foster this interest in re-discovery, three types of laboratory experiments are offered, and each can contribute to the over-all purpose of the work. In the first place, there is the experiment that pertains to work that has been taught and demonstrated in class. This gives the pupil a chance to verify and learn details hitherto unnoticed. Secondly, there is the experiment that covers work taught but not demonstrated in class. This is likely to clarify the preceding lesson. Thirdly, there is the experiment that covers work not yet taught in class. Such an experiment becomes a prodding into the realm of the unknown — a type of guided junior research for the pupil. Here is the opportunity to apply the scientific method. All three types of experiment help train the individual to carry out written instructions and orders. This training will serve well in later life.

Experiments that require simple equipment, e.g., ruler, wood cube, leaves, test tube, Bunsen burner, etc., can be performed as a single class experiment by dividing the class into groups. Equipment requirements will be determined by the number of groups within the class. Experiments that require more elaborate equipment, e.g., calorimeter, steam generator, microscope, etc., can be performed in rotation. Where a class is divided into ten groups, each group

will perform each experiment included in the series during the ten laboratory periods required for completing the rotation. Such organization is effective for small or large groups and allows restricted supplies of apparatus to serve the entire class.

A brief report of laboratory experiments is desirable. In making such reports, the full meaning of the experiment will be grasped and effective work habits may be developed. The report book may be of a permanent type with a hard cover. It should have a good index which will be completed as the work progresses. Many reports can be completed during the actual laboratory period, thus discouraging copying from manuals or from other pupils. Many experiments cannot be completed and written up during a single laboratory period of forty minutes' duration. In such cases, the data obtained should be recorded and checked by the instructor before the pupil leaves the laboratory. It is essential that each pupil should record and report even though working in a small group. Each member of the group must take part in experiments and no student should fill the role of group secretary, recording data that is meaningless to him. The full report must be completed as a home assignment. The headings and the specific details amplifying these headings will depend upon the subject. Tabulation should be encouraged to cut down the volume of the report, to promote organization, and to decrease correction time.

The correction of laboratory reports is another arduous task which must be completed. Many reports can be corrected in the laboratory but those that require more than a check for grading should be attended to elsewhere. Within the laboratory the instructor should be free to assist pupils in the interpretation of instructions and to help with the more difficult set-ups, especially those experiments which cover completely new work. Such assistance should not be too generous however, but should encourage and help the pupil to exert further independent effort. The pupil must be allowed to struggle with the simple theory and techniques as much as possible.

The success of an experiment depends to a considerable extent upon the preparation made by the teacher and pupil. Each laboratory must be well-planned. The apparatus, samples, and equipment must be ready in the correct quantity and in working order. Experiments which have not been attempted before should be performed by the teacher prior to the lesson so that notations may be made concerning cautions to be taken and special instructions to be followed. Getting the pupils to make the necessary preparation is one of the most difficult tasks connected with laboratory work. Such preparation includes reading over the instructions before coming to the laboratory. Where this is done, the pupils will have a general idea of what they are going to do. In a class period there is inadequate time to cover the preparatory work and to complete the work requirements. Further preparation may include the organization of the data page and the writing of the introduction to the laboratory report.

Some teachers fear the repetition of topics and experiments. This attitude should not exist in science teaching. The whole programme has as its basis the "expanding concepts" idea whereby topics appearing in the elementary and

senior high school grades may also be dealt with at the junior high school level. This idea also applies to such subjects as grammar, mathematics, and foreign languages. No longer should it be said that pupils in Grade VIII need not learn H_2O, the formula for water, which comes later in Grade X chemistry, nor that the pupils in Grade IX need not learn the principle of the electric motor, which comes in physics in Grade XII. Topics must often be repeated as the pupil progresses. With increased knowledge and extended experience pupil understanding will be fuller in each advancing stage.

In school we are primarily instructors and not examiners, nevertheless, tests and examinations constitute a very important part of our teaching programme. Written and oral testing give the instructor significant insight into the effectiveness of his teaching and may develop a desire for increased accomplishment on the part of the pupils. Examinations must be planned carefully. The type of test depends upon the nature of the information required and upon the work being studied. Generally, the essay-type question serves best in revealing an understanding of the subject. On the other hand, the true-false, completion, selection and matching questions can serve the useful purpose of examining facts. An examination including subjective and objective type questions generally provides for a comprehensive and revealing evaluation. Unit testing is very effective. Correction of these tests can be done in class by an interchange of papers. The benefits derived are those of any teacher-guided pupil activity.

The established fundamentals of the sciences will remain unaltered. Comprehension of these fundamentals is the goal for which we must strive, using factual knowledge as a means rather than an end in itself. Changes in the syllabus of each science subject are introduced in keeping with modern scientific and technological developments. A major task, constantly facing teachers and administrators in charge of curriculum development, is that of selection.

"Young children come to us full of curiosity about the world in which they live. It is up to us to keep this interest alive and growing — with all its potentialities for attracting more young people to science careers. When a child discovers for himself — by observation, experimentation, and problem solving — things that are new to him, two vital things happen: he learns science facts and principles more securely and functionally, so that he has a firm **foundation,** of organized science knowledge; and he has acquired for life a **way** of discovery — the scientific method. Whether he becomes a scientist or not, he will be better equipped to take his full part in a world where science is increasingly important. **Never forget that science is as basic as anything that you can teach today.**"

Tillie Gregg, Specialist in Science Education.

THE CONCEPT METHOD OF TEACHING PROBLEM SOLVING IN MATHEMATICS: AN ILLUSTRATION

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Consider the problem: "What is the cost of tiles to cover a bathroom floor 6 feet by 9 feet if each tile is 3 inches square and the price of the tiles is 60 cents a dozen?"

Phase I: The Question

This is the starting point of all problems. The distinctive quality of the concept method is that it requires a noun in answer to the question.

"What part of the problem asks the question?" "What are you asked to find?" If the child replies, "what the tiles cost," the teacher should not be satisfied. "Give that a name." Answer: "The cost of the tiles." "Write that at the head of your names list and, because it is what you want to find, place a question mark after it."

Phase II: The Concept List

If the child is not stuck, there is no need of this. If he is stuck, the concept list is one of the greatest stimulations to his brain to spread out the problem into concepts and to see the relationships between the concepts. In Phase I, the question has been separated from the declarative part of the statement, and attention is now turned to that part. The technique of the procedure is to result in a vertical list of nouns or noun phrases. Other forms of statement are not only unsatisfactory but confusing. The teaching should be as follows: "We can calculate nothing without given facts. The facts are the numbers given in the statement part of the written problem. List the name of each number in turn and write its value after it."

"What is the name of the 6 feet?" The answer desired is "width of floor = 6 feet." Write this in the vertical list and continue with each number. The result should be the following concept list:

Cost of tiles	=	?
Width of floor	=	6 feet
Length of floor	=	9 feet
Width of tile	=	3 inches
Length of tile	=	3 inches
Price of tiles	=	60 cents a dozen

Other concepts are involved but they are hidden. It requires the concept equation to draw them out. Do not tell these but work through the concept equation in order to help the child present them independently.

Phase III: The Concept Equation

Again one should not tell the concept equation but should stimulate the child to produce it on his own. This is done by means of the *Dependencies Question.*

Start with the thing you have to find (it heads the list) and ask the dependencies question: "What do I need to know to find the cost of tiles?" The answer aimed at is: "The number of tiles and the cost of each tile." The concept list and the dependencies question are the most effective means of helping the pupil produce the concept equation on his own.

Then follows an essential technique of the concept method: writing the concept equation: "Write in words what you would do to calculate the cost of the tiles." Cost of tiles = number of tiles $\times$ price of each tile. Linking the chain of reasoning is then achieved by teacher questioning or, eventually, pupil self-questioning on knowns and unknowns. "Do we know the price of each tile?" "Write in words what you would do to calculate this."

$$\text{Price of each tile} = \frac{\text{price of tiles per dozen}}{12}$$

Similarly, obtain the concept equation: $\text{Number of tiles} = \frac{\text{area of floor}}{\text{area of one tile}}$.

Questioning on knowns and unknowns now shows that we have culminated in all knowns and we are now ready for calculation (computation).

Phase IV: Computation

Use the concept formulae in reverse order and calculate as directed above paying particular attention to *units*. As a rule units are best postponed to this phase.

$$\begin{aligned}\text{Number of tiles} &= \frac{\text{area of floor}}{\text{area of one tile}} \\ &= \frac{6 \times 9 \text{ sq.ft.}}{3 \times 3 \text{ sq.ins.}} \\ &= \frac{6 \times 9 \times 144 \text{ tiles}}{3 \times 3} \\ &= 864 \text{ tiles.}\end{aligned}$$

$$\text{Price of each tile} = \frac{\text{price of tiles per doz.}}{12} = \frac{60¢}{12} = 5¢$$

$$\begin{aligned}\text{Cost of tiles} &= \text{number of tiles} \times \text{price of each} \\ &= 864 \times 5¢ \\ &= \$43.20.\end{aligned}$$

This completes the problem, but not the building-up process.

Phase V: Generalization of the Concept Equation

The process of solving the concept equation for each of its concepts is essential to the understanding of all the relationships between the concepts. It anticipates future problems with the same concept equation but different unknowns. Consider the equation: $\text{Number of tiles} = \frac{\text{area of floor}}{\text{area of one tile}}$.

Question the pupils as follows: "If you know the number of tiles and area of one tile, how do you find the area of the floor? If you know the area of the floor and the number of tiles how do you find the area of one tile?"

Similarly for the other two equations. Remembering our permutations and combinations, we see that one unknown in each of these equations gives rise to 18 apparently different problems. This quizzing on the concept formulae, therefore, gives practice in 18 problems compared with only one problem if we stop at Phase IV.

Phase VI: Composition of Problems

The pupil should now compose problems with the same concept formulae but using *other unknowns*. This reveals whether the pupil understands the concept formulae or whether he is using the formula fortuitously. A discussion should be conducted on the question of whether the "givens" of each composed problem are the natural givens in the social situation and whether the "to find" is what most people want to find out.

The pupil should solve his own problems. The problems of some pupils could be given to others as miscellaneous exercises at a later date or they may be used the next year.

Statements

Teachers are overwhelmingly in favour of statements, but there is vagueness as to what constitutes a good statement. The majority feel that the statements should be precise and short. Examples of unsatisfactory statements are: Floor is 6 feet wide. Tiles cost 60¢ a doz.

While these are precise, they create a vagueness about the concepts involved and are unfit for concept equations or for questioning to make the concepts clear. By the concept method, statements should be nouns or noun phrases, as described above.

Pupils who get the concept formula without the need of the concept list should not be required to write the concept list. They should, however, be required to write the concept equation because it shows the authority for the computation which follows. Insistence on the concept equation will avoid the pitiable habit of juggling figures at random with the hope of getting the answer.

Common Formulae

Formulae lend themselves readily to the concept plan of attack, e.g., "At what rate will \$45.00 yield \$2.70 simple interest in 2 years?"

$r = ?$
$p = \$45.00$
$I = \$2.70$
$t = 2$ years

What formula relates these letters? $I = prt$.

Solving for r: $r = \frac{I}{pt}$. Substituting now gives the result.

In the elementary school, formula solving should be done by *common sense* rather than by algebra.

Transfer

In order that the building-up process should result in independent application there has to be a mechanism of transfer and practice in that transfer. The mechanism of transfer is threefold:

1. Clear concepts

If the concepts met in a new problem are old, there is greater likelihood of success if the concepts were originally clarified. If the concepts are new the chance of success works through the noun habit stated below.

2. Concept equations

Similarly, old concept equations are a common element in new situations. The independent creation of new concept equations by the pupil will be achieved if he is taught to generalize the objects and the situation rather than numbers — the habit of seeing concept relationships rather than recipes for numbers.

3. Habit patterns

The following are habits of the building-up process which have the possibility of carrying over into the field of independence:

a) *Special Reading Method:* The division of the problem into statement and question; selection of the question; answering the demand of the question with the name of a number.

b) *The Concept List Habit:* The noun habit, i.e. giving names that are substantives to the numbers. This clarifies new concepts.

c) *The Dependencies Question Habit.*

d) *The Concept Equation:* The habit of expecting a concept equation in answer to the dependencies question; the habit of using only one equation for the relationship of a set of concepts and solving the equation for the unknown.

There are many other important habits — carefulness about units, accuracy in computation, reasonableness of the answer, etc. — but the above habits are the distinctive mark of the concept method.

The Process of Application

1. Guided Application

The first essential is miscellaneous exercises. While the building-up process is in action, problems of a single type should be used to build clear concepts and well remembered equations. There can be no initiative on the part of the student, however, unless he has to make his own decisions. Hence, provision must be made to confront the pupil regularly with miscellaneous exercises. Any mechanical procedure of reducing miscellaneous exercises to type, thus obtaining a recipe for computational procedures, is a surrender of independent thinking and is, therefore, not guidance in independence at all.

The Concept Method of Procedure in Guidance in independence is offered only if the student is in difficulty. Where guidance is required, the teacher's questions should focus on his habits rather than on the problem itself, thus: "Have you singled out the question?" "Have you given a *name* to the demand of the question?" "Have you made your *concept list* (or list of names)?" "Have you asked the *dependencies question*?" "Have you found a *concept equation*?"

If the pupil has not done these as far as the dependencies question, refuse to help him until he does. If he has done them and still does not have the concept equation the teacher may then check the answers to the first four questions

with him. If he gives the answers but cannot bring the concept equation into his awareness, the teacher should direct him to continued application and thinking.

If the pupil fails to produce the concept equation, the teacher should revert to the building-up process. The habit plan may not have failed, but the pupil's grasp of concepts and concept equations may. The aim will then be a clearer grasp of the concepts and the concept equations.

2. Independent Application

This is the ultimate aim of all teaching of problem solving. It should not be regarded as the prerogative of a few bright pupils: all pupils can achieve a measure of success in independence. To secure this success a set of miscellaneous problems should be collected and graded according to difficulty. (Pupils may develop independence in one type of problem while coping with difficulties in other types.)

No help should be given to the pupils at this stage and there should be no answers at the back of the book. The pupils should be trained to work independently, neither asking for nor offering help. Each pupil should do only those problems which he can do entirely on his own resources. He can then take pride in what he has done independently. A chart recording his success might have a beneficial effect on his subsequent work.

Because all students do not have equal ability, no one method can promise complete success. The adoption of the concept method in problem solving will, however, benefit students in all mental categories.

I am firmly convinced that a balanced and constructive assault upon the problems of education requires attention to strategic planning and study — study which will be so thorough, rigorous, and extensive as to bring about significant advances in the efficiency with which our human resources are developed through education, and in the efficiency with which money and manpower are utilized in education.

S. M. Brownell.
Higher Education, Vol. XII, No. 1.

There is no future in any job; the future is in the man.

Worth McClure,
Nations' Schools, Vol. 58, No. 6.

THE NATURAL PROCESS OF LANGUAGE LEARNING*

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Successful teaching of second languages is based on the natural process of language absorption by which every normal child learns to speak his mother tongue. There is no such thing as a difficult language to a child: Russian, Chinese, Basque, and Welsh are "picked up" as quickly and as easily as Italian, Japanese, and Tamil, which are considered relatively easy languages. What we call the Direct Method of second-language teaching to children is the closest possible adaptation of the natural process to classroom conditions. There can be no argument against the natural process as such . . . . We see it at work all around us in every part of the world. Is it not common sense to follow a natural law rather than an artificial theory?

Acquiring Second Language Necessarily Artificial? One argument, however, against the introduction of the natural process into the classroom does deserve to be answered. It is this: an infant gaining a knowledge of his mother tongue *needs* language. His mind is a *tabula rasa*. He has no means of expression other than the speech he is absorbing. Once he has acquired hearing and speaking skill, the natural process automatically comes to an end. A child in school, already actually thinking with an instrument of thought which satisfies all requirements, does not need a second language and is therefore incapable of absorbing one by a natural process. Artificial methods must therefore be applied, and the second language must be approached through the medium of the first. It is a sound educational principle to proceed from the known to the unknown.

The Bilingual Child. There is one short and sharp answer to this apparently sound piece of reasoning: the bilingual child. Nature and children are not concerned with *a* language, but language. Place any child in an environment or in situations where his mother tongue is not used, and he will rapidly acquire command of the new sounds associated with the new surroundings. Without going into the details of the process by which a child becomes bi- or even trilingual, we may stress the known results; an infant may absorb more than one language at once, or he may begin to absorb a second language years after the natural process by which he acquired his first is complete. An English boy of ten years going abroad to a different linguistic area will rapidly come to use the language of that area as efficiently as a child of his own age whose mother tongue it is.

Experience in Kindergarten Classes. If further evidence were needed, we have it in our kindergarten classes where a foreign language is used as an accompaniment to the pleasurable activities of the children. The new language is *used*, not taught, and the children do not consciously learn it. In fact, bilingual children often do not know that they speak two languages: they merely speak in one way in one environment and another in another — like a dialect-speaking

*Permission of the staff of the Foreign Language Programme of the Modern Language Association of America.

boy in England, who may use broad Yorkshire with his playmates but standard English in his home. In kindergarten where the children attend for three hours a day, nine months is sufficient for them to be as fluent in the new language as children of their own age who are native speakers of it. In fact, the second language under such conditions is acquired more rapidly than the first.

The Age Periods. A note on age periods may be useful here. For language-learning we know by experience and observation that there are three main groups, though the limits of each are not sharply defined: (1) babyhood to ten plus; (2) eleven to seventeen plus; and (3) eighteen onwards. In the first group, the children retain the faculties which make language-learning so comparatively easy: the ability to hear, identify, imitate, and remember groups of human sounds. In the third group, such ability has largely disappeared through not being called into play.

Adult Reaction to Foreign Speech. Adults tend to hear confused noises rather than clearly defined sounds; their recognition of and memory for what they can *see*, not what they can *hear*, have been developed; and they have lost the power to imitate correctly. As compensation, adults have advanced in reasoning power and consequently they prefer to study a new language intellectually, that is, through grammar, translation, and reading. And they succeed very well, it being known that a determined adult will master a new language more quickly by the use of his brains than a child will do by the use of his sense of hearing and power to imitate and remember sounds.

Adolescent Least Well Endowed for Learning Second Language. In the second group, the boy or girl is becoming too old for the natural process of the first group but is not yet old enough for the mature reasoning processes of the third. Unhappily, in most countries, this second group is the one selected for learning foreign languages. As we shall see, the best results are obtained by making a start with the purely natural process and letting it merge gradually into the logical approach as the pupil becomes older. For an adult, it may well be that the intellectual process is as natural as the unconscious assimilation of a language by a child, but to treat children as adults, or adults as children, is not a wise proceeding.

Principal Features of Language-Learning Process. Careful observation has revealed that there are ten principal features of the process by which a child absorbs his mother tongue or, at any age of childhood, absorbs a second language to become bilingual. They are as follows:

1. New names are learnt in close association with the object, quality, or action named, or with pictures of them. There is nothing corresponding to the conveying of meaning through use of another language.

2. The learning is through aural perception, not through visual symbols for sound.

3. Common groups of sounds rather than single sounds remain in the memory to be treated as units of speech.

4. Speech is learnt to the accompaniment of physical, emotional, and, to some extent (as in story-telling), mental activity. Such learning or mental impressions are unconscious, that is, the child centres his attention on the

action — his own, or that of others — not on the sounds that accompany it. The retention of the "sound effects" is effortless.

5. Constant correction goes on.

6. Natural compulsion or necessity. The child must use language to satisfy his many wants.

7. Nature supplies the maximum number of teachers and teaching equipment, and devotes the maximum amount of time to her task.

8. Constant revision [review] goes on.

9. The whole process is full of variety and interest.

10. Speech only is taught — not reading and writing.

Adapting Natural Language-Learning to the Classroom. "First follow Nature" is as good advice for the language teacher as the poet. As Nature does show us a sure way to success, it is only common sense to follow her methods. Where they are followed today in the schools of the world there is very little failure to learn a language.

But the question is how much of the natural process can be got into the classroom. As one can see from the following examination, it is only Nature's lavishness, her overabundance, that one cannot supply.

1. Association of name with object, etc. This is comparatively easy in the classoom since we can supply pictures for all "content" words in the first year. Modern textbooks do not introduce the non-picturable or non-demonstrable in the early stages. As in acquiring the mother tongue, children can learn names from pictures as readily as from concrete objects. Again, several "structural" words such as *on*, *under*, and *very* are demonstrable. Those that are not, like *is* and *of*, are simply used in their ordinary situations until their use becomes mechanical.

2. Learning by sound, not sight. There is no difficulty in copying Nature here. The teacher pronounces new words, the pupils repeat them. Opinions vary according to results in practice about the length of the period that should be reserved for purely oral work, but this seems to be relatively unimportant with children of ten. What *is* important is observance of the order: *hearing*, *speaking*, *reading*, *writing*. Children must say what they can hear before they read the written symbols, but as soon as . . . sounds have been mastered, and so long as the teacher keeps the more fantastic . . . spellings in the backgound, there is no reason why the pupils should not see new words in their textbooks before they hear them pronounced. In the kindergarten, however, there should be no reading and writing.

3. Learning common groups of sounds. Although it may be desirable for the teacher to enunciate each new word clearly and to see that it is correctly imitated, there need be no delay in using it in its ordinary collocations, e.g., Where is the duster? Is this a duster? Put the duster on the table. Is this the duster or a piece of chalk and so on.

4. Learning through activity and situation. This is where the first restriction of the natural process has to be admitted. The pupils in the classroom are in a limited environment; they cannot live a full round of daily life there, and thus the direct association between the names of actions and the actions themselves is weakened. At home, a child gets up, washes, dresses,

has his breakfast, etc., all to the accompaniment of language, which is unconsciously absorbed. At school, pictures and demonstrations have to take the place of real action, and many situations have to be imagined to a greater extent than in the learning of the mother tongue.

5. Constant correction. Here again Nature has the advantage because of the large numbers of people — parents, relations, friends, playmates — who are in contact with the child and on the alert to correct his speech. The child, too, can and does correct himself through perception of his own faults. But in the classroom, one teacher with thirty or more children is at a disadvantage. Fortunately, this disadvantage can be neutralized by careful teaching which will prevent a heavy crop of mistakes.

6. Compulsion or necessity. Nature's compulsion consists mainly in filling the child with desires which he can satisfy only by using speech. To be happy he must talk. A resourceful teacher can adopt several devices to bring children to use the new language of their own accord, e.g., by arousing their curiosity, taking advantage of their natural inquisitiveness, and by excluding the use of the mother tongue among the children themselves during the [language] period. On the whole, however, we substitute interest for Nature's hard driving force.

7. Maximum number of teachers, amount of time, and equipment. One child at home may have fifty "teachers," i.e., everyone with whom he comes in contact, whereas in school it is often a case of fifty children with one teacher. However, it is well to remember that use of language is a group affair, not simply a number of separate dialogues between a teacher and this or that pupil. The trained teacher with fifty pupils knows that he is one of a group of fifty-one users of the language, and that every pupil who speaks a few words . . . is unconsciously providing linguistic experience for the others.

Nature is Lavish. That Nature is much too lavish here is shown by kindergarten results, where twenty or more children with only one teacher soon come to use a new medium fluently. As for the amount of time, it is common experience that kindergarten children with three hours a day, six days of the week, master a new language in one school year. The same proportion is observed in Middle Schools where languages are taught by the natural process: with one hour a day, six days a week, the children come to use the language easily in three years, not with the full vocabulary of adults, and not with more structure than an English child of the same age would use, but advanced enough to carry on a simple conversation with native speakers of the language. Nature allows more time than is necessary.

As regards equipment — the richness of real environment — the deficiency has to be made up as far as possible by visual aids and as much open-air work as possible. The language classroom deserves to be as well equiped for its purposes as a science laboratory.

8. Constant revision [review]. This is a principle not to be lost sight of, though the less conscious it is for teacher and pupil the better. Modern textbooks take care to introduce new material in the framework of the old, so that every lesson is automatic revision. Where we car improve on Nature,

and so save time, is in distinguishing between deliberate revision as part of the "mechanizing" process in teaching and the unconscious revision which goes on while what has been taught is being used.

9. VARIETY AND INTEREST. We can hardly compete with Nature here, but we can at least avoid the deadly dullness of the average classroom by making it look more like a home than a prison. Every kind of monotony may be avoided in teaching, and lively material may be supplied in textbooks.

10. LEARNING SPEECH ONLY. Educational requirements demand that a pupil should be taught to read and write as well as to hear and speak. Two artificial skills have to be added to the two natural skills of the child who learns his mother tongue only or who becomes bilingual through contact with speakers of a second language. Undoubtedly this requires more time; but, as secondary school results show, where the natural process is followed for hearing and speaking, there is no appreciable delay so long as the reading and writing follow, by however short an interval, the hearing and speaking.

Having considered the positive aspects of the natural process, we may turn to the negative side and observe how much that is unnatural in language-learning and teaching can be avoided in the classroom.

What to Avoid in the Language Classroom. We have seen that reading and writing are not taught by Nature but that, as these skills are necessary, we teach them in their proper place, that is, after the corresponding hearing and speaking of the material have been mastered. Other notable features of our classroom procedure that Nature ignores and that we ourselves as teachers would do well to ignore, are inactivity, learning through written symbols, ignoring of situation, monotony, grammar as grammar, and translation.

It may be granted at once that no teacher can tolerate uproar and confusion, that the children cannot be on the move all the time, and that there are limits to action in the classroom. There is, however, a great difference between the maximum of activity that can be allowed without upsetting discipline, and the maximum of inactivity where children sit and listen to the teacher or are made to read silently. Very often the only busy person in the room is the teacher.

The principle to bear in mind is that language is learnt through use, and that the use of it is almost always accompanied by activity of some kind. Pleasurable activity is the secret of success in kindergarten language assimilation. In our secondary school classrooms, we need more group work, projects, handwork, language games, story-telling by the children, dialogues and plays, drawing and colouring, collecting, dictation given by pupils, writing on the board by pupils, etc. A reasonable amount of work in other environments should be done.

Written Symbols. Learning through written symbols is to be avoided in the very early stages, but no serious disadvantage seems to follow, when, about halfway through the first year, children of ten plus see new words in their textbooks before they hear them. The danger is that they will form a strong visual image without connection with the aural image, and this is why a teacher must be on the alert to get prompt and continued response in speech from his pupils.

Language in the Context of Situation. Ignoring of situation often arises through too close adherence to the textbook, which cannot supply every picture that is

needed and often leaves on the teacher the onus of supplying situational background. Thus one lesson may deal with sun, moon, stars, day and night without any regard to classroom time, or provide colourless pictures of flowers, a rainbow, and a national flag. There is also a tendency to teach lists of words such as greetings, the names of young animals, the principle parts of verbs as mere names to be remembered instead of sounds to be used *in close association with a situation.*

Creating Interest. Monotony arises when an unimaginative teacher in a dreary classroom teaches day in and day out in the same old way, never varying the sequence of method. Nature provides variety; variety produces interest, and interest results in unconscious absorption of knowledge. The unregulated experiences of life are the strongest, and regulation, we now know, should be reduced to a minimum in the teaching of any subject.

In addition to avoiding monotony in his instruction, the teacher should seek to provide relief from dullness in the classroom by changing the pictures frequently, putting up new phrases, bringing the back row of pupils to the front, seeing that different flowers appear on his table and are noticed, and always having something new in reserve. Singing, competitions, using different types of dictation, adding to the material of the textbooks, seizing any new situation that may arise for new linguistic experience — all these help to remove dullness.

Grammar as Grammar. Jespersen said that nobody should study grammar until he knew the language. Certainly for children the approach to language is not through grammar. This is not to say that they do not learn grammar as they learn the language. A large part of the correction to which a child must submit in the natural process is grammatical, as when he is made to repeat correct irregular plurals, use *an* when necessary, and to get his past tenses right; but he is supplied with facts for repetition, not rules for application. Grammar exists and it must be taught.

The point is that Nature does not teach grammar as a subject but the observance of grammar in use of the language. In the classroom, then, grammar will accompany the language throughout, and where with children of ten plus and over, who can understand the application of rules, knowledge of a grammatical law may be helpful, there is no reason why we should shy away from common grammatical terms.

All will agree that these should be avoided in the kindergarten. Their use with children whose reasoning powers have developed further is guided by teaching requirement. The essential is that grammar should not be touched apart from the language-learning requirements. There is no situation in pure grammar, and the "examples of usage" that usually accompany it in grammar books are for the most part isolated and often synthetic.

Grammar can be interesting enough as a subject in itself when the mind is mature enough for it, and older children appreciate the explanations of why *that* cannot be substituted for *who* in certain structures, why some relative pronouns may be omitted, or how to avoid unrelated participles. We shall not be far wrong if we supply as much grammar to our pupils in the second-language classroom as they might expect to be given — for correctness' sake but

without special terminology — at the corresponding stage in the learning of their mother tongue.

Translations. We distinguish between translation as an exercise or a method and use of the mother tongue for certain purposes. It is generally recognized now that the mother tongue should be used (a) for a preliminary talk to the children of ten plus on how they are going to be taught, why they should learn [a second language], etc.; (b) to give meaning quickly where for some reason there is difficulty in conveying it in any other way; (c) to give instruction about homework to be done, etc.

The rule must always be: minimum use of any language but the one being taught. There is *no* need, for example, to ask for a translation as a test of comprehension. Teachers are apt to forget that understanding of the meaning of a word is only a small part of the teaching process, and that it may be delayed for a long time. *Use* of the word in the right situation is what is important.

Translation, like grammar, is for use when the second language is known, and it can then be practised as an art with good results. It is, after all, a form of composition in which the subject matter is supplied. The secret of good translation seems to be recognition of the fact that there is a stage between the two languages where the idea stands bare, without the dress of thought. It is not a process of substituting one set of words for another, but of extracting the idea from a sentence or paragraph in one language and then clothing this idea in words of another language. It has no place in the Middle School.

Experience shows that, in any country, adherence to the principles of the natural process and avoidance of what is unnatural lead to success in the second-language teaching of children.

The earlier children learn a foreign language the easier it is. In the earlier years children learn almost everything by memory and by ear, and not by reasoning... Languages, if learned while children are young, are learned largely by ear, and not by grammar, and children get an accent better and find the language easier than if they wait until they are older. It is most important for our young people to learn languages not, since they are likely to work and be in countries all over the world. Making friends in foreign countries is easier if you know the language of the people you are with.

Eleanor Roosevelt.

Learning a language, like the learning of any other art, or science, has a beginning, but no end.

Edward H. Beumer.

INTELLIGENCE TESTS

Part I: History and Types

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A consideration of intelligence tests should begin with a clear-cut statement concerning the meaning and implications of the word "intelligence." The lack of an adequate definition is, possibly, the chief cause of the confusion which often accompanies any discussion of intelligence tests.

Much of the misunderstanding would be eliminated if intelligence were considered from two points of view: practical intelligence and test intelligence. The first of these refers to an individual's ability to function successfully in a real-life situation. The fox which eludes the hounds and the huntsmen shows practical intelligence; the child who discovers and reaches the hidden and supposedly inaccessible cookie jar evidences a high degree of practical intelligence; and the businessman who makes a comfortable living for himself and his family displays practical intelligence in one of its most easily recognizable forms.

The second point of view may be expressed by the term "test intelligence." This is the ability possessed by the individual who can function successfully in a test situation, and, for the purpose of this discussion, that situation is restricted to an academic or school setting. Thus, test intelligence is closely related to ability in school. It requires the capacity to handle abstractions and symbols successfully. It is primarily verbal. It involves words and numbers. To show a high degree of test intelligence, an individual must have the ability to see relationships when these relationships are expressed by words and numbers. In short, it is the quality which enables a child to do well in school work, and it might better be called "academic aptitude" than intelligence.

The learned critic may resent the suggestion that intelligence and academic aptitude are synonymous terms. He will point to the basic researches of such scholars as Spearman, Thorndike, and Thurstone and will condemn the oversimplification of a concept as broad and complex as intelligence. The validity of the criticism is appreciated, but, for the purpose of this discussion which is directed primarily to the average classroom teacher, the narrower definition of intelligence is considered preferable.

HISTORY OF INTELLIGENCE TESTING

Since time immemorial, individual differences in ability have been recognized: even in early days crude attempts were made to measure these differences. Plato, in *The Republic*, suggested a test which would aid in identifying those young men who should be trained as guardians of the state. He said:

> We must watch them, I say, from their earliest childhood, giving them actions to perform in which people would be most likely to forget, or be beguiled of, such a belief, and then we must select those whose memory is tenacious, and who are proof against deceit, and exclude the rest.[1]

1. Plato, *The Republic of Plato.* ("Golden Treasury Series.") Translated by Davies and Vaughan. Macmillan, 1929, p.112.

The modern psychologist would have difficulty improving upon these criteria of intelligence: a "tenacious memory" and "proof against deceit."

As it is not the purpose of this paper to present a detailed history of intelligence testing, a step-by-step chronological treatment is unnecessary. Some reference, however, must be made to the work of Alfred Binet — the person generally regarded as being the originator of the intelligence test as we know it today.

Binet was born in France in 1857. He was trained as a physician and during his student years and early practice developed an interest in abnormal psychology. As a result of this, he increasingly directed his energies to psychology rather than to medicine and, during the most productive years of his life, was Director of the Laboratory of Physiological Psychology at the Sorbonne in Paris.

Early in his career, Binet became concerned with individual differences in ability and conducted many experiments in an attempt to measure these differences. Because of his interests and the nature of his studies, he was appointed in 1904 to a commission of education established by the French Minister of Public Instruction. The educational authorities of the time were perturbed by the number of children who proved to be incapable of handling the work of the public schools, and the commission, made up of medical men, educators, and scientists, was charged with the responsibility of investigating the causes of retardation among school children and of formulating recommendations for the administration of special classes.

Binet quickly recognized that any special class programme involved the two processes of selection and classification: selection of those children who required special class treatment, and classification of those selected into more specific groups. Obviously, the initial selection would be greatly simplified if some easily administered test could be used. Such a test would have to measure the type of skills or abilities which a child must possess if he were to be successful in academic work. With this premise in mind, Binet and his collaborator Simon developed a test which was called *une échelle métrique d'intelligence* (a metrical scale of intelligence). This scale, while crude if judged by present day standards, is, nevertheless, a significant landmark in the whole story of mental measurements. It consisted of thirty problems arranged roughly in order of difficulty. These problems were concerned with matters which fell within the experience of typical Parisian children. They ranged in difficulty from Number 1, *Le Regard*, which measured an infant's ability to follow a moving object with the eyes, to Number 30, which required the subject to define abstract terms. Between these two extremes were found such tests as naming common objects, repetition of sentences, memory for things in a picture, drawing a design from memory, repetition of digits, finding rhymes for a given word, completing sentences, comprehension of questions, reversal of the hands of a clock, and so on. Anyone having even a casual familiarity with intelligence tests will recognize the common elements between Binet's scale and present day tests.

Following the publication of the Binet-Simon Scale — commonly known as the 1905 Scale — Binet continued his experimental work and in 1908 prepared a revision of the earlier scale. This scale was similar to the previous edition

but introduced a new feature and a new concept: the sub-tests were grouped according to their appropriate ages, and the idea of mental age was developed. A widespread testing programme had shown Binet that some sub-tests were handled successfully by children of a certain age, but were too difficult for younger children and were too simple for the older ones. As a result of these findings, Binet arranged his sub-tests in age groups: if, for example, the majority of nine-year-old children could pass a particular sub-test, this test was located at the nine-year level. In a similar manner, as a result of actual testing in a practical situation, sub-tests were assigned to specific age levels. With the establishment of a hierarchy of sub-tests it was a simple matter to determine a child's mental age: a child was considered to have a mental age of nine if he could pass the tests which had been passed by the "typical" nine-year-old child; a mental age of ten would be assigned to a child who could pass the tests on the ten-year-old level.

Binet's 1908 Scale is also important historically because it introduced the idea of test standardization and provided a basis for judging comparative performances. The number of children used in the standardization process would be considered inadequate by present day test authorities, and the assignment of tests to certain age levels was done in a rather casual fashion. Nevertheless, this pioneer work of Binet and Simon was of inestimable value in providing a blueprint for the guidance of later test makers.

Binet prepared one more revision of his scale before his death in 1911. Basically, this edition was the same as the 1908 revision. Some new tests were added, some dropped, and some re-allocated to a more appropriate age level.

An important problem relating to the interpretation of intelligence test scores was revealed in the correspondence between Binet and certain Belgian psychologists. These workers had found that Binet's standards were unsuitable since the Belgian children were, on the average, one and one-half years advanced. Binet pointed out that such discrepancies were not at all unlikely, since there existed a real difference in academic aptitude between the Belgian children who came from a superior socio-economic class and the poor children of Paris upon whom the test norms had been based. Thus, Binet was fully conscious of an important factor which some present day test users fail to consider: a test score is significant only in so far as the individual has had the same general background of experiences and training as the members of the group from which the norms or standards were derived.

Following Binet's death, leadership in the development of intelligence tests passed from France to the United States. Goddard, an American psychologist, had seen something of Binet's work in France and as he was director of the psychological laboratory at the Training School for Feeble-minded Children at Vineland, New Jersey, he was in an excellent position to carry on his studies of test construction. In 1910 Goddard published an American revision of Binet's 1908 Scale. While Goddard's Scale preserved the basic qualities of the Binet tests, it was adapted to American conditions and was standardized on 2,000 American children. Goddard's work attracted the attention of many psychologists, and Vineland soon became the Mecca of those interested in intelligence testing.

The early association of intelligence testing with an institution for the feeble-minded resulted in a prejudice against all forms of testing. In the minds of many people, the administration of an intelligence test indicated that the child was suspected of feeble-mindedness. The attitude which automatically associates mental testing with mental deficiency, while not as prevalent as formerly, is still evident in the thinking of many people who have had no training or experience in the field of intelligence testing. It is true, of course, that intelligence tests have proven to be helpful in the recognition and classification of mentally retarded children; this, however, represents only one of their uses and other test functions are increasingly being realized.

In this brief discussion, it is impossible and unnecessary to refer to the multiplicity of tests which were produced following Goddard's introduction of the Binet Scale to America. Any discussion of intelligence testing, however, must make reference to the widely-known revisions of the Binet Scale by Terman and his associates at Stanford University. For many years the Stanford-Binet of 1916 occupied a favoured position in terms of prestige and use. The revision of this test by Terman and Merrill in 1937 resulted in a measuring instrument which has received equal recognition. Terman's revisions were characterized by a meticulous standardization procedure which produced norms or standards based on a widespread and representative sample of American children. Subjects used in the standardization process came from all geographical sections of the United States and represented all socio-economic levels. These subjects had been affected by a great variety of schools and schooling. The continued popularity of the Terman revisions attests to the thoroughness of their preparation.

TYPES OF TESTS

1. *Individual and Group Tests*

The tests discussed in the preceding section of this report are individual tests. That is, an examiner administers the test to only one subject at a time. An individual intelligence test, such as the Stanford-Binet or the 1937 Terman-Merrill revision of the Stanford-Binet, may be thought of as a type of controlled interview in which a trained and experienced examiner asks a specified set of questions in a specified manner to the individual whose intelligence is being tested. Several factors in the above statement require emphasis: the examiner must be especially trained in test administration, and should be given considerable experience, under competent supervision, before accepting the responsibility of independent test administration; the questions which make up the test have been carefully selected and graded, according to certain basic principles of test construction, and these questions, and these questions alone, should be used; the manner in which the questions are presented, the degree of help or encouragement which can be offered, and the method by which responses are evaluated and scored are clearly stated in the test directions, and these directions must be followed implicity.

It is immediately apparent that while this type of test makes possible a thorough examination of one individual, it is quite unsatisfactory if a large number of subjects is to be tested. This limitation of the individual test was

early recognized, for Binet had done some research on a test in which a number of individuals could be handled at one time — the so-called group test. It was not until World War I, however, that the group test became prominent. With the entrance of the United States into the war in 1917, the American army was faced with the tremendous task of training hundreds of thousands of men in a very short period of time. Certain well-known American psychologists were called upon to develop a testing programme which would assist in the selection and classification of men for various army training courses and trades. As a result, the famous Army Alpha and Army Beta Tests were developed, and a great impetus was given to the use of group tests for civilian as well as for military purposes. Since that time, scores of group tests of intelligence have been prepared and published.

Although most teachers have had some contact with group tests a few comments concerning their nature and function might be in order. It should be pointed out that while no two group tests are identical there are many common elements, and the same type of test situation occurs again and again. Some of the most common of these test situations are the following: speed and accuracy in arithmetic fundamentals; arithmetic reasoning; vocabulary; analogies (Coat is to wear as bread is to.....—); classification (Cross out the word that does not belong: Frank, John, James, Mary, Henry.); number series (What is the next number in the series: 2, 4, 6, 8, —); spatial relations (recognizing relationships between geometrical designs); following direction; synonyms and antonymns, and so on. Many group tests employ several different types of test situations; others concentrate on one or two areas. Some are designed to yield scores in two special fields: numerical and verbal.

While time limits vary most group tests can be administered in one sitting. Tests for young children seldom take more than thirty minutes whereas those for adolescents and adults may run somewhat longer. Theoretically, there is no limit to the number of individuals who can be tested at once, but it is strongly recommended that the examiner have an assistant for every twenty to twenty-five subjects. In the case of kindergarten and primary children an assistant should be available for every eight to ten children. Since all individuals taking a group test receive the same instructions and work on the same tasks, it is obviously impossible to use the same test for people of widely differing age and ability. In other words, it would be impossible to test a primary child and an average adult simultaneously. Because of this, group tests are usually prepared with particular age and ability groupings in mind. The well-known Dominion Tests, for example, are available in four different levels: primary, junior, intermediate, and advanced. It is important to employ a test which is appropriate to the age or grade of the individuals being tested.

Detailed instructions concerning the technique of administering and scoring a group test of intelligence are given in the manual which accompanies every reputable intelligence test. Anyone planning a testing programme should study the manual thoroughly and follow all instructions implicity. This is of utmost importance. The results of a test are interpreted in terms of the norms which have been prepared for a particular test, and these norms are applicable only if the test has been administered in the specified manner. Time limits

must be religiously obeyed. There must be no suggestion of: "They don't seem to be finished so I'll give them a few more minutes." If possible, the examiner should use a stop watch for timing; if no stop watch is available, starting and finishing times should be written down and checked carefully. Similarly, there must no deviation from the scoring specifications. To repeat: if the results of an intelligence test have been influenced by subjective opinion or careless error, the norms provided in the test manual are of no value whatsoever.

As mentioned previously, a great many group tests of intelligence have been prepared and published since the Army Alpha. While it is beyond the scope of this article to list all available group tests, it might be helpful to mention a few reputable tests which have proven to be satisfactory for school use.

The Dominion Group Tests of Learning Capacity are of particular interest since they have been prepared for use in Canadian schools. This series includes tests from the kindergarten to the adult level. All Dominion Tests are distributed by The Guidance Centre, 371 Bloor Street West, Toronto.

Other group tests distributed by The Guidance Centre include the following: the Detroit Tests, kindergarten and primary levels; the Henmon-Nelson Tests, elementary, high school, and college levels; the Laycock Mental Ability Test standardized on Canadian children and suitable for the Grade IV to Grade X range; the Otis Tests, covering the range from primary to adult; the SRA Primary Mental Abilities Tests, available for three age levels — five to seven, seven to eleven, and eleven to seventeen.

The Kuhlmann-Anderson Intelligence Tests (6th Edition) range in level from kindergarten to Grade XII. These widely-used tests are published by the Personnel Press, Inc., 180 Nassau Street, Princeton, New Jersey. The Kuhlmann-Finch Intelligence Tests, published by the Educational Test Bureau, 3433 Walnut Street, Philadelphia, Pennsylvania, minimize the verbal factor and are said to be "fair to individuals of varying cultural backgrounds." This series covers eight levels ranging from Grade I to senior high school.

Finally, reference should be made to the California Tests of Mental Maturity published by the California Test Bureau, 5916 Hollywood Boulevard, Los Angeles 28, California. These tests are available in five levels: pre-primary, primary, elementary, intermediate, and advanced.

2. *Verbal and Performance Tests*

Intelligence tests may also be classified according to the manner in which they are presented. Most tests — individual as well as group — require a certain degree of literacy on the part of the examinee. Test instructions are spoken or written (or both), and the results are valid only in so far as the examinee can understand the spoken and/or written word. Tests requiring language understanding are commonly known as verbal tests. Those designed for regular classroom use are usually of this type.

In order to provide a means of estimating the intelligence of individuals unable to meet the literacy requirement, psychologists have developed tests in which the need for language is eliminated or minimized. This type of test requires the subject to "do something" rather than to "say something." Instructions for taking the test are given by example or pantomine, and no verbal

communication between the examiner and examinee is required. This type of measuring instrument is called a performance or non-verbal test. Examples of problems employed in performance tests include the following: tracing lines, following a maze, assembling blocks, imitative drawing, completing a picture, paper folding, and number series. Non-language tests are suitable for use with groups who do not speak the language or who speak it only slightly; they may also be used with those who speak the language but are functionally illiterate. The Army Beta was a performance test designed for American soldiers having little competence in the English language.

3. *Infant and Pre-school Tests*

While the first intelligence tests were made for children of school age, psychologists soon turned their attention to the pre-school and infant levels. Arnold Gesell, one of the outstanding leaders in the field of child study, developed schedules which permitted an estimation of mental alertness on the basis of an infant's "non-intellectual" responses. Careful observations of many children revealed that development follows a pattern: a particular ability tends to appear at a certain age and in turn is superseded by a more advanced skill. Performance standards, representing levels of accomplishment of the "average" child at various ages, provide a basis of comparison by means of which the ability of a child can be estimated. For example, it has been discovered that the mentally retarded child tends to be somewhat slow in developing competence in such skills as focusing his eyes, turning to face a light or a sound, reaching for and picking up objects, sitting, standing, walking, and talking. It must be pointed out, however, that the reverse is not necessarily true: infants who later developed into children with average or above-average mental ability were sometimes late in acquiring the skills mentioned above.

Numerous tests have been prepared for children of kindergarten age. At this level, a certain command of the spoken language is assumed, and the tests are administered verbally. The Dominion Primary Test includes such subtests as the following: selecting the biggest object in a series of four; putting a cross on the first and last objects in a series of four; marking pictures which are exactly the same as a sample model; and joining dots to make a picture like the sample.

Great progress has been made in developing techniques for measuring the intelligence of infants and pre-school children. Such techniques, however, yield results which are suggestive rather than final, and they must be treated with caution and with a full awareness of the imperfections of the measuring instrument. Certainly, no important decision concerning the welfare of an infant or child should be made on the basis of a few observations or the scores of an intelligence test. It is generally considered that intelligence tests yield more valid results for children of school age than for those at the infant and pre-school level.

4. *Adult Intelligence Tests*

Tests prepared for children of school age are not usually suitable for use with adults even though the latter may possess less intelligence than the children. An adult tends to build up a resistance to the entire test when confronted with

problems which were designed for children. Because of this, tests have been developed in such a way as to present tasks which are "adult" in context even though they may be "childish" in terms of degree of difficulty. The revised Stanford-Binet, for example, contains problems which have been specifically prepared for average and superior adults. A well-known individual test, the Wechsler-Bellevue Intelligence Scale, was originally developed for adults, and the tasks and materials used were selected on the basis of their appropriateness for an adult population. In addition to the Stanford-Binet and Wechsler-Bellevue, which are individual tests, some excellent group tests are available for use with adults.

5. *Intelligence Tests for Special Groups*

Although the average classroom teacher will not be directly concerned with intelligence tests for special groups, it might be of general interest to know that tests have been developed for use with the blind and the deaf. A revision of the Standard-Binet which eliminates the need for sight has been prepared for the blind. Since the blind have language facility, verbal tests may be employed. Examples of additional tests include the following: weight estimation, comparison of cylinders for length, and measurement of sensitivity of touch.

It is obviously more difficult to prepare a good test for the deaf than for the blind since language, the main avenue of communication, is not available. Performance tests, which are administered by pantomine, have been developed for deaf and hard-of-hearing children.

Tests for the blind and the deaf are of value only if they have been standardized on groups of blind and deaf children; no attempt should be made to estimate the intelligence of children with visual or auditory handicaps by using standards prepared from normal children. Since the number of handicapped children available for standardization purposes is relatively small, and since research in this field is still somewhat limited, tests for the blind and deaf are not considered to be as valid as those for normal children.

"When we have the classes sifted
And thus isolate the gifted,
Shall we integrate,
Accelerate,
or segregate?
Just how are the gifted lifted?

H. M. Grant,
The Forum of N. B. Education, Vol. XVI, No. 9.

SALUTE TO VALOUR

A Tribute to Helena Coleman

Elsie Pomeroy, Toronto

Helena Coleman died in Toronto on December 7, 1953, and with her death was broken the last link with Canada's first school of writers. Born in Newcastle on April 28, 1860, the only daughter of the Rev. Francis Coleman, Miss Coleman maintained her customary vigour until she was almost ninety. The death of a niece in September, 1949, who from childhood had made her home with the poet and her brother, Dr. A. P. Coleman, the eminent geologist, was a blow from which Miss Coleman never rallied and which resulted in the long final illness.

Miss Coleman's chief characteristics were courage and modesty. Stricken with polio when she was but eleven, she could walk only by the aid of crutches — her helpers, she called them. Yet the infirmity in no way interfered with an extremely active life. She was an inveterate traveller. Few Canadian women became so intimately acquainted with life in European and American centres. Often a visitor at the home of her youngest brother, Lucius, she explored every part of the large ranch on horseback. At Pinehurst Island, the Coleman summer home among the Thousand Islands, she was always ready to take charge of the rowboat. About twenty-five years ago, however, she felt obliged to lay aside her "helpers" and became resigned to a wheel chair. Resigned is not the correct word. The visitor always left with a feeling of admiration for the occupant.

For a number of years Miss Coleman was deeply interested in music. The gold medalist when she graduated from the Ontario Ladies' College at Whitby, she was at once taken on the staff as Head of the Department of Music. She continued to hold this position for twelve years except for one year during which she took a post-graduate course in Germany. While she remained passionately devoted to music, she no longer taught music after her retirement from Whitby in 1892. Her time and energy were devoted to creative writing.

From the financial standpoint, her short stories would be considered her most important work. For many years they appeared in all the leading American magazines but, unfortunately, always under a pen-name. Thus she was not widely known in her own country as a writer of fiction. In 1920, a collection of these stories was published in the United States by E. P. Dutton and Company under the pen-name, Winifred Cotter. The writer could never tell Miss Coleman that a copy of this book had fallen into her hands and that at least one pen-name was no longer unknown.

Miss Coleman's poems appeared in the *Atlantic Monthly* and other leading literary magazines — but always under a pen-name. In Toronto they became known to some intimate friends who belonged to the Tennyson Club which flourished during the early years of the present century. Thanks to the interest of the Club, these poems were collected and published under the title, *Songs and Sonnets*. The volume appeared just before Christmas, 1906, and so enthusiastic was its reception that a second edition appeared the following year.

The publishers of the volume had the greatest difficulty in persuading Miss Coleman to permit her name to appear. When *Marching Men*, a small volume of war poems, was published in 1917, patriotism overcame her modesty. Her own name appeared, and of her own free will. Twenty years later a Chapbook, entitled *Songs*, containing selections from the previous volumes, was published. Thus *Songs and Sonnets* remains the one volume which adequately represents the poet's work. A brief study will reveal the valuable and permanent place *Songs and Sonnets* has in our literature.

The *Canadian Magazine* for February, 1907, contained an exhaustive study of Miss Coleman's poetry by Dr. W. T. Allison, Head of the Department of English in the University of Manitoba. "Our new Canadian poet," he wrote, "has much in common with Matthew Arnold. Just as he did, she knows how to combine concreteness and colour with a certain noble simplicity and restraint of style and, like Arnold, she loves best of all to devote her thought to the deep things of the soul. If we miss in her bracing pages the gentle pessimism of Arnold, we discover over and over again that she too is acquainted with the doubt and restless intellectual questioning of our day in matters of faith, and she shares with him a tremendous earnestness in dealing with the problems of life and destiny."

Regarding the poet's technical skill Dr. Allison wrote: "The poet's claim to fame depends very largely on his or her mastery of outward form or technique, on skill in phrasing, in emphasis and in sonority of verse. Measured by such canons of taste, we have no hesitation in saying that Miss Coleman's style singles her out from latter day magazine versifiers. Her command of rhythm is very pleasing and, because of her love of latinized English, reaches a certain degree of opulence which cannot fail to give any lover of cadence great delight."

The poet's "Songs" presents great variety both in form and theme. Consider the colour and music in the first stanza of "Crimson Buds Are On The Maple":

> Crimson buds are on the maple,
> Thrilling notes are in the air,
> There is green upon the hillside —
> There is beauty everywhere.
> In the woods pale starry blossoms
> Rise like spirits frail and fair.

Spiritual ecstasy is the dominant note in "Caught Up On Wings":

> Caught up on wings am I!
> The rapture of the sky
> Is mine as in my flight
> Through boundless spaces bright —
> Delirium of light —
> I soar on high — on high —
> Till Heaven itself is nigh—
> Caught up on wings am I!

The majority of the "Songs" are about life itself. The poet sings of its beauty, its joy and sorrow, but invariably of life in relation to Nature and to God. In "Give Me No Pity" we learn something of the stoic philosophy which was associated with her own indomitable courage:

> And so, if thou would'st have me strong,
> Dwell not on what is sad or wrong;
> 'Tis not in marking how they fail
> That men find courage to prevail.

It has already been noted that Miss Coleman was a great traveller, and her heart was stirred by the beautiful scenery in the many lands she visited. Yet, in only one poem is there a reference to the scenic beauty of any foreign land and that, strangely enough, is the song "I Am Content With Canada," patriotism expressed in lines of rare lyrical ecstasy.

Of countries far and famed have I been told,
And of the joys that foreign travel brings,
Of wonders, beauties one would fain behold
To stir the heart with fresh imaginings.

And I myself in storied Switzerland
Have watched the Alps in their majestic calm,
And been by jasmine-scented breezes fanned
In tropic isles that bear the stately palm.

. . . . . .

But I have never been more deeply stirred
By any loveliness of land or sea
Than when upon Canadian shores I've heard
The lonely loon or curlew call to me.

Across our own unnumbered Northern lakes,
And over leagues of winding water-ways
Upon whose nameless shores the aspen shakes
And yellows in the soft autumnal haze.

. . . . . .

I am content with Canada, and ask
No fairer land than has been given to me,
No greater joy, no more inspiring task,
Than to upbuild and share her destiny.

There are many other lyrics to which one would wish to direct special attention but space must be left for the consideration of Miss Coleman's sonnets, in which the poet's genius was expressed at its best. Only complete mastery of the form could result in the "noble simplicity and restraint of style" which Dr. Allison compared to that of Matthew Arnold. The first poem in the sonnet section, "More Lovely Grows the Earth," is probably the best known of all Miss Coleman's poems. Dr. Allison spoke of it as the poet's "richest contribution to the study of nature." During the long years that have passed since its publication, many of her friends have come to regard the sonnet as symbolic of the poet herself.

More lovely grows the earth as we grow old,
More tenderness is in the dawning spring,
More bronze upon the blackbird's burnished wing,
And richer is the autumn cloth-of-gold;
A deeper meaning, too, the years unfold
Until to waiting hearts each living thing
For very love its bounty seems to bring,
Entreating us with beauty to behold.

Or is it that with years we grow more wise
And reverent to the mystery profound —
Withheld from careless or indifferent eyes —
That broods in simple things the world around —
More conscious of the Love that glorifies
The common ways and makes them holy ground?

It is impossible to think of Miss Coleman's sonnets without the urge to quote many of them. Each sonnet is marked by some highly distinctive thought — some facet of her philosophy — expressed in memorable lines for, technically,

she is at her best in the stately cadence of the sonnet. What a vivid picture she paints in the opening lines of "Among The Mountains":

> As far as sight could reach the wild peaks rose,
> Tier after tier against the limpid blue,
> Titanic forms that stormed the heavens anew
> At every turn, crowned with imperial snows;

The reader shares the experience and at the close feels that his heart, like the poet's, is stirred "with incommunicable joy and pain."

And she, who with her "helpers" had managed a little mountain-climbing, shares with the reader a facet of the philosophy which activated her remarkable courage:

> 'Tis better in a losing cause to fight
> Than feel one's sinews wasting day by day,
> 'Tis better far to climb the toilsome height
> And set the latent strength within us free
> Than, lingering in the valley's flowered way,
> To die the daily death of apathy.

Fifty years have elapsed since the publication of *Songs and Sonnets*, a volume which was at once judged worthy of a permanent place in Canadian literature. In many anthologies of Canadian poetry which subsequently appeared, the poetry of Helena Coleman was always represented. Never was the high quality of her poetry questioned. Yet, except for *Marching Men*, the slight collection of war poems, no volume succeeded *Songs and Sonnets*. In a letter to the writer, dated May 1, 1932, the poet offered an explanation:

> I never myself set much value upon my metrical effusions. I have always regarded the publishing of them as a mistake. The arena is crowded with would-be poets; but the true gift is rare, and imitated at one's peril.
>
> Surprise has been occasionally expressed that more did not follow that earlier appearance. It may have been instinctive recoil from over-appraisement — a fear of standards that might not be maintained.

A copy of an article, "Florence, the City of Memories" by the writer, was acknowledged by the typed copy of an exquisite sonnet, "On the Arno," and signed "H.C." Undoubtedly, other friends have poems in their possession. As Sir Charles G.D. Roberts wrote concerning Francis Sherman, "There is some hope that many more such treasures, such 'infinite riches in a little room,' may yet be discovered."[2]

The poet has passed to those "far wider realms that lie beyond our spirit borders" but she still lives in the memory of all who knew her — will continue to live in the minds and hearts of all who read her poetry — and with no tinge of sorrow or regret. And that is as she would wish:

> No grief for me, or vain regret;
> Remember what was good,
> The things for which I stood;
> The rest — forget.
>
> Remember, though the way was long
> And cumbersome the load,
> I tried to take the road
> With jest and song.

2. Foreword in *The Complete Poems of Francis Sherman*, 1935.

And though my days were sometimes spent
In loneliness apart
I bore a soldier's heart,
Fearless, content.

Remember all that made me glad,
With flowers that used to bloom
Within the little room,
The joys I had.

The blessings manifold and dear
With which life was inwrought,
The hidden wells of thought —
The hopes, the cheer.

Remember these, my love, and let
My memory remain
Untouched by grief or pain;
The rest — forget!

THE LANGUAGE OF POETRY

English is a poet's language. It is ideally suited for description or for the expression of emotion. It is flexible, it is varied, it has an enormous vocabulary; able to convey every subtle diverse shade, to make vivid before the mental eye any picture it wishes to conjure up. Moreover its very richness helps it to evoke those indefinite moods, those visionary flights of fancy of which so much of the material of poetry is composed. There is no better language in the world for touching the heart and setting the imagination aflame.

Lord David Cecil.

He has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men — and the love of little children. Who has left the world better than he found it, whether by an improved poppy, a perfect poem, or a rescued soul. Who has always expected the best from others, and always given the best he had; whose life was an inspiration — whose memory a benediction.

("*The Scouter's Digest*", Toronto)

THE GRADE X EXAMINATIONS: JUNE 1956

P. N. Hartwick, B.A., B.Ed., Chief of Examinations
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Grade X general proficiency certificates are awarded to pupils who obtain 100 marks of a possible 200 in each of the subjects English and French, and at least 50 per cent in each of four other subjects. Failure in one subject of the aforementioned minimum course is overlooked if the pupil obtains a general average of at least 65 per cent.

The number of pupils writing this year for a Grade X general proficiency certificate was 1,139. Of this number, 1,000 were high school students and 139 were from intermediate schools. Of the high school candidates 71.9 per cent were successful; in the intermediate schools 54 per cent obtained certificates of proficiency. Altogether 794 pupils passed the examination.

The number of candidates and the results obtained in the various subjects examined were as follows:

Subject	No. of pupils	No. Failed	Percentage of Failure
English Literature	1166	157	13.4
English Composition	1184	152	12.8
French	1151	172	14.9
Chemistry	1021	204	19.9
Physics	551	119	21.5
Geography	486	91	18.7
History	1117	202	18.0
Algebra	1107	208	18.7
Geometry	984	204	20.7
Latin	135	19	14.0
North American Literature	330	55	16.6
Biology	461	127	27.5
Household Science	275	34	12.3

The following comments from examiners in the various subjects may be of interest to teachers of Grade X.

English Literature

Very good work is being done in some schools in the field of English Literature. Not only are the Grade X teachers to be commended, but the teachers in the earlier grades who have laid such good foundations.

Several answers were beautifully written, a pleasure to read and a credit to the schools, as well as to the students concerned. There were also, however, mediocre papers, the usual howlers, and the inevitable spelling errors.

On the whole, the students revealed familiarity with the contents of the texts, but many failed to use their knowledge intelligently. Too frequently the question was only glanced at, and not read.

In *Kim* and *Greenmantle*, for example, some pupils became so absorbed in writing about "the influence" or "the event" that they forgot to "describe the

character." Many used *The Merchant of Venice* to answer the question dealing with *Twelfth Night.*

Students who did the "prepared" poetry rather than the "sight" received better marks. Comparatively few understood "In Absentia." The "brute tugging at his line" ranged from the "devil" to the "teacher" who prods the slow student. A large percentage wrote in the first paragraph that the man died and then proceeded in part (c) to prove that the poet was writing about himself, stating that "only a person who had gone through the experience could describe his feelings so vividly."

In the essay question many failed to show the ideas contained in the entire essay; they showed, instead, that they had read only the first page or so. Some confused Leacock's essay with that of Brooks.

The pupils who wrote on the parables gave much better answers than those who tried to explain the verses from the Psalms. Comments on the symbolism, if given at all, were usually very vague.

Apparently, in some schools, type questions had been memorized. Many papers used the same illustrations with exactly the same phraseology. A poor student, consequently, received the same mark as the average student — not because of his appreciation or knowledge of literature, but because of his ability to memorize words.

English Composition

With answers written in the School Leaving Booklets, the examiners corrected and totalled papers more quickly. It is hoped that the use of these booklets will become standard practice.

The unexpected spelling question, involving the identification of errors as well as their correction, proved difficult for most of the 1184 candidates. Only six had perfect marks.

The grammar question, if attempted, was well done. Many students, however, failed to recognize that a subordinate clause has only one verb. In general, if the grammar was correct, the candidates' marks were high.

In the letter writing, the exposition paragraph, and the essay, the quality of the writing and the general arrangement showed improvement. The careless or inaccurate interpretation of question requirements, however, penalized many pupils. Where one paragraph was required many students wrote several; others copied incorrectly from the test paper; a great many exceeded the word limit, often by 50 per cent; and a few altered titles of essays. When students chose personal experiences as topics they tended to overload their work with trivial details. The quality of this material was poor, indicating immaturity of thought and expression. A continuation of this practice should be consistently and vigorously opposed.

French

Many candidates found Question 1 (*Dictée*) rather hard. Only the good pupils were able to obtain high marks in it. Many silly mistakes were made: *met* for *mettent*, *voyager* for *voyageurs* and *Italy* for *Italie.* The words *canadiens*, *américains*, *européennnes* and *publics* were invariably wrong. *Où* and *ou* did not seem to be understood as two words with different meanings.

Questions 2, 3, and 4 were well done by pupils who had been drilled during the year. Others showed their lack of knowledge of verbs.

Questions 5 and 6 were poorly done. Only the very good pupils were able to obtain perfect marks. It was evident that this type of work needs more attention in the schools.

Question 8 gave a large number of candidates considerable difficulty. Few pupils translated sentences 3 and 4 correctly.

Question 9 was well done. Some grammatical mistakes were made, but most pupils used a good vocabulary to represent the meaning clearly.

Question 10, which was based on the stories, was well done by a large majority of students. Some, of course, showed limited ability in writing a good sentence, but their accurate use of the vocabulary and grammar rules was noticeable.

Chemistry

The understanding of valence and the writing of formulas and equations are fundamental to Chemistry. The examiner wishes to recommend very strongly that increased time be devoted to achieving improvement in these essentials.

In Question 1 the formulas and equations constituted the main errors.

Question 2 rated the highest marks generally. Carelessness in reading the question resulted in the preparation of carbon dioxide. There was some confusion regarding the words "preparing" and "collecting."

Quite a few of the candidates think that water gas is steam, or hydrogen and oxygen mixed together. Writing the equations for the reduction of cupric oxide gave some difficulty.

Question 4 was popular. The equations were not well done, and the definition of valence was often quite meaningless.

The observations in Question 5 were generally very good. It is apparent, however, that more training is required in making basic laboratory observations.

It was apparent from Question 6(a) that the G.M.V. is not well understood.

In Question 7(b) Dalton's Atomic Theory was confused with the Kinetic Molecular Theory. It was apparent that many candidates do not understand the structure of the atom.

Question 8 was generally well done, but it was evident that the word "effervescence" was new to many students.

Physics

Question 8 was omitted by a large majority of students, and those who did attempt it failed to answer it satisfactorily. Many explained Boyle's Law by the Kinetic Molecular Theory instead of describing an experiment to prove the Law. It would seem advisable that students be given much more practice in writing descriptions of experiments, both those performed in the laboratory by students and those done as demonstrations by the teacher. In such descriptions best results are obtained by using headings such as "Purpose," "Apparatus" (with a simple diagram), "Procedure and Observations," and "Conclusion" — or other similar headings. It is also necessary for the student to show clearly any calculations required in reaching the conclusion.

In numerical problems, such as Questions 6 and 7, all calculations, as well as a simple statement showing the reasoning followed, must be given.

Common words used frequently in Physics, e.g. buoyant, vacuum, diffusion, and molecule, were spelled wrongly by at least thirty per cent of the candidates. Physics teachers should teach the spelling of new words as they occur in the course.

Geography

In the high schools the results were better than those of June, 1955; in the intermediate schools, however, where the percentage of failure rose to 34.1, results were poorer. There was an encouraging increase in the number of first-class papers in the high schools. Most students wrote neatly and grammatically and organized their answers well.

In the majority of schools, the pupils had apparently been well drilled on the factual material of the course with the result that Questions 2, 3, 4, 8, 9, 11, and 15 were satisfactorily answered by most of the students who attempted them. Questions 4(b) and (c), 6, and 7 were chosen by a notably small percentage of the candidates.

As has been observed in previous years, the students seem much less at home when answering the interpretative type of question. There was a tendency in Questions 5, 12, 13, and 14 to write a general essay on the country named, outlining an engaging array of more or less unconnected facts and opinions which possibly represented the pupil's total knowledge of the country.

Students, with the exception of the very best, do not seem to apply to the world about them the content of their Geography course. Question 12(c), for instance, was poorly done by virtually all the many students attempting it. Only a few mentioned Kashmir; a very few mentioned the problems of water control, and only one even hinted at the refugee problem. Likewise, Question 16 usually produced only a mediocre statement of the most obvious extremes. The second part of the question was handled inadequately by the few who attempted it. Only one of the candidates showed any understanding of how extremes of poverty, squalor, disease, malnutrition, and ignorance can influence the Asiatic peoples' political thinking.

History

The most common errors were: (a) Poorly organized answers with no logical sequence; (b) Failure to read the question carefully, resulting in an entirely different answer to the one required; (c) Marked irrelevance and padding in many answers; (d) Use of the expression "was when."

Two high schools produced 25.5 per cent of all the high school failures.

Question 3(a). Over 50 per cent of all candidates answering this question described either a Roman or Medieval education.

Question 4. This question was, in general, well done.

Question 5. The work of those pupils who followed the sequence of the question was very satisfactory. A large percentage of candidates did not follow this sequence and generally produced poor answers.

Question 6. A large number of candidates did not know the meaning of the question. Many excellent descriptions of feudalism (with diagrams of a feudal manor) were written. Such efforts were compltely irrelevant.

Question 7. The answers to this question were very unsatisfactory. Many candidates gave excellent two- and three-page descriptions of the Crusades, etc. without ever mentioning geographical knowledge. Portugal was frequently confused with Spain.

Question 8. Because few pupils knew the meaning of the word "cultural" this question was poorly done. Agriculture, warfare, surgery, and navigation were frequently discussed as cultural topics.

Question 9. The answers to this question were reasonably satisfactory.

Question 10. Most candidates failed to make clear what each man under discussion had "contributed" to the Reformation.

Algebra

The examination seemed to be a fair test of the students' ability. Several schools did exceptionally well.

Questions 1 to 4 (inclusive) were generally well done.

In Question 2(a) and (b) many students, when clearing fractions, drew a line under the entire equation as follows: $\overline{6 - 8 = x - 4.}$ This is, of course, incorrect. $4x$

Question 5 was reasonably well done by some pupils; others omitted it completely, suggesting that some schools neglected this part of the course.

Question 6 was poorly done. The students on the whole seemed to be incapable of attacking a problem; only a few appeared familiar with problem solving techniques.

Question 7 was well done, although in part (b) the square root was frequently represented as $(2a - 3)^2$ or $\sqrt{(2a - 3)}$.

Geometry

This year's answers gave the general impression of a broader understanding of geometrical principles. Considerable uncertainty persists, however, in the use of mathematical terms. This was illustrated in Question 1, which, otherwise, was well done with proper constructions and accurate diagrams. In classifying the resulting figure, however, many candidates confused the concepts of a parallelogram, a rhombus, and a square. In Question 2, few students realized the need for an intermediary step and arrived at an answer by calculation rather than measurement. In Section B, there was lack of understanding of the use of the formula involved in 3(a): an acute-angled triangle was frequently defined as one containing an acute angle, the words "construction and measurements" were construed to mean "method," and a reflex angle confused with an obtuse one.

Section C was generally well done. Many candidates used the expression, "Bisect the base at . . . and produce the bisector to . . . ." The term "bisect" was also frequently used to mean "trisect" or "divide." In the superposition of triangles, confusion existed between vertices coinciding and angles being equal.

Reasons for statements are being given in place of memorized references by an increasing number of students. This practice indicates a better understanding of geometrical logic.

Latin

In Questions 1 and 2 on the set passages of Caesar, a translation in good idiomatic English which will bring out the full meaning of the Latin is expected. Very few pupils, for example, attempted to bring out the force of the comparative *plura* in Question 1. Grammatical explanations should be both complete and brief and should agree with the translation. Sometimes *cum exisset* was explained as *cum causal*, but translated by "when . . . "

Most pupils were too verbose in Questions 3 and 4. Two pages are unnecessary when three or four facts are requested. Answers should be short and to the point.

The sight translation was excellently done.

Questions 7 and 8 revealed a significant need for drill (*ad perfectionem*) in essential forms. The weakest student should be able to gain 50 marks in this part of the paper, but unfortunately few did.

The translation work in Questions 9 and 10 was fair.

North American Literature

In Question 1(a) there are 19 selections illustrating 5 different types of prose. Too many pupils related the content as illustration of why the selection was a good example of its type. See pp. 823-829, also pp. 74-75, 85-86, 98, 105-106, 250, 263, 281, 337-338.

Questions 2(c), 3(a), 3(b), 4(a), 6(a), 8(a), and 8(b) were well answered.

In Questions 2(a), 2(b), 4(c), 5(a), 5(b), 7(c), and 8(c) there was insufficient reference to the text for illustration of the answer.

Question 4(b) was too often answered from Father's point of view.

In Question 6(c) adequate reasons were not given.

In Questions 7(a) and 7(b) the answers too often related the story without reference to the question.

The words "environment" and "tranquillity" in Questions 3(c) and 6(b) gave trouble, while "reactions" was mistaken for "actions" in Question 5(c).

There was marked improvement in (a) ability to read and interpret the question, (b) maturity of expression, (c) spelling and composition (although the same errors reported in previous years are still to be noted, but to a much lesser extent), and (d) penmanship and arrangement of work.

Increased familiarity with the content of the compulsory book, keener interpretation, and critical sensitivity would contribute significantly to improved achievement.

Biology

In a large number of schools, excellent answers (showing a grasp and understanding well beyond the standard required at this level) were given by the majority of candidates. Unfortunately, in an equally large number of schools, very unsatisfactory work is being done, and the percentage of failures on the whole is higher than it should be. In 8 schools with 184 candidates, only 11 per cent failed and 20 per cent received first class, while in 8 other schools with 150 candidates, 52 per cent failed and only 2.6 per cent received first-class standing.

The writing continues to show improvement but the spelling grows worse. While it is the duty of the Science teacher to call attention to the spelling of new words as they are introduced, they can do little with pupils who write "know" for no, "twogether" for together, and "ball blatter" for gall bladder.

From the answers obtained it is evident that many schools are doing efficient laboratory work, while in others (not the small schools by any means) little is being done. In many schools, few, if any, could describe the experiment called for in Question 5(b) although a choice was given; both are important and easily performed with a minimum of equipment. Field work is apparently neglected in many centres, and few pupils who attempted Question 4(b) gave any indication that they had actually seen mosses and ferns in their natural habitats. Choices from the optional groups were evenly distributed, and no one question presented any particular difficulty for the good student. Only a few comments on individual questions need be given.

Question 2(h). The word "economic" was generally overlooked.

Question 3(e). The importance of plant diseases in this connection had apparently not been stressed.

Question 7(a). Some excellent diagrams were presented. In many schools, however, pupils have been given no practice in making cross-sectional drawings.

Question 9(c). Few correct answers were received to this question despite general interest at the present time in blood banks and blood transfusions.

Question 10(a). It was disappointing that so few pupils could give a clear and adequate description of the respiratory tract. Many candidates proceeded to describe the circulatory system or the digestive system.

GO FORTH AND TEACH

Remember the child. Remember youth. Remember that whatever station in life you may fill, these mortals — these immortals — are your care. Devote, expend, consecrate yourselves to the holy work of their improvement... Learn only how the ignorant may learn; how the innocent may be preserved; the vicious reclaimed... Summon the mightiest intellects; collect whatever of talent, or erudition, or eloquence, or authority, the broad land can supply, and GO FORTH AND TEACH this people. For, in the name of the living God, it must be proclaimed that licentiousness shall be the liberty; and violence and chicanery shall be the law; and superstition and craft shall be the religion; and the self-destructive indulgence of all sensual and unhallowed passions shall be the only happiness of that people who neglect the education of their children.

Horace Mann in his Fourth of July Oration, 1842.

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ST. JOHNS: **Mr. Robert R. Tyler,** Miss Gladys Duffy, Miss Katie Kagerer, Mrs. Olive N. Ferguson, Mrs. Kathleen Elvidge, Mrs. Francis Harding, Miss Joan Laurin, Mrs. Ethel McNaughton, Mrs. Freda M. Pattenden, Mrs. M. Thornton.

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SHIGAWAKE-PORT DANIEL: **Mrs. Isabella Ward,** Mrs. Isabel Bisson, Mrs. Henrietta Hayes, Mrs. Annie Huntington, Mrs. Sarah Journeau.

SOREL: **Mr. R. S. Montague,** Mr. S. D. Andrews, Mrs. S. D. Andrews, Miss G. Doherty, Miss N. A. Fortier, Mrs. M. L. MacDonald, Mrs. R. S. Montague, Mr. T. J. Phillips.

STANBRIDGE EAST: **Mr. Ronald B. Allum,** Mrs. Kate Blinn, Mrs. Marion Perkins, Mrs. Esther Wescott.

TERREBONNE HEIGHTS: **Mr. M. W. Baldwin,** Mrs. Hazel Cheney, Miss Kathleen Harvey, Miss N. MacDermott, Mrs. J. Reid, Miss Edith Rossman, Miss W. Scott.

THORNE: **Mrs. Madelon Smiley,** Miss Dorothy Fulford, Miss Vera Graham, Miss Shirley Ireland.

THURSO: **Miss Elizabeth Reside,** Mrs. Morris Flynn, Mrs. R. J. McIntosh.

VALCARTIER: **Mr. Louis G. Brooks,** Mrs. Ida Hicks, Mrs. Wallace Jack.

WAKEFIELD: **Mr. John C. Milbury,** Mrs. Elizabeth Franklin, Miss Hilda M. Graham, Mrs. Mary J. B. McGarry, Mrs. Mary E. Pitt, Mrs. J. MacDonald Stevenson, Mrs. Louisa Wills.

WATERVILLE: **Mr. C. Ray Martin,** Mrs. Marjorie Blier, Mrs. Jean Fraser, Mrs. Edna Lunnie, Miss Frances Smith, Mrs. Marina Tracy, Mrs. Miriam Turner.

WINDSOR MILLS: **Miss Marion A. Reed,** Miss Ursula Bozer, Miss Marion Duncan, Miss Colina MacKenzie, Mrs. Eldora Turner, Mrs. Winnifred Watt.

SPECIAL INTERMEDIATE 1956-1957

BRISTOL: **Mr. Keith Hale,** Mrs. Robert Cartman.

DUNDEE: **Mrs. Ruth A. Fraser,** Mrs. Isabel Elder.

FRELIGHSBURG: **Mrs. Murray A. Blinn,** Miss Maude A. Hauver.

ISLAND BROOK: **Mrs. Hazel L. Kerr,** Mrs. Ruth Morrow, Mrs. Alma Quinn.

KINNEAR'S MILLS: **Mrs. Gladys M. Nugent,** Mrs. Dorothy D. Geddes.

LAKE MEGANTIC: **Mrs. Maud Patton,** Mr. Robert Taylor.

METIS BEACH **Miss Viola C. MacLellan,** Miss Gayle McLaren.

Outside the school there was a warning for motorists:

CAREFUL
DON'T KILL A CHILD

And underneath, in childish scrawl:

WAIT FOR A TEACHER.

Education Office Gazette.

BOOK REVIEWS

Growth through the Language Arts by Wayne Hall is one of two recent publications that are to be followed by a number of others in a new series known as "The Canadian Teachers' Professional Library." Professor Hall, now of the McGill University Institute of Education and formerly Supervisor of English in Quebec Protestant schools, has produced a handbook that will be of real practical value to every teacher of Grades IV-VI. It draws upon recent American research in the teaching of English but keeps steadily in view the actual situation in Canadian schools and the problems that are presented by our own course of study for these particular grades. Separate chapters are devoted to silent reading, oral reading, prose literature, poetry, grammar, oral English, composition, spelling, and handwriting. Professor Hall's treatment is thorough but never formidable; he believes that school should be fun and he knows that teachers are human. While making it clear that success requires a planned programme and the resourceful use of technical devices, the book's main emphasis is on a flexible type of instruction that will encourage spontaneity and bring out the best in each individual pupil. Published by Dent, 236 pages, $3.00.

First Flowering is a selection of prose and poetry written by the youth of Canada. This anthology is edited by Anthony Frisch, poet and member of the staff of Pickering College, Ontario. Representative of the high schools of every province in Canada, the volume contains eighty-three selections written in poetry and sixty-two in prose. Roman Catholic colleges and seminaries in Quebec submitted contributions in French, but students in our own Protestant high schools are also well represented.

The editor is to be congratulated on publishing this valuable collection of lyric poetry, short stories, one-act plays, and miscellaneous prose. Whatever the topic may be — Planets, Gardens, Examinations, November, or Night — the students write with a sense of wonder and *joie de vivre* that only youth can know. Teachers of senior English and students in graduating classes will derive practical value, inspiration, and endless enjoyment from this book. Most important of all, they will have proof that adolescents *can* write, not only effectively, but with remarkable skill and imagination. Published by The British Book Service, 210 pages, $1.95.

The Great Escape by Paul Brickhill, edited by James Britton. This is a school edition of the writer's story of the mass escape in 1944 from a German prison camp. It will appeal particularly to boys of fifteen to seventeen years of age. The story it tells is a challenge to a student's growing understanding of human life and its worth. The feats of endurance, the labours, the disappointments, the dangers, and the final achievements are simply and powerfully described. Published by Faber and Faber (Canadian agent — British Book Service), 168 pages, $0.95.

A History of the English Speaking Peoples by Winston S. Churchill, Vol. I. Teachers of high school history will find this book particularly helpful in the teaching of British history. It covers the period from early times to the beginning of the Tudor kings. The theme is the kindling and growth of freedom and equality for the individual, an idea that was spread over much of the earth by the English-speaking peoples. Great figures and events crowd its pages. This is the first of four volumes that will be issued during the next three years. Published by McLellan and Stewart, 500 pages, $6.50.

Archibald Lampman's Letters to Edward William Thomson is edited by Arthur S. Bourinot, D.C.L., himself a noteworthy Canadian poet, artist, and essayist. Archibald Lampman (1861-1899) taught school for a short period before becoming a Civil Servant in Ottawa. During his short lifetime he published two volumes of poetry which won him high distinction among major Canadian poets. With his friend Thomson, poet, short story writer, at first editor of the Toronto *Globe* and later of *Youth's Companion*, Lampman corresponded continually during the last seven years of his life. The ninety-one letters included in this volume reveal Lampman as a lovable, frank, and cheerful character, longing for freedom from the routine of office so that "with a mind blown clear as by the free wind of heaven" he may write of the feelings of exultation that life and Nature arouse in him. This little book with its introduction, letters, editorial comment, bibliography, and other information, is obviously the result of scholarly research and a profound admiration of Lampman both as a man and a poet. Published by Arthur S. Bourinot, 158 Carleton Road, Rockliffe Park, Ottawa; 74 pages, $2.50, paper cover.

Homes and Homelands by W. Gordon Chatterton is a social studies book for Grade III in three parts. Family life is emphasized throughout so that the homes, social customs, clothing, and the daily life and work of people in other lands may be compared and contrasted with the Canadian scene.

Part I deals with houses; the building of a modern home, houses of early man, first Canadian houses, and types of homes in other lands. Community life in Canada is described in Part II; stores, community helpers, and community services. In Part III, life in other lands is presented through the daily life of a typical family. School-life, games, customs, foods, houses, industries and farming-methods are introduced in a meaningful and interesting manner. Special details, such as the Christmas festivities of Holland and Norway, the Children's Village of Switzerland, and the Pyramids and Sphinx of Egypt, are described.

The vocabulary of the book is suitable for children of eight and nine years — with an index of special words. Suggestive exercises are grouped at the back. Excellent illustrations supplement the text. Published by Winston, 236 pages, $1.90.

Kingsway Dictionary, compiled by A. J. Stoloff, is a simplified edition for children of eight to fifteen years of age. The words are arranged in one column on each page in large heavy print, followed by the part of speech, numbered meanings, and illustrative sentences. Almost every page has several drawings at the bottom to clarify the meaning of words. Ten thousand words are defined. The simple form and large print will appeal to children who find larger dictionaries confusing. Available in Canada from the British Book Service, 440 pages, $1.45.

Occupations in the Aircraft Manufacturing Industry, prepared by the Occupational Analysis Section, deals with the aircraft industry in regard to selecting a suitable occupation. The reasons for the industry's past instability and future more stable aircraft production are reviewed and these are followed by a summary of the various types of jobs available and educational requirements. A comparison of average salaries and hourly wage rates reveals that the aircraft industry provides its workers with better than average remuneration. The pamphlet which is also written in French should serve to convince all interested people of the attractiveness of the aircraft industry. Published by the Department of Labour, Ottawa, 30 pages, 10 cents, paper cover.

Careers in Home Economics, prepared by the Occupational Analysis Section, gives a comprehensive survey of professional Home Economics in Canada today. Starting with a brief note on the history of Home Economics, there follows information on various fields of work open to the Home Economist such as dietetics, teaching, extension work, research, and business. The desirable qualifications for anyone wishing to do this type of work are indicated. The Canadian Universities which grant degrees in Home Economics are listed, and a brief description of the training at the university level is given. Included also are brief statements on (1) professional organizations of which the graduate Home Economist may become a member and (2) employment, prospects, and advancements in the various fields. The pamphlet is also written in French. Published by the Department of Labour, Ottawa, 18 pages, 10 cents, paper cover.

Beginning Hockey, How to Play Better Hockey, and Coach's Manual — Hockey are sponsored by the Department of National Health and Welfare. The first of these booklets contains little that is not better covered in the second. The second booklet of 47 pages contains good instructional material and the diagrams are clearly presented. The third booklet of 90 pages, with 40 diagrams, is excellent. It would be very difficult for a high school coach to find a more helpful analysis of how to play and coach the world's fastest game. Queen's Printer, Ottawa.

Our World (Renaissance to Modern Times) by Nathaniel Platt and Muriel Jean Drummond. This is, on the whole, an attractive book which has much to commend it for use in secondary schools. Apart from an occasional tendency to make too sweeping generalizations — a fault common in works of this nature — the material is factually sound. Of the book's six units, the first four are of a higher calibre than the others. Here the nature and significance of the Renaissance, the Reformation, the rise of national states, the struggle for democracy, the Industrial Revolution, and colonialism, old and new, are effectively portrayed without the narrative being cluttered up with unnecessary detail. The chief weaknesses of this section arise, in fact, from too great efforts at compression. Certainly the treatment of Marxian socialism ought, in view of later world history, to have been expanded considerably. A chapter of twenty pages is likewise inadequate to cover the cultural history of a period which extends from the Renaissance to World War I.

The last two units are more open to criticism. Not nearly enough attention is devoted to the clash between the operative ideals of liberal democracy and fascism; the basic difficulties of the League of Nations and the United Nations Organization are not thoroughly explored; the background which is required for an intelligent appreciation of Arab nationalism and the present difficulties in the Middle East must be sought elsewhere. Occasionally the opening paragraphs of some topics are so strained to secure dramatic effect that they bring to mind the techniques of *Time* Magazine.

Yet these imperfections do not detract seriously from the general excellence of the book. The method of presenting the material will certainly appeal to the readers for which it was designed. The several types of questions, and the activities and reading lists suggested at the end of each chapter alone make the book worth while. The numerous maps and illustrations are of an equally high order. Published by the Ryerson Press, 474 pages, $4.50.

Teacher's Handbook, by Louis P. Thorpe, Dr. Welty Lefever, and Robert A. Naslund. Since this is a guide to the interpretation and the follow-up of achievement scores, the first part dealing with percentile norms and profiles is of limited value to Canadian teachers. There are, however, some good suggestions about interpreting and overcoming individual weaknesses which are valuable as a follow-up for any achievement tests.

After the Introduction concerning the interpretation of the S.R.A. Achievement Tests, there are four chapters dealing respectively with the development of language perception

and reading skills, language arts skills, arithmetic skills, and work-study skills. The authors emphasize throughout their booklet the importance of charts and flash cards, made either by the teacher or the pupils. They point out the value of methodical drilling, systematic practising, and the application of skills that have been acquired. Published by Science Research Associates, 48 pages, 35 cents.

How to Work With Parents by Maria Piers. This little book could be read with advantage by all those having to do with children at any grade level. Few new ideas for the improvement of relations between parents and teachers are offered, but it is the duty of all of us to take stock occasionally and see if we are falling into the dangers enumerated. One valuable technique in this book is the listing of points of importance to the teacher and to the parent, with the suggestions of specific ways in which teachers and parents may work together. The key to such co-operation is the recognition of each other's problems and a sympathetic understanding of existing conditions. Published by Science Research Associations, 44 pages, $1.00.

Combating the Drop-out Problem by Charles M. Allen. This is a very practical booklet on an important problem. After a brief introduction on the value of studying the question of the drop-out, the author lists the reasons why pupils may drop out of school before graduating, showing that in most cases there is a feeling of frustration because of low marks, inability to adjust to the group, pressure of parents and friends, etc. Published by Science Research Associates, 48 pages, $1.00.

Make Your Study Hours Count by C. d'A. Gerken and Alice Kemp. This booklet would appeal to pupils on the Grade VII or VIII level. It is written in an interesting manner, illustrated with amusing little sketches. The authors emphasize the need for planned study and show the pupils how they can work out a schedule for themselves, which will enable them to complete their assignments and still have time left over for recreation. The section on reading, though short, has a few points of interest and importance. Published by Science Research Associates, 42 pages, 50 cents.

Guide to Good Leadership by Kenneth A. Wells. A feature of this little book, which will be of interest to pupils of Grade IX or X, is the very practical help it offers for many specific occasions. Boys and girls who have qualities of leadership and who find themselves elected to posts of responsibility are frequently at a loss to know what to do. This book helps to clarify some of the difficulties they may meet. The author lists the characteristics of good leaders, and by describing imaginary situations he shows how they may be handled with varying degrees of success by the pupil in charge. Published by Science Research Associates, 50 pages, 50 cents.

Modern Man by Ashley Montagu. This booklet contains sound, scientific facts presented in a simple, readable way, and should appeal to boys and girls on the senior elementary or junior high school level. They will be interested in the illustrations of the modern theories of natural selection and the survival of the fittest, and in the suggested reasons for the varying physical characteristics of human groups. Published by Science Research Associates, 50 pages, 60 cents.

William Saunders and His Five Sons by Elsie M. Pomeroy. To attempt to write six biographies, distinct yet closely integrated, within 190 pages, is in itself a unique undertaking. Of necessity the book exhibits a direct style and contains much documentary detail, to be expected in accounts of the lives and work of men of science.

One gets the impression that the father in this famous family circle spent his life in repetitious rounds of trips, meetings of societies, and the delivering of scientific papers, all growing out of a continuum of background experimentation progressing relentlessly under his hand. In the biographies of the sons, there seem to have been more time and more scope for anecdotes from their personal lives.

The reader cannot but feel the impact of a Canadian family in which each of five sons obtained two or more university degrees; each had time and some measure of talent to give to music; each ranked high as a scientist in his own right, as career or hobby; and each retained a deep sense of loyalty to the family as a whole. These are the unifying aspects of the book.

One feels after reading this latest work of Miss Pomeroy that the collective contribution of William Saunders and his sons to the agricultural, economic, scientific, and aesthetic growth of Canada is unlikely to be exceeded or even matched by any other family in our history. Published by Ryerson, 190 pages, $4.00.

A man should never be ashamed to own he has been in the wrong, which is but saying, in other words, that he is wiser today than he was yesterday.

— Pope.

MINUTES OF THE MAY 1956 MEETING OF THE PROTESTANT COMMITTEE

3460 McTavish Street, Montreal, P.Q.

On which day was held the regular quarterly meeting of the Protestant Committee of the Council of Education.

PRESENT: Mr. John P. Rowat, in the Chair, Mr. Leslie N. Buzzell, Mr. George Y. Deacon, Mr. Harry W. Jones, Mr. Howard Murray, Dr. R. H. Stevenson, Mr. Thomas C. Urquhart, Dr. J. S. Astbury, Mr. T. M. Dick, Dr. A. R. Jewitt, Professor D. C. Munroe, Mr. K. H. Oxley, Mrs. Roswell Thomson, and the Secretary.

Apologies for absence were received from Dr. C. L. Brown, Mr. A. K. Cameron, Honourable W. M. Cottingham, Brigadier J. A. de Lalanne, Rt. Reverend John Dixon, Honourable G. B. Foster, Senator C. B. Howard, Dr. F. Cyril James, Mr. Jack R. Latter, Dr. S. E. McDowell, Dr. W. Q. Stobo, Mrs. A. Stalker, and the Superintendent of Education.

The minutes of the previous meeting were approved on the motion of Mr. Murray, seconded by Mr. Jones.

The report of the Director of Protestant Education contained the following information: (1) The Handbook for Teachers will be revised and reprinted for the session 1957-1958. (2) Promotions in the Department of Education are: Mr. H. S. Billings, Assistant Secretary; and Dr. E. Owen, Director of Curricula. New appointments are: Mr. H. G. Young, Inspector General of Protestant Schools; Mr. P. N. Hartwick, Chief of Examinations; Dr. H. S; Cook, Inspector of Schools; Mr. W. C. McCullogh, Inspector of Superior Schools. and Mr. B. N. Shaw, Inspector of French. Mr. W. M. Munroe has resigned as Inspector of Schools. (3) Thirty-eight high and intermediate school municipalities had operational revenue surpluses in 1954-1955, sixty-two had revenue deficits. (4) 210 library books valued at $425.00 have been purchased and forwarded for the use of the MacLennan Travelling Libraries. (5) 112 extra-provincial teachers wrote the examinations for Quebec certificates at Easter. (6) 364 teachers received teaching certificates in 1954-1955. (7) Mr. George Richmond of Gaspé Village is making a capital gift of $35,000, the revenue of which is for scholarships for Gaspé students proceeding to college or university. (8) Protestant schools built or extended during the fiscal year and accepted were: Greater Montreal, 9 with 197 classrooms and 9 gymnasiums; outside Montreal, 31 with 166 classrooms and 12 gymnasiums. Seventeen schools are under construction at present and detailed plans have been accepted for nineteen schools.

On behalf of the Committee, the Chairman suggested that the Secretary write to Mr. George Richmond of Gaspé Village and express their thanks for his generous gift.

The Chairman also congratulated the Director of Protestant Education on his success in obtaining additional staff in the Department of Education.

On the motion of Dr. Astbury, seconded by Mr. Murray, it was unanimously resolved that the following resolution be forwarded to the Macdonald Protestant Central School Board and the local Board of Ile Perrot:

WHEREAS, The Macdonald High School is required not only to perform the usual function of a school, but also to serve as a training and demonstration workshop for student teachers; and

WHEREAS, In recognition of this fact, at the time of the erection of the present building, special grants were made by the Government on the urgent recommendation of the Protestant Committee and special contributions in land and buildings were made by McGill University; and

WHEREAS, It now appears that enrolment in the Macdonald High School has increased to such an extent as to impede seriously the performance of this second function;

Therefore be it resolved that the Protestant Committee inform the Macdonald Central School Board and its constituent local boards of its great concern that this situation should exist and of its hope that action will be taken as promptly as possible to provide a remedy.

The Secretary was requested to present a report at the next meeting of the Protestant Committee regarding the approval of purchasing sites for new schools whenever large projects for homes are being contemplated by construction companies.

The report of the Board of the Order of Scholastic Merit recommended to the Protestant Committee that the following teachers and principals be awarded the degree of the Order next October at a joint meeting of the Board and the Provincial Association of Protestant Teachers.

First Degree:

Miss Ruth M. Easton, Assistant Principal, Maisonneuve School, Montreal, Que.

Mr. Melvin A. Graham, Principal, Intermediate School, Arundel, Que.

Miss Mary M. MacLeod, Supervising Assistant, School Board of Greater Montreal.

Miss Muriel E. McClary, Principal, Sunnyside Intermediate School, Stanstead, Que.

Mrs. Mary Blanche Pyke, Otterburn Park Elementary School, St. Hilaire, Que.

Miss Dolena A. Nicholson, High School, Sherbrooke, Que.

Second Degree:

Miss Helen V. Brown, High School, Town of Mount Royal, Que.

Miss Alice S. Bruce, Vice-Principal, High School, Rosemount, Que.

Mr. Charles B. Rittenhouse, Supervisor of English, School Board of Greater Montreal.

Mr. R. Walter Rowse, Principal, High School, Noranda, Que.

Third Degree:

Professor C. Wayne Hall, School for Teachers, Macdonald College, Que.

Mr. Robert Japp, Education Officer, School Board of Greater Montreal.

Mr. G. A. McArthur, Principal, High School, Shawinigan Falls, Que.

Mr. John Rowat will preside at the ceremony. Mr. Thomas Urquhart will present candidates for the first degree, Mrs. Roswell Thomson for the second

degree, and Professor D. C. Munroe for the third degree. Professor C. W. Hall will be asked to reply for the recipients. The report was approved on the motion of Mr. Murray, seconded by Mr. Buzzell.

The report of the Education Sub-Committee contained the following recommendations: (1) The following readers should be authorized for the course of study in French of Grades VIII-X (at least one to be read by the whole class in each grade, and one or more of the others to be used for supplementary reading): *L'Aventure de Ted Bopp, Pot-au-feu, Les Laval s'amusent, Les Mésaventures de la Famille Pinson, Les Laval chez eux* (Grade VIII); *Dantès, La Caverne de Grouval, La Mission de Slim Kerrigan, Les Chandeliers de l'Evêque, Les Laval dans le Désert* (Grade IX); *Emile et les Détectives, Le Voyage de Monsieur Perrichon, Le Jeune Pierre, Des Pas sur la Neige, Le Trésor de M. Toupie, Trois Explorateurs* (Grade X). *L'Aventure de Jacques Gérard* should be withdrawn from the Grade IX course. For Grade XI, *L'Evasion du Duc de Beaufort* and *Quatre Contes Choisis* should remain authorized for reading by the whole class, and the following texts should be authorized as optional supplementary readers: *L'Armure du Magyar, L'Affaire des Parfums, La Prisonnière du Temple.* (2) (a) The following new basic readers in the Curriculum Foundation Series should be authorized as alternatives to the readers now authorized for Grades I-III: *The New We Look and See, The New We Work and Play, The New We Come and Go, The New Fun with Dick and Jane, The New Our New Friends* (Grade I); *The New Friends and Neighbours, The New More Friends and Neighbours* (Grade II); *The New Streets and Roads, The New More Streets and Roads* (Grade III). (b) *Looking Ahead* and *Climbing Higher* should be authorized as supplementary readers for Grade III. (c) *The Lion, the Witch and the Wardrobe* (Grade V), *Captain Cook Explores the South Seas* (Grade VI), and *The Woolpack* (Grade VII) should be authorized as optional books to be read to the class by the teacher. The authorization of *True and Untrue* (Grade VI) should be withdrawn. (d) *Time for Poetry* should be authorized for optional use by teachers of the elementary grades. (e) *Invahoe* (St. Martin's Classics edition) should replace *A Tale of Two Cities* as an optional text in Grade IX. Beginning in September, 1957, *A Tale of Two Cities* should be authorized to replace *Ben Hur* in Grade X. (3) *Songs of Praise for Schools,* to be supplied by the Protestant School Board of Greater Montreal, should be authorized as an alternative to *Hymns and Prayers for Schools* in Grades IV-VII. (4) A Sub-Committee, consisting of Dean J. S. Thomson (Chairman), Dr. R. H. L. Slater, Dr. R. Lennox, Dr. G. B. Caird, Dr. J. S. Astbury, and Professor D. C. Munroe, should be appointed to examine the question of religious education in Protestant schools and to make specific suggestions regarding the aims, content, and methods of the course in the elementary grades. Mr. H. C. Cross, Secretary of the Joint Committee on Religious Education in the Day Schools, should be informed of this decision. (5) The revised syllabi submitted by the Music Sub-Committee should be authorized to replace the present courses in Music for the elementary and high school grades. The members of the Music Sub-Committee should be thanked for their work in the preparation of the syllabi. The following texts should be authorized for pupil use: (a) Elementary grades: *Singing as We Play* and *Singing All the Day* (Grade I); *Singing on Our Way* (Grade II); *Singing and Rhyming*

(Grade III); *Singing Every Day* (Grade IV); *Singing Together* (Grade V); *Singing in Harmony* (Grade VI); *Singing Juniors* (Grade VII); (b) High school grades: *Songs Everyone Can Sing, Songs of Praise for Schools,* Senior Edition (to be available in 1957), *Junior Song and Chorus Book for Mixed Classes, Song Book for Women's Voices, Singing Teen-Agers, Music Makers, A Canadian Song Book, NYSSMA Manual of Graded Vocal and Instrumental Music, Class Lessons in Singing, A Song Book for Schools* (melody edition), *Questions and Exercises on the Theory of Music* (Vols. 1-8), *Music for Young Listeners* (Green and Blue Books), *Music To Remember, Listening to Music, A Story of Music.* The following books should be removed from the course of study: *High Road of Song for Elementary Grades, High Road of Song* (Books 1 and 2), *High Road to Sight Singing* (Books 1 and 2), *Treasury Sight Reader* (Book 3), *Songs of the British Islands, Centuries of Song, Sociability Songs, How Music Grew, Assembly Songs, School Songs* (Books 240, 241, 304, 329). (6) As the new Art Activities manual will be available for Grades VI and VII in September, the *School Art* Series should be withdrawn from these grades. (7) The revised syllabus submitted by the Industrial Arts Sub-Committee should be authorized for Industrial Arts and Technical Drawing in Grades VI-XI. The text, *General Shop* by Groneman, Feirer, and Spry, should be authorized for experimental use in selected schools that receive the permission of the Department of Education. (8) The Supplement to Webster-Wesley, *World Civilization,* should be authorized in Grade XI at the list price of twenty-five cents. (9) The Geography Sub-Committee should be continued to study and revise the courses of Grades X and XI. (10) *America's Literature* by Hart and Gohdes should be authorized in the Grade XII North American Literature course to replace *American Authors Today.* The assignment should be from page 161 to the end of the book. The reading of four optional texts should be required for this course. (11) The revised *Français Pratique* should be produced without coloured illustrations at a list price of $3.25.

The report was received and the recommendations adopted on the motion of Mr. Dick, seconded by Mrs. Thomson.

A Sub-Committee was appointed, consisting of Mr. Rowat, Dr. James, and Mr. Oxley, to nominate (1) members to the High School Leaving Board for the usual term of three years and (2) a member to the Central Board of Examiners.

On the motion of Mr. Murray, seconded by Mr. Dick, it was resolved that the plan for the redistribution of inspection areas, as submitted by the Secretary and effective September 1, 1956, be approved in accordance with Section 29, Sub-section 2 of the Education Act.

The report of the Finance and Grants Sub-Committee showed that the amount available for distribution to superior schools for the 1956-1957 session is $518,164, a decrease of $220 from that of 1955-1956. The grants to high school municipalities total $418,050, and those to intermediate school municipalities $100,110. The scale for the distribution of the fund remains unchanged due to the increase in the number of schools and pupils.

The report recommended (1) that Brownsburg Intermediate School be raised to high school status; (2) that the Rock Island-Stanstead (Sunnyside)

Elementary School be raised to intermediate status; (3) that Campbell's Bay, which is no longer teaching high school grades, revert to elementary school status; and (4) that the distribution of the Poor Municipality Fund be recommended to the Lieutenant-Governor-in-Council. The report was adopted on the motion of Mr. Buzzell, seconded by Mr. Jones.

The Secretary reported that the principle of engaging French-speaking Roman Catholic certificated teachers to teach French in Protestant schools was not approved by the Central Board of Examiners. This report was received on the motion of Mr. Murray, seconded by Dr. Stevenson, and tabled. The Secretary was requested to present a report on this subject at the next meeting of the Protestant Committee.

On the subject of the decreased attendance at Bishop's University Summer School, the Secretary reported progress.

Inspector W. A. Steeves outlined his duties of inspection in the schools of Greater Montreal. He pointed out the large percentage of teachers holding Interim and Extra-Provincial certificates on whom Inspectors Gregg and he made reports, and mentioned his general duties in connection with examinations and approval of school sites.

On behalf of the Committee the Chairman expressed its appreciation of his report.

There being no further business the meeting then adjourned to reconvene at the call of the Chair.

E. S. GILES,
Secretary.

JOHN P. ROWAT,
Chairman.

I LOVE TO TEACH

I do not know that I could make entirely clear to an outsider the pleasure I have in teaching. I had rather earn my living by teaching than in any other way. In my mind, teaching is not merely a life work, a profession, an occupation, a struggle; it is a passion. I love to teach. I love to teach as a painter loves to paint, as a musician loves to play, as a singer loves to sing, as a strong man rejoices to run a race. Teaching is an art — an art so great and so difficult to master that a man or woman can spend a long life at it without realizing much more than his limitations and mistakes, and his distance from the ideal. But the main aim of my happy days has been to become a good teacher, just as every architect wishes to be a good architect and every professional poet strives toward perfection.

William Lyon Phelps.

INDEX OF ARTICLES PUBLISHED IN THE EDUCATIONAL RECORD JANUARY-DECEMBER, 1956

Authors	Articles	Page
Brigden, R. R.	The St. Lambert Book Fair	49
Cottingham, W. M.	Present Problems in Quebec Protestant Education	4
Craig, Matthew T.	What Are We Doing for Slow Learners?	208
Dobrint, G. H.	The Case for Subject Integration	73
Dodd, Eric M.	I Can't Draw a Straight Line!	19
Ferrabee, H. G.	A Wise Nation Preserves	101
Gatenby, E. V.	The Natural Process of Language Learning	247
Hartwick, P. N.	The Grade X Examinations: June 1956	267
Hatcher, W. H.	Commentary: Industrial Arts and Matriculation	71
Henry, Arthur M.	The Concept Method of Teaching Problem Solving in Mathematics: An Illustration	242
	The Concept Method of Teaching Problem Solving in Mathematics: Principles of the Concept Method	13
Hewson, Charles G.	Filed Day — Tabloid Style	33
Hextall, May	Audubon Camp of Maine	28
How, E. Lorraine	Our Quebec Juniors	110
Jenkins, Mariel	Junior English Through Drama	92
King, Margery R.	Pupil Potential	168
Kinley, Ethel Adams	Musings of a Mere Music Mistress	44
Knapp, Margaret C.	Let's Take a Train Trip!	84
Lank, Herbert H.	What Industry Excepts of Education	163
Madden, Richard	Workbooks: Tool or Crutch	78
Marshall, M. V.	What the Teacher Contributes to the Community	82
McCurdy, Earle C.	Industrial Arts and Matriculation	69
McMahon, James L.	Baby Sitter or Real Teacher?	22
McMonagle, Elizabeth A.	A Self-Contained Course in World History for Grades X and XI	231
Moffitt, F. J.	March Madness	215
Morrison, Gertrude	Island Number One	54
Munroe, William M.	Chartreuse Dahlias and Jovial Saxophones	88
Perks, J. W.	The Mentally Retarded Child in the Regular Classroom	179
Perry, J. Edward	The Remedial Programme at Knowlton High School	199
Pollock, Sam	The Sins of the Rising Generation	108
Pomeroy, Elsie	Salute to Valour	262
Rideout, E. Brock	Canadian Schools Face the Challenge of the Gifted Student	140
Rivard, R. F.	Science Teaching in the High School	237
Rowse, R. W.	Course Adjustments in Noranda High School	213
Skinner, Andrew F.	Secondary Education in Britain	156
Smith, Sidney	The Conservation of Brain-Power	133
Speirs, Robert A.	School Graduates of 1956	98
Stothers, C. E.	Enriching the Programme for Gifted Students in Ontario Secondary Schools	193
Taylor, Gladys T.	The Lone Wolf	190
	Aim at the Brain	24
Tetreault, Ernest R.	Teaching Conjugation of French Verbs	9
Tompkins, George S.	Canada and the American Civil War	39
	Modern Geography and Its Place in Today's Schools	225
Wells, Anna Mary	A Little Learning is a Dangerous Thing	174
Willis, K. R.	Problems Posed by Slow and Fast Learners	184
Young, J. E. M.	Intelligence Tests	254

THE ROAD TO BETHLEHEM

Above the road to Bethlehem
When I was very young,
A twilight sky of tender blue
With golden stars was hung;

And kneeling at the stable-door,
I happily confessed
My humble worship of the Child
Who slept at Mary's breast.

But now the road to Bethlehem
Seems cold and steep and far;
It wanders through a wilderness
Unlit by any star.

The earth I tread is frozen hard;
The winter chills my breath;
On either hand rise evil shapes
From valleys dark with death.

The air is tense with moans of pain,
Mingled with cries of hate,
Where bloodstained hills and shattered stones
Lie black and desolate.

How can the sacred heart of God
Heal all this guilt and grief?
Lord, I believe. And yet, this night,
Help Thou mine unbelief!

Purge Thou mine eyes, that they may see
Thy Star across the gloom!
Touch Thou my heart, that I may lose
These agonies of doom!

Now in the darkness guide my feet,
Give holy strength to them
To walk with childlike faith once more
The road to Bethlehem!

—Watson Kirkconnell



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