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CONTENTS		page
Editorial	M. G.	1
Marshall McLuhan: Educational Implications	W. J. Gushue	3
The Spaces in Between	T. J. Mallinson	23
The Poet and the Teacher: A Game of Substance and Shadow	Paddy Webb	29
The Pleasures and Perils of University Publishing	John Calam	31
The Impact of Mass Media on Education	John E. O'Brien	40
Bilingualism and Second-Language Learning	L. Bruce Barkman	48
Meeting	Paddy Webb	59
Views on Communication in Education		60
Liberal and Professional Studies in the Undergraduate Curriculum	James J. Shields	73
Geographical Traditions and Education	Gerald T. Rimmington	81
19th Century Canadian School Mathematics	Harold Don Allen	96

Reviews — 106 Contributors — Inside Back Cover

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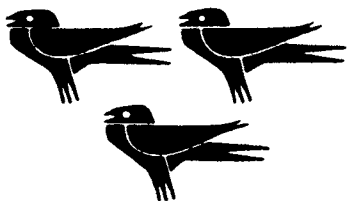
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McGILL JOURNAL of EDUCATION

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EDITORIAL

With this issue, we switch to **Communication and Education**. These words are, perhaps, two of the most nebulous terms currently being relayed in the popular press and in professional journals. Separately, each is confused, abused, reinterpreted with endless variations; together, they may form an empty, contemporary cliché, an all-but-meaningless addition to pedagogy. We are aware of this danger and, while we recognize the vagueness of "communication-and-education," we respect the importance of the ideas behind the words. It is somewhat trite to observe that many difficulties in all spheres of education are now blamed on "communication breakdown;" but at the same time it must be noted that what passes for "communication" is often merely "phatic speech" — talk for talk's sake. S.I. Hayakawa has pointed out that "the prevention of silence is itself an important function of speech, and . . . it is completely impossible for us in society to talk only when we have something to say." We think there is still much that needs to be said about **Communication** and **Education** and we hope that the research findings, information, insights, and opinions offered here will help turn on their message.

Appropriately, our contributions on the subject hook up from coast to coast — from Newfoundland, Bill Gushue's study on Marshall McLuhan, the communications expert, par excellence; from British Columbia, Mallinson's probe of the oft' forgotten relationships in communication, "the spaces in between." Taking Ontario's Hall-Dennis Report as his test pattern, John O'Brien, S.J., surveys the impact of mass media on learning. John Calam tunes us in on an insider's analysis of the university press and its connection with the "publish or perish" syndrome. From the Université de Montréal, Bruce Barkman presents a timely paper on the currently explosive issue of bilingualism.

In addition, we have a battery of "Views on Communication" — brief, personal statements by a number of different people plugged into the educational circuitry. And a poet's refraction of the theme of communication finds rediffusion in Paddy Webb's "Meeting." We also have her "The Poet and the Teacher" as the third in our series, "The Writer as Teacher."

We complete this issue with reports from three different fields: Harold Don Allen's historical account of Canadian school mathematics, Gerald Rimmington's interpretation of traditions in geography, and Jim Shield's consideration of the proportion of professional to liberal studies in teacher education.

M.G.

Next Issue: **Internationalism and Education**

Marshall McLuhan :

Educational Implications*

W.J. Gushue

He received the Governor General's award for his work in literature, the Albert Schweitzer Chair at Fordham for his work in communications, and the Molson Award from the Canada Council as "explorer and interpreter of our age."

He appeared on the covers of *Newsweek*, *Saturday Review* and Canada's largest weekend supplement. NBC made a one-hour documentary of his message and later repeated it, and the CBC gave him prime Sunday night viewing time on two occasions.

He is one of the most publicized intellectuals of recent times. Ralph Thomas wrote in the *Toronto Star*: "He has been explained, knocked and praised in just about every magazine in the English, French, German and Italian languages."¹ As to newspaper coverage, which newspapers have *not* written about him?

He has lectured city planners, advertising men, TV executives, university professors, students, and scientists; business men have sought his message from a yacht in the Aegean Sea, a hotel in the Laurentians, a former firehouse in San Francisco, and in the board rooms of IBM, General Electric, and Bell Telephone.

Although "a torrent of criticism" has been heaped upon him by

* Research for this paper was undertaken while Prof. Gushue was at the Ontario Institute for Studies in Education during the 1967-68 academic year. A slightly modified version was delivered at the C.A.P.E. conference in Calgary, June, 1968. — Ed.

the old dogies of academe and the literary establishment, he has been eulogized in dozens of scholarly magazines and studied seriously by thousands of intellectuals.²

The best indication of his worth is the fact that among his followers are to be found people (artists, really) who are part of what Susan Sontag calls "the new sensibility."³ They are, to use Louis Kronenberger's phrase, "the symbol manipulators," the people who are calling the shots — painters, sculptors, publishers, public relations men, architects, film-makers, musicians, designers, consultants, editors, T.V. producers. The following are examples of this group: John Cage, the composer; Larry Rivers, the painter; John Andrews, the architect of Scarborough College and the African pavilion at Expo; Jonathan Miller, British neurosurgeon and man of the theater; Howard Gossage, author and public relations man; Stanley Vander Beeck, the underground movie maker; Howard Keating, editor of *Ramparts*; Merce Cunningham, modern dance choreographer; Al Bruner, vice-president of CHCH-TV (Channel 11) in Hamilton, and Don Falun whose book, *The Dynamics of Change*,⁴ gives indication of the shape and structure of the book of the future.

Now, as it happens, his main area of concern is education.

And how does the educational establishment regard Herbert Marshall McLuhan? One of the best indications is the number of references to him in the *Education Index*. Would you believe *five*?

If you accuse me of an *argumentum ad hominem* at this stage, I would simply ask: Should educationists be *that* different?

McLuhan's Intellectual Development

There seems to be a widely held belief that McLuhan's ideas sprang forth fully armed in the 1960's with the publication of his *The Gutenberg Galaxy* (1962) and *Understanding Media* (1964).

One of the main points I wish to make here is that McLuhan cannot be understood unless one knows his whole intellectual development as well as what Robert Fulford calls his "antecedents." Trying to understand McLuhan without knowing these antecedents, wrote Fulford, is like studying World War II, beginning at D Day.⁵ (Incidentally, Fulford is the only person that I can recall having made that point.)

The antecedents make up a rather large library, much of which this writer does not claim to know. Here is a barbarously brief indication of McLuhan's background and antecedents.

The first important clue was the influence exerted on him at Cambridge by scholars like I. A. Richards and F. L. Leavis, an influence referred to as "the Cambridge aesthetic." (In a recent letter to me, McLuhan noted the name of Richards first in a short list of the people who had influenced him.)

This group put out a publication, *Scrutiny*, which, according to Anthony Burgess,

taught that, in an acceptable work of literature, it was not possible to separate content from form. You couldn't talk about the *meaning* of a poem: to explain it in terms of a prose paraphrase was not merely heretical but destructive of a highly wrought artifact. In a work of art the form was the content.⁶

For his doctoral dissertation McLuhan did a study of the *rhetoric* of Thomas Nashe, an Elizabethan writer, whose prose was written as much for the ear as for the eye. He noted the same oral and colloquial features in other writers of that era such as Lyly and Greene.

McLuhan was fascinated with the idea that oral language affects a culture differently from written language. Accordingly, he made a "massive study of rhetoric from the Greeks on up."⁷

Following this, he began the study of the form or structure of an incredibly large number of writers and even other art forms. (It helps to keep in mind that McLuhan remembers everything he has read.)⁸

For example, he studied the Symbolists, Rimbaud, Mallarmé and Flaubert and he learned how they broke up the language to recapture the live qualities of speech. By suggesting, but not completing, he believed, they were able to get the reader more involved.

He studied painters from the time of Cezanne and noted the dropping of the point of view and narrative. He saw how Picasso and the Cubists showed several sides of a situation at once.

He saw that writers' styles reflected the culture and technologies of their time. Thomson, Blake, Sterne, Wordsworth and Shelley, he wrote later, used landscape techniques to delineate

mental states.⁹ The poems of T. S. Eliot and Ezra Pound were "full of jazz and pop cult forms."¹⁰

And, of course, he studied James Joyce — especially *Finnegan's Wake*. Joyce's works were not novels in the traditional sense. They were not written in linear fashion and were not structured within the Cartesian views of time and space.¹¹ Joyce's pages parallel a Picasso painting in that his sentences are "an everyway roundabout with intrusions from above and below."¹² Joyce also gave careful attention to how technologies affect languages and art.¹³ He looked at an item from all directions and examined it in depth. This is the "X-ray" or "vivisection" technique. As McLuhan noted somewhere, Joyce put away the lantern of tradition and looked at everything in the light of day.

Mention should be made, too, of Joyce's use of the pun, the deliberate use of contrasts, and the technique of recurring themes.

By the time McLuhan arrived at Toronto his interests had expanded to all modes of communication and to society itself. He began intensive research into a number of disciplines and took classes from his colleagues.

Worthy of mention is the name of Harold A. Innis, the late economic historian, who had arrived at the theory that a major new technology brings with it a major new medium of communication which eventually becomes a monopoly of the way people receive information.

McLuhan opted out of the university climbing game and there was a fairly constant stream of visitors at his office and later at his Centre for Culture and Technology.

McLuhan's Main Ideas

It is extremely difficult to explain McLuhan's ideas in brief form because they do not fit into any kind of structure. They cannot be approached by the method of investigation of any discipline; they are presented not in the form of theses, which can be developed and which subsume lesser ideas, but are stated as themes, and disconnected at that.

Although it is unfair to McLuhan, I will attempt to arrange some of his more important ideas around three meanings of the well-known statement, "The medium is the message," as worked out by John Culkin.¹⁴

One meaning of the statement is that the message is determined in part by the medium; the medium is not just simply the envelope for the message. If you pay attention to the content only you may not know the message.

This means, for one thing, that you cannot do the same thing with different media, not if you expect the same results anyway.

Thus if you pay no attention to the medium you may think that a TV image is like a film image, in spite of the fact that different cameras are used for each, that one reflects off the screen but the other comes through screen, that one is a speeded-up photo but the other is not a photo in any sense, that one favours the panoramic shot but the other the close-up, and that one is of high definition or intensity but the other has much less data. In fact the two images have practically nothing in common.¹⁵

In the early 1950's McLuhan and the American anthropologist Edmund Carpenter persuaded their colleagues from four departments at the University of Toronto to give the same lecture using four different media. The results were startling, the main one being that it could not be done without bias in favour of, or against, the medium used. As Carpenter reported later, the only thing the media had in common was simultaneity of presentation.¹⁶

A second meaning of the epigram is concerned with the effects of the modes of communication on the individual.

At the outset it is important to understand that McLuhan does not belong to the long and honored tradition which holds that technology is neutral. He believes that any technology, or art, is an extension of some human capability — physical or psychic.¹⁷ Some writers refer to this as McLuhan's concept, in spite of the fact that it can be found in such well known works as E. T. Hall's two books, *The Silent Language* and *The Hidden Dimension*, Norbert Weiner's *Cybernetics*, Lewis Mumford's *Technics and Civilization*, and Tielhard de Chardin's *The Phenomenon of Man*.

McLuhan believes that different media have different sense preferences. There is only so much sense energy to begin with and thus there will be a different "sense ratio" with print, where the energy is concentrated in the eye, from radio, where it is concentrated in the ear.

Perception is not a passive affair, as scholars in a variety of fields have shown;¹⁸ it is not simply the input of a stimulus, but

is conditioned by factors outside the stimulus. The way we perceive the world, then, depends to a considerable extent on the cultural glasses we happen to be wearing.

Now, according to McLuhan, there have been two major shifts in man's technology — the first being that of writing and print, and the second, the electronic media of the present century.

With respect to the former, McLuhan believes print was responsible for the literate, individualistic, eye-oriented man of the West as contrasted with his predecessors of oral or tribal culture who lived with all of their senses involved.

Contrary to what many of McLuhan's critics believe, a rather large number of scholars support him on this point, although they may not push their views to such exaggerated lengths.

David Reisman writes that the book "is one of the first, and very possibly the most important, mass-produced products"¹⁹ and that once books enter an oral culture "it can never be quite the same again — books are, so to speak, the gunpowder of the mind."²⁰ He continues: "Print . . . created the silent, compulsive reader, his head bobbing back and forth across the lines like a shuttle . . . The book, like the door, is an encouragement to isolation: the reader wants to be alone . . ."²¹

Walter Gropius, the famous architect wrote: "The transportable printed book brought into existence the solitary, silent reader. The book established the divorce between 'literature and life' which was unknown to ages in which the transmission of wisdom was oral."²²

Sir James Frazer claimed that, "Two or three generations of literature may do more to change thought than two or three thousand years of traditional life."²³

As to the second shift, McLuhan believes that electronic technology giving global coverage, has brought about the end of the monopoly and a shift in man's sense ratios. The continual bombardment of all of the senses by the new technology means a downgrading of the visual aspect in favour of multi-sensory involvement. He writes:

The slow movement of the eye along lines of type, the slow procession of items organized by the mind into the endless horizontal columns, these procedures can't stand up to the pressures of instantaneous coverage of the earth.²⁵

He says there has been a shift from detachment (Remember when "disinterested" was a complimentary term?) to involvement, from privacy and withdrawal to communal consciousness and participation, from receiving information "one drop at a time, segmented, sequential, fragmented, analytic, abridged, reduced to one sense" ²⁶ to fast-moving electronic patterns.

A third sense of the "medium is the message" aphorism relates to the culture as a whole. The paradox to be kept in mind here is that the most basic things in our lives are the very things of which we are not aware. This is a point that is stressed by William Ivins in the introduction to his *Art and Geometry*.²⁷ It is also the theme of the two brilliantly eloquent books of the anthropologist E. T. Hall, referred to above.

An example of this point was brought to our attention by Alfred North Whitehead. He said that the real invention of the nineteenth century was not the dyes and spinning machines but the invention of the method of invention. In this regard, John Culkin has an apt saying. He says that we don't know who discovered water but it most certainly was not a fish.

Now, these basic, unconscious, unquestioned assumptions, that is, those that are invisible to us, McLuhan calls "environmental." He says that we become aware of the environment only when it becomes the content of a new environment. Thus, as Mumford relates, a film tried to be a novel;²⁸ T.V. tried to be movies — we were not aware of this, but by now the late-show watchers know that movies are not T.V.

The person who sees the environment for what it is, McLuhan calls "anti-environmental." He is the person on the outside; he is the child in "The Emperor's New Clothes." He is the artist. The artist is the DEW line of society but most of us move forward by watching the rear-view mirror.

McLuhan's Critics

The opinions that most people have of McLuhan are probably based more on what his critics have said than on his own writings. In this respect, a lot of underbrush will have to be cleared away before a fair perspective is possible.

Here are some facts that may help a little.

1. Some of McLuhan's earliest critics were from the literary establishment. McLuhan was not well known until 1965, but in July, 1964, Dwight Macdonald castigated McLuhan in an article²⁹ which Stearns³⁰ was later to select as one of the two articles that brought McLuhan to the attention of Americans. It hardly needs emphasizing that the literate were not favorably disposed to McLuhan's ideas.

2. The attitude and tone of the earlier critics were copied by others later on. Stearns writes that, "It is interesting to note that various writers who have become aware of the McLuhan phenomenon more recently owe a great deal to the tone of the Macdonald piece."³¹

3. The majority of reviews were restricted to a few pages, which prompted Anthony Quinton to say that their authors had only the space for a cursory glance.³²

4. Some of the reviews were on one of McLuhan's books, but in fact the authors criticized him in general. One cannot understand McLuhan, much less write a critique on him, by beginning with one of his books.

5. An even worse indictment is that some writers took a number of McLuhan statements out of context and then went on a thoroughgoing analysis. (Two examples are the McLuhan metaphors of Heidegger riding the electronic surf and the Pentecostal condition promised by the electronic technology.) A flagrant example of this kind of reporting is an article by Kenneth Melvin.³³ The magazine headed his article with the words, "The McLuhan Cult Exposed." Melvin then took nine separate sentences from *one article*³⁴ and dismissed McLuhan as a charlatan. In fact the article could not be said to be McLuhan's in that it was written by him and George B. Leonard. This is yellow journalism, and pretty bad journalism at that, but in fact Melvin's criticism was carried in the June, 1967, issue of *Phi Delta Kappan*.

6. Many of McLuhan's critics seem to be unable to differentiate his message from his medium. At times they think they are criticizing the former, but in fact it is his style that is upsetting them. McLuhan writes in the form of mosaics, or disconnected sections. This can be frustrating and confusing to the reader who is condi-

tioned to logical, linear prose. Even more infuriating is McLuhan's use of the poetic technique of stress. His ideas are frequently stated in the form of compressed metaphors, concerning which, somebody, I think it was Howard Gossage, said that he wished McLuhan had written 500 words on each of them. The point is that unless the reader is aware of this fact and is also familiar with McLuhan's writings over a considerable period of time, he will probably find McLuhan mystifying and give up on page seven.

7. McLuhan's refusal to moralize about technology really infuriates some members of academe and the literary establishment. Like most artists of this century, McLuhan tries to describe something as it is.

McLuhan believes that moralizing is often an excuse for not innovating — in fact he says it is dishonest and unprofessional.

There is no doubt, though, that he has hit a sensitive nerve here. Consider two facts:

(a) Of the two main views of technology — the conservative, that it dehumanizes man, and the materialistic, that it eases man's burden — the great majority of intellectuals and university people subscribe to the first mentioned.

(b) For a generation or more we have been influenced by a type of literature that is hostile to technology and popular culture in general, a type of writing, christened by Richard Hofstadter as "the paranoid style." Examples are Huxley's *Brave New World*, Orwell's *1984*, Packard's *The Hidden Persuaders*, and Ellul's *The Technological Society*.³⁵

The serious student of McLuhan must read his critics with this in mind.

8. Just as infuriating is McLuhan's optimism for the future and his finding joy, life, colour, and meaning in everything — even the most cloacal of items and events. When old dogies like MacDonald berate McLuhan for his lack of standards, they are, in fact, assuming the Matthew Arnold notion of culture, that is, that the model of art is literature, the purpose of which is the criticism of popular culture.

As was pointed out in the first section of the paper, McLuhan

fits in very comfortably with the artists and intellectuals who comprise "the new sensibility," one aspect of which is an affection for popular culture. But, as Miss Sontag points out, this affection is not a new philistinism nor a kind of anti-intellectualism.⁵⁰

9. Many of McLuhan's followers, perhaps the majority, are guilty of emotional bias, superficial treatment, and sloppy research, and can be just as misleading to the unwary student as McLuhan's hysterical critics.

The fact of the matter is that of the hundreds of people who have written about McLuhan, only a few have gone to the trouble to study McLuhan *in toto*. It must be admitted that such a study is an onerous, one might even say, tortuous, undertaking. Apart from his style, his subject matter cuts across sociology, anthropology, psychology, communications, aesthetics, history of technology, history of art, media study, art criticism, and God knows what else!

What all this adds up to is that a "snow job" has been done on McLuhan. This should not surprise us, for has not this been the fate of all radical, new thought? (McLuhan is new — Boulding says that he is 90 per cent new.³⁷) Such was the case with Buckminster Fuller, John Dewey, Freud, Marx, Rousseau, Darwin, and Jesus.

It should be apparent, then, that by now a number of misconceptions about McLuhan have such hardy roots that they amount to myths. Here are five of the more serious fabrications.

1. McLuhan has pronounced the book to be dead. What he has said, and has said it on dozens of occasions, is that the book will lose its *monopoly*, it will cease to be the primary mode of communication, but it will enjoy a greater circulation and be more useful than ever.³⁸

Indeed, one of McLuhan's forthcoming books is titled *The Future of The Book* and the co-author is William Jovanovich, president of Harcourt, Brace and World.

2. McLuhan cannot communicate. By this it is meant that he cannot write discursive prose. In fact, he has written dozens of articles in the discursive mode. But if the reader doubts this statement he is referred to "Joyce, Mallarmé and the Press" in the 1954, Winter edition of the *Sewanee Review*, "Knowledge, Ideas, Informa-

tion and Communication" in the 1958 *Yearbook of Education*, and "We Need a New Picture of Knowledge" in the 1963 *ASCD Yearbook*.

3. McLuhan values everything that is new and is against everything traditional. Perhaps this misconception can be explained in part by the "either-or" mental set that acts as a charley-horse in so much of modern scholarship. That is, if a man is describing a new cultural gradient, it is taken for granted that he must be for it.

Be that as it may, McLuhan has been trying hard for a decade or more to avoid moralizing. His ideal in this respect is Poe's Mariner in "The Descent into the Maelstrom." The sailor, by watching the eddies with detached amusement, was able to save himself.

The following reply to a reporter is typical of McLuhan's answer to this charge:

I'm supposed to be in favour of the latest and against the old stuff . . . Bunk! I'm not. On the other hand, I'm concerned with survival and that involves paying a great deal of attention to what is going on.³⁹

And he told Stearn: "I personally find very little joy in the effects of media. The only satisfaction I derive is learning how they operate."⁴⁰

4. McLuhan is a one-answer man, a system builder. This criticism is difficult to credit, observing that he abhors systems and that he is changing all the time. One could ask at this stage: Which McLuhan are you talking about? The McLuhan who wrote in the "little" scholarly magazines in the 1940's was a reactionary in the T. S. Eliot and F. R. Leavis tradition; the McLuhan who wrote *The Mechanical Bride* in 1951 was "hung-up" with moralizing about popular culture; the McLuhan who wrote *The Gutenberg Galaxy* in 1962 spoke of two dominant modes of communication in the H. A. Innis tradition (but absent was the moralizing); the McLuhan of *Understanding Media* in 1964 wrote about *twenty-six* modes of communication; and the McLuhan of *The Medium is the Massage*, 1967, wrote about society in general.

5. A related criticism is that of technological determinism. In this writer's opinion, this is the most ignorant and unkindest criticism of all.

McLuhan's overall purpose is to give us a strategy so that our technology does *not* act on us subliminally. When he says, "The medium is the message," he means that that is the way it is — that is what empirical evidence turns up. But it does not have to be that way. That is, the medium need not be the message if we can rise above it. A favourite saying of his is that there need be no inevitability as long as there is understanding.

McLuhan is describing reality as it is. This is neither good nor bad — it's just there. Culkin writes that this

can appear to be leading to epistemological skepticism or relativism. As a fact it can induce a healthy reaction capable of making ugly Americans beautiful; the elite culture humble; the Eskimos respectable; and all of us fully human.⁴¹

For those who think that McLuhan has the one answer, a chiliastic vision of the world, and an Olympian note of finality, his own words on his purpose in writing *Understanding Media* may help to provide a better perspective.

Literally *Understanding Media* is a kit of tools for analysis and perception. It is to *begin* an operation of discovery. It is not the completed work of discovery. It is intended for practical use. Most of my work in the media is like that of a safe-cracker. In the beginning I don't know what's inside. I just sit down in front of the problem and begin to work. I grope, I probe, I listen, I test — until the tumblers fall in. That's the way I work with all the media.⁴²

However, there are a number of cautions to be remembered in any serious study of McLuhan. Here are some rather obvious reminders.

1. McLuhan shows little interest in the social structure; he omits from his writings the hard facts of economics, politics, geography, and so on.

2. He gets his tenses mixed up. He describes as present reality what some day may be a technological reality. This planet is not yet a global village. Huge numbers of people do not have television and more than one-half of the world goes to bed every night hungry.

3. He has the annoying habit of turning analogies into identities.
4. As Richard Kostelanetz has remarked, "McLuhan's mind is, by nature, more admmissive than exclusionary,"⁴³ so that he frequently puts too much into a theme or "probe."
5. His omission of content can at times be very upsetting. This is not to say that he is unaware of the importance of content; it is merely to remark that the reader must keep this in mind.
6. He exaggerates just to get attention, but the fact is that he exaggerates.
7. Since he puts in print everything that comes into his mind, many of his "probes" are silly or frivolous.
8. He will not argue with his critics, he will not be pinned down, and he admits that he is inconsistent.
9. Finally, a McLuhan cult in education would be a most unwelcome development. Like Dewey, his ideas are so radical and his style is so vague that the uninitiated would attribute to him anything they pleased. The possibility for such a development appears at present to be highly unlikely, but it should be borne in mind nevertheless.

Educational Implications

Many of the educational implications of Marshall McLuhan are implicit in what has already been said; in this section, the writer will attempt to be more specific.

The first point to be kept in mind is that it is useless to look to McLuhan for a recipe, for practical answers, for a "philosophy of education," or for specific directions on how to use instructional technology. "If you're looking for a check list [in McLuhan]," writes Barry Day, "you are missing the point. You may as well try to write a thesis from a dictionary."⁴⁴

Each person must approach McLuhan on his own: thus John Culkin studies McLuhan to understand the child better; James Feeley at the University of Toronto library reads him to get insights into what the future function of the library might be; and Paul Klein of NBC learned from McLuhan how to use the medium more effectively so that he was able to produce the so-called television movies which received huge ratings.

My own opinion is that McLuhan's main contribution to the

education profession, in general, comes from the fact that he looks at the world with fresh eyes; he is, indeed, "anti-environmental," and he is able to make us look at our work in a new way.

In other words, the trouble in which the educational establishment finds itself will not be ameliorated with more good intentions and more hard work. What is needed is a whole restructuring of our thinking, a challenging of our basic assumptions. If we questioned everything we believe and everything we do, we would accomplish more than by bringing home two brief cases of work every night. We may even agree with Walt Kelly's Pogo who once said, "We have met the enemy and he is us."

So far we have not recognized the real trouble in educational institutions, because we do not appreciate just how different the outside world is from the environment in these institutions. Some of us still believe in the myth that the more things change, the more they are the same. On this basis we can say that the younger generation is merely going through a "phase."

Perhaps we might be roused to action if we recognize that education and politics are the only major institutions in our society that have remained relatively unchanged in recent times. (Look at what has happened to the most conservative of institutions — the Church and banking.) There is no doubt that young people are going to change politics. This means that time is running out for us. The trouble that we have seen at Berkeley, Columbia and Paris is only a mild indication of what's coming.

Dr. G. L. Berry, Head of the Department of Secondary Education at the University of Alberta, speaking at the Banff School of Fine Arts to the Canadian Education Association on May 28, 1968, used the McLuhan idea that high school today interrupts learning and went further to say that it was "a disaster area."⁴⁵

What are we to do? There are no simple answers, and certainly McLuhan offers none, but, as a start, here are two points which might provide a perspective from which to operate.

First, it is worthwhile to remind ourselves that the educational establishment falls out of step whenever advances in the culture are unusually rapid. Thus, McLuhan reminds us, teachers of the manuscript culture fought against the introduction of the printed book. They considered it trivial and vulgar, they said it had no authority

since it did not speak directly to the students, and they said that it would lead to the depersonalization of the scholars.⁴⁶ When writing was being introduced into the Greek culture, Plato and others were very upset over it; there's a famous passage in the "Phaedrus" on that point. So, it is to be expected that in our time, when new technologies are being introduced, we might be out of step again.

Second, in spite of the many commendable improvements in education in recent years, McLuhan is essentially right in describing education in North America today with the phrase "mass education." Mass education just happened to come along at that point when Western civilization reached an extreme point in specialization, with the stamping out of mass products on the assembly line. Mass education, then, turned out mass products, and so came the whole rigmarole of tests, marks, schedules, bells, standard curricula, and even pathetic attempts at the efficiency principle. Raymond Callahan's *Education and the Cult of Efficiency*⁴⁷ is "must reading" in this regard.

And so it is that, while formal education is based on mechanical and mass production concepts, the world outside is becoming more and more characterized by diversity. Diversification will be one of the passwords of the future. This recognition is possible as soon as we learn that the new electronic technology is not mechanistic; it is organic. McLuhan and experts in automation (cybernation) like Sir Leon Bagrit,⁴⁸ "the father of British automation," and Buckminster Fuller⁴⁹ have long since recognized the fact. Electricity makes almost anything possible everywhere and if the computer can make one custom-made product, it can make a million. There are plenty of signs of diversification in our society right now. It can be seen in fashion, in dancing, and, indeed, in all of the arts.

What this means, of course, is that we have to begin to prepare for tailor-made education. The big "hang-up" here is the fear that if we eliminate grades, marks, schedules, and so on, there will be chaos. This belief, as John McMurty⁵⁰ wrote recently, is based on "an argument by false dilemma," that is, the alternative to control is chaos. The notion that tailor-made education would lead to chaos is based on thinking of education as teaching rather than learning.

Second, formal education is concerned with a who (student), a what (curriculum) and a how (process). During the last decade there has been a considerable bucking up in the second area. True,

there has been too much emphasis on content, on the subject, on the package, but still it is with the other two aspects of the enterprise that our most vigorous efforts must be directed.

With respect to the student, the difficult point to grasp is that he is not a younger version of the people who run the educational establishment. Not only does he know more, but, more significantly, he perceives the world differently. And this is because he has been conditioned by a different environment.

Take TV. Just about all of the kids in school today have spent more time watching TV than the total time spent in school. But the more important fact is that the student acquires his information from television in a different way from school. From the former he receives information in fast-moving electronic patterns but in school he learns at a slow, point-after-point, one-thing-at-a-time pace. Furthermore, information in school is presented in a linear, sequential manner, whereas the television presentation is characterized by discontinuity. Film director Richard Lister said that, "TV is best at those sudden shifts of reality," e.g. a Viet Nam War item, then a toothpaste ad. and then Gomer Pyle.⁴¹

Where is the logic, the sequential development, the story line, (the introduction, development, and conclusion, which are the characteristics of literature culture) in programs like "I Spy," "The Monkees," "Mission Impossible," "Rowan and Martin's Laugh-In," and, in one of the most significant songs of the decade, "I Am the Walrus?" Or, for that matter, in the new so-called television-movies? Or in the new trend in advertising?

That's just television. Then there is the ubiquitous transistor, and the phonograph, and the tape recorder, and so on.

But a more instructive point is that the whole urban environment is a source of information. McLuhan says that such an environment has an "information-overload." To an adult a billboard, for example, is an eye-sore, but to a child it is a source of information.

The slow, and different pace of the classroom is frustrating and confusing to urban students. More of them are dropping out every year, either physically or psychologically, and more of them are becoming antagonistic. The obvious implication, then, is that we must try to see the younger generation in a new light — before it is too late.

Now, with respect to the third element, the most obvious im-

plication is that there must be less reliance on the book, on print in general. Robert Schafer of Teachers College recommends that the school be considered as a laboratory of mixed media - print and the new media, the oral and written traditions.⁵²

There are several big obstacles here, the most troublesome being, according to almost all the experts, the fear that technology dehumanizes. The school is the only major institution that has made little use of technology and it is this fear, apparently, which accounts for that fact.

A related myth is that the new technology (instructional) is expensive. Expensive in relation to what? META has come in for a lot of criticism, but did you know Elwy Yost has been operating with a budget of about two-bits per student per year?

Another misconception is that the new media are diversionary and for entertainment. An even worse misconception is that they are "audio-visual aids" and "mass media."

A further point is that we in education are almost totally illiterate in reading these media. This fact was emphasized in the first-rate effort by the Ontario Curriculum Institute.⁵³

Several points are pertinent here:

1. Teachers and students have to be instructed to read these media in just as rigorous a fashion as in the reading of print.
2. These media are art forms and must be treated as such. They must be as regular a feature of school life as texts.
3. These media must not be placed in a hierarchy. Surely, the proper approach is to use that medium which would be the most effective in any given situation.
4. Children are more educated in these media than we are, and so we can learn from them.
5. One of the best ways to learn the "grammars" of these media is to produce them. Adults in Toronto were surprised recently when a Grade 6 class made a film but to the children this was almost a "natural" activity.

Summarily, we need a new imaginative picture of the whole educational enterprise. For this we need the help of "artists" — and on a large scale. Here again there are all kinds of problems, not the least of which is the hostility and suspicion that exists between them and us. But time is running out.

As for Marshall McLuhan, it is no use to wish that he would go away; we have to adopt, adapt or eliminate his idea before we can get on with our work. Margaret Gillett had the last word in this respect. She wrote: "McLuhan throws down a challenge which no educator should ignore."⁵⁴

And if his ideas seem uncomprehensible, his style frustrating, his ideas exaggerated, and his writing viscous, let us recall four names, two of whom could hardly write at all, the third wrote outrageous exaggerations, and the fourth wrote with the most viscous style of all. They were, respectively, Heinrich Pestalozzi, Frederick Froebel, Jean Jacques Rousseau, and John Dewey. And they are still near, or at, the top of the educational hit parade.

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And Communication Is

A report is to hand from an Australian girl's school, a private, "exclusive" establishment, well-known for its excellence in team sports and examination results. Even in this genteel environment, the word is out about protest, drug-taking and the other current concerns of today's young. Recently, one of the mistresses, rather weary of teen-age affectation of boredom and show of slight resentment whenever corrected, remonstrated gently with her class, ending with: "And I am very tired of Barbara's taking umbrage on every occasion."

At recess, a deputation approached her seriously and said: "We are Barbara's friends and we know for certain she has never taken umbrage or anything else . . ."

The Spaces in Between

T. J. Mallinson

It needed great scientific imagination to realize that it is not the charges or particles in themselves, but the field in the space between, which is essential for the description of physical events — and from which ultimately arose the theory of relativity.¹

So write Einstein and Infeld in their book *The Evolution of Physics*.

Education is still characterized by an emphasis on particles or elements; denial of the interaction process between particles (i.e. persons) is paramount in contemporary institutions of learning. At a time when the social sciences and medicine (particularly psychiatry) are revising their own basic assumptions with respect to the nature of man and the nature of change, education still persists in viewing the process of change as one which is almost entirely, uni-directional; at most, the term "exchange" is used, but seldom, if ever, "interchange."

Stated in another way, two things stand out for a student of communication who looks at education today: firstly, the denial of a mutual two (or more) person interaction system. The key element in the denial is rejection of the mutuality of the interaction; persons are acknowledged to exist within the communication process, but they are usually perceived in ping-pong stimulus-response terms (perhaps Skinner was being ironic in the training of his pigeons!). Thus the teacher is seen as providing the stimulus and "shaping" the responses (perhaps our major advances in psychology have been terminological). What is neglected here is the whole "open-ended" nature of communication and learning; not only must we reject an S-R series concept, but even a linear $S_1 - S_2 - S_3 \dots$ process is unsatisfactory. What is involved is a network of non-sequential stimuli and responses (if we wish to continue using these terms), from out of which a pattern emerges as interaction progresses. Both on logical and psychological grounds the overriding assumption of linearity of thought, learning and communication has been roundly scored, starting with Dewey's initial criticism of the "reflex arc concept," continuing into the various analyses of Piaget and Bruner, and even reaching popular currency with the flamboyant writings of Marshall McLuhan.

The second facet of education which strikes one is the well-nigh schizoid denial of anything other than verbal communication. Not only is dialogue restricted largely to teacher-student "exchange" (reflecting all the aforementioned assumptions), but exchanges other than verbal are denied for all practical purposes. Not only do we ignore other forms of communication (e.g. visual, tactile, etc.) but we positively discourage them. This is, of course, a reflection of a much more generalized societal attitude, as can be seen from our unwillingness (bordering on panic) to maintain eye contact, touch other persons, or even become aware of one's own self and its manifestations. By way of example, a colleague of mine requested a group of children and, later, a group of university students, to write down those things they perceived in their environment in a ten-minute period. While the youngsters were very much aware of their own bodies and signals (e.g. heart-beat, odors, and other personal sensations), the older students completely denied anything except sounds generated by others or other parts of their environment (coughing, motors running, etc.).

Is it any wonder, I ask myself, that students today completely

mistrust their own experiences, mistrust their own feelings? One does not have to encounter a psychiatric patient to discover persons who do not know when they are angry and who see personal interaction primarily in terms of some sort of bargaining enterprise (the "exchange" of information!).

For those (and there are many) who aver that this state of affairs is temporary ("until our cultural lag catches up with research"), I would urge that they read some of the prognostications offered by educators today. The emphasis on technical aids (e.g. programmed learning, closed circuit television, etc.) and on the techniques of social control (including chemical and neuro-surgical intervention) deny many facets of human interchange. Indeed, the most frightening document I have read this year (The *Daedalus* issue "Towards the year 2000") restricts the section on Education to developments in socio-technological manipulative techniques of the present and future.

I could quote at length from various articles in this issue, but let me refer to a particularly chilling article by Garner Quarton in which he reviews current efforts being developed to control human behavior and modify personality. Some of the headings are: *Modification of the Genetic Code, Gene Selection by Controlled Mating, Use of Drugs, Neurosurgical Intervention, Surgery Outside the Brain, Environmental Manipulation*:

(e.g. The behaviour of an individual is much influenced by the opportunities that are made available or denied to him, some of these are quite simple and modern systems analysis and flow-charting schemes permit them to be extensively applied; much greater control of opportunity to act is possible using modern communication and control techniques; similarly behaviour is readily modified by supplying or *withholding* maps or models of how other individuals behave. — Shades of 1984!)²

Monitoring & Mixed Methods (e.g. electrodes implanted in the cortex).

Further on, in discussing some of the problems of resistance and acceptance of these control methods the author notes "Psychia-

trists, particularly, often have value systems of their own that stress the importance of individual differences . . . they use manipulative techniques only when other methods fail, *but it is important that they do use them on occasions*. Casual but well intentioned use of these techniques is a reality today; it would, therefore, be naive to think it will not occur to a significant degree in the future." (*Italics mine.*)

This approach is, to my mind, totally destructive, in the long run, of anything which promotes or characterizes effective human communication. The information exchanged in any dialogue is (essentially) of secondary importance to the psychological (largely non-verbal) affirmation embodied in the process of human interaction. The "generation gap" is an affective rather than cognitive gap, and is one which shows every sign of increasing rather than diminishing. Yet the very emphasis on the technical processes of communication leads inevitably to fewer and fewer opportunities for interpersonal experiences. My particular concern here is that we may choose to use whatever time is "saved" to increase the flow of information exchange.

Such a choice would be to ignore the potential shift in emphasis in our educational institutions. Freed from the (practical) necessity to commit all resources to the communication of information, these institutions will be freed to facilitate those interchanges (both inter- and intrapersonal) from which emerge the valuing processes. This, it seems to many, will be the central role of education in the future; providing a context in which personal values can be examined, tested and embraced.

How would one accomplish such an aim?

Firstly, there would be more dialogue; dialogue not only between the so-called "teacher" and "student," but also between students; dialogue not only on issues relevant to the particular space-time context of the classroom, but on issues relevant to the school and the community, between communities and even between the various sub-systems within the individual himself.

Secondly, potential communications between students should be far more diversified; opportunities should be provided for dia-

logue with younger students, older students, adults, with students of various abilities, skills and intellectual capacities. In a world of intense variety, communication should not be limited to particular segments of the population. Moreover, the multiple modes of communication — not merely verbal — should become part of any educational experience. The present developments in the fields of art, theatre and music all attest to the interest, indeed, demand for other forms of sensory communication with the environment.

In short, the educator must very soon face up to the implications contained in the opening quotation: "It needed great scientific imagination to realise that it is not the charges or particles *in themselves*, but the field in the space between which is essential for the description of physical events." We as educators must recognize that we are dealing with a series of interactions, a series of "fields in the space between" rather than with discrete, individual students. In the same way that it is meaningless to reify the concept of intelligence as a function or capacity separate from action so, too, is it meaningless to conceive of the individual as a self-contained unit divorced from the interaction process. Equally suspect, however, is the approach which reifies the group as an entity (a concept which presently appeals to the overburdened teacher).

The task facing us, therefore, requires a radical shift away from a focus on the student *per se* and even on the class *per se*; what is required is a re-orientation towards the *processes* of interaction and communication. This insight has been pursued by Martin Buber, particularly in his book *Between Man and Man*. Buber observes that:

[Our] first step must be to smash the false alternative with which the thought of our epoch is shot through — that of 'individualism or collectivism'. Its first question must be about a genuine third alternative — by 'genuine' being understood a point of view which cannot be reduced to one of the first two and does not represent a mere compromise between them.³

Buber expands this argument by reminding us that both individual persons or aggregates (e.g. a group or class) are nothing more than convenient abstractions. In essence, "the fundamental fact of human existence is man with man," and we can never talk

about man except in relationship to, or with, another individual human being who must necessarily be in some form of interaction with him, either consciously or unconsciously.

Consequently, Buber comes to the conclusion that:

The view which establishes the concept of 'between' is to be acquired by no longer localizing the relationship between human beings, as is customary, either with an individual soul or in a general world which embraces and determines them, but in actual fact between them. 'Between' is not an auxiliary construction, but the real place and bearer of what happens between men; it has received no specific attention because, in distinction from the individual soul and its context, it does not exhibit a smooth continuity, but is ever and again re-constituted in accordance with men's meetings with one another.

"This," concludes Buber, "is where the genuine third alternative must begin."

Such an alternative calls for "great imagination" on a scale even more daring than that demanded in the field of physics. Not merely the complexity of the task challenges us, but indeed the denial of a subject-object separation would appear to be a very denial of the possibility of such conscious effort. And yet the artist daily resolves this paradox in his music, his painting, and his poetry.

It may be then (and here I make a prediction) that we, as educators, will turn increasingly to the artist for our models, rather than to the scientist, or technician.

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The Writer as Teacher — III

PADDY WEBB, who came to live in Montreal in 1966, was born in Essex, England, and was educated in London and Southampton. She is married to sculptor Richard Hearsey. Her poetry has been published in various well-known periodicals in England, the United States and Canada (THE OBSERVER, THE POETRY REVIEW, OUTPOSTS, PRIARUS, STRAND, LONDON MAGAZINE; THE NEW YORKER; CANADIAN FORUM, QUARRY). She has works in two international P.E.N. anthologies.

The Poet and The Teacher:

A Game of Substance and Shadow

Paddy Webb

All day there are two of us:
 one upright and purposeful
walking the light, and this other
 trailing and mocking: a shadow.
It's no use making a fuss —
 he's incorrigible —
he's waiting to take over,
 waiting for night to make us one;
however insubstantial I become
 I may not succumb:
this is a conflict of wills.

Imagine yourself formless
as he is, cast any way,
blotting out colour, line, mass —
impersonator! but what an
illumination this is —
motif, periphery —
how exquisite! such class!
a sliver of ice, a fragment
of glass, sculpt in cement;
how it is, he meant:
black and white complementary.

He splinters these railway lines,
cracks sidewalks, melts and pours
through crevices: scavenger!
sewer-dredger, silt-sifter,
how I envy him. I whine
my falsetto lesson, or
correctly mark time — corrector!
but shouldn't be, needn't be,
oh, if only we could see
eye to eye —
at least similarly.

But he drags at my heels
pulling back, or rushes before;
he's my muse others trample
I cannot quite reach, though I try.
I'm a cog in a wheel
in a wheel — a cog-wheel — what a chore
to extricate a sample
of my core. Day now, night now,
forces me to kneel, scrape and bow:
Poet. Teacher. Union? Wow
baby! one of us must go.

The Pleasures and Perils of University Publishing

John Calam

The urge to write, particularly among modern academics, seems irresistible. Little wonder. Peers expect conference papers and journal articles and books. Haunted by deadlines, scholar-authors yearn for readership. Nor is this mere vanity. Indeed, professional advancement depends on it. Hence the need for printing outlets. Hence the pleasures and perils of university publishing.

Naturally, this urge to write brings to bear upon university presses enormous pressures and responsibilities. There is, mind you, nothing especially new about all this. In 1478, only a year after Caxton's first publication, and a mere two dozen years following the probable completion date of the Gutenberg Bible, Oxford University Press was persuaded to do a rare commentary on the Apostles' Creed, attributed to St. Jerome.¹ Today, the extent of this academic pressure to publish can be imagined by reference to some spectacular statistics. There are 68 member presses listed in the

Directory of the Association of American University Presses. These publish as few as 6² to as many as 143³ titles per year. Their aggregate for 1966 was 2,300 titles.⁴ Yet 15,000 students received American Ph.D.'s in 1965. Twenty-two thousand are estimated for 1970, and 32,000 for 1980. University faculty members have likewise multiplied. There were 250,000 of them in 1955, 370,000 in 1965. Both newly-qualified Ph.D.'s and established faculty, moreover, are highly motivated to appear in print. But the rate of North American university publishing in 1965 was one book for every 181 faculty members.⁵ And whereas not every one of 370,000 potential faculty authors actually produced manuscripts that year, and thousands of them doubtless contracted with commercial houses, the probable rate of manuscript rejection constituted a melancholy prospect for other thousands of hopeful, scholarly writers.

So, as one wag put it, the university publishing problem is not the genesis of a good book on birth control but the birth of good book control. Faced with urgent decisions on what, why, and when to produce, university presses find themselves thrown into complex and sometimes delicate relationships with numerous interested parties. Some of these relationships are obvious; some not so obvious. Let me point to a couple of not-so-obvious ones.

* * *

First, *the commercial publisher* is certainly interested in what the university press is about. He has good reason. For one thing, university presses accounted for about 8% of America's 1966 non-fiction titles.⁶ For another, they operate on a nontaxable basis and have the strategic advantages of professional connections of exceptional importance in search editing for new material, book adoption, and distribution. Furthermore, they are often subsidized. Accordingly, they sometimes arrive at limited-edition publishing decisions exclusive of fiscal considerations. Generally, to be sure, relationships with commercial establishments are cordial, as indicated in the excellent coverage of university press affairs in trade journals like *Publishers Weekly*.⁷ Now and again, cooperative efforts between university presses and commercial concerns result in better book distribution for both. But sometimes, open resentments appear.

Second, *the financial community* usually expresses keen interest in university presses. For the usual basis of university press operation is nonprofit, and the desideratum that golden fleece called the "break-even point." Understandably, authors appreciate royalties, royalties accrue with sales, and sales with promotion. Yet, in their nontaxable marketing efforts, university presses must preserve a distinctly noncommercial posture. Upon occasion this is hard to do, since they employ many of the same marketing techniques as do commercial publishers. To complicate matters, university presses occasionally find they have inadvertently spawned a best-seller. The classic example is Yale's 1950 first 1,500-copy printing of David Riesman's *The Lonely Crowd*, a supply at the time judged ample for a decade or two. At last count, it had sold over a million copies! Thus, the university press treads the economic-legal tight-rope. Balance is everything. If *Lonely Crowd*-type situations develop *in spite of* soft pedal sales tactics, all well and good. But with tax inspectors on one side and university controllers on the other, university presses must eschew both Madison Avenue sales pitches and the infinite distribution of complimentary copies as alternative means of proclaiming their wares.

These not-so-obvious relationships are frequently little-known to the very writers upon whose work university presses ultimately depend. Yet, if it is not recognized that university presses are in a sense hemmed in by their own limited production, distribution, and surplus budgeting capacity, and ever vulnerable to charges of excessive zeal on the one hand and costly benevolence on the other, then decisions concerning certain more-obvious relationships can be sheer torture.

* * *

First and most obvious of all is the relationship between university press and *the scholarly writer*. The initial point of contact is the manuscript, sometimes received after much searching; more often unsolicited; always extended every courtesy. The basis of selection varies. Many university presses submit all materials for collective committee decision to accept or reject. Others depend on the views of series editors, and all seek the best-obtainable independent opinions in the disciplines.

Two equally-obvious author irritations are built into a system of this sort. The one is that it is extremely time-consuming. If "extending every courtesy" is to mean something other than a feat of speed reading every fourth manuscript page and rejecting by return mail, then one must provide time. Even very small university presses may have dozens of manuscripts in the house at a given moment. Large ones frequently have hundreds. University personnel customarily requested to offer editorial advice are themselves already committed to heavy reading responsibilities, not to mention committee work. And the time which slips by as a result of these efforts to avoid publishing decisions resting on hazard, ruthlessness, or politics, frequently turns out to be a period of unaccustomed trauma for the potential client, particularly since, as he himself will often readily admit, his material may be ephemeral.

But there is another more formidable reality the university press must face in its relationships with the author. Since the university press is a nonprofit organization catering to a limited readership, it would be a logical contradiction to employ, as the opening gambit of a letter of rejection, the useful commercial euphemism that the manuscript is really quite good but not *economically* feasible on account of its high specialization and corresponding restricted appeal. So if a given manuscript is correctly placed in a university press, the *only* measures of acceptance or rejection are relevance and quality. Here, to be sure, are splendid criteria for acceptance. But what dreadful criteria for rejection when it comes to a university colleague who simply *has* to publish!

What, though, of the allegedly fortunate? What of the relationship between university press and publishable author? In a scintillating article, Dan Davin, Assistant Secretary, The Clarendon Press, recently argued — ideally at least — the university press editor is very much the background figure. His author, on the other hand, is "a specialist . . . not particularly interested in the views of his editor." And his prescription for a healthy relationship between these two is probably not far off the sincere aims of most North American university presses. "Relations between author and editor," he writes, "should begin with a synopsis of interest and sympathy and should aim at developing these into symbiosis. Like marriage, the association should ideally be for richer or for poorer, in sickness and in health, for better and for worse."⁹ Granted,

brisk exchanges between editor and author often reveal not so much two co-workers as two intellectual solitudes. But I think it fair to say that the same institutional proximity which often places university press editors and authors at close quarters, and provides for some moments of tension not generally encountered in commercial publishing, can produce the ideal state of symbiotic bliss which Davin so eloquently postulates.

This brings me to my second obvious relationship — that of university presses to *the university at large*. A tricky one, this! Academics are said to conceive of their presses as something between a dilatory duplicating service somewhere in the basement and an amateur club given to hiding its publications in a warehouse and never advertising, thus avoiding the bother of ever having to pay royalties. Press people, on the other hand, are reputedly prone to viewing their academic colleagues as intense, ivory-tower stereotypes who, for all their erudition, fervently recommend unsound business practice and unaesthetic — even comical — design.

Happily, visionaries have transcended these amusing but intellectually suffocating notions of the two solitudes. Such a person was Daniel Coit Gilman, a Yale man and first president of Johns Hopkins. Gilman “perceived instantly that there is a third force in any responsible institution of higher learning. In addition to teaching (the faculty) and research (the faculty and the library) there must be publication (the faculty and the library and the university press). Advance knowledge ‘far and wide’ was his message and the medium was to be the scholarly publishing house.”¹⁰

Since Gilman’s time, America’s great universities have hearkened to his advice. Some of them approach the problem of press/university rapport by joint appointments. Others ensure that their press directive or advisory boards are widely representative of university disciplinary interests. Still others recognize in their presses a major point of contact with the public at large. These latter provide for a high degree of coordination between press and university department of extension or of college relations. Resident general-editors of series publications often furnish an invaluable bridge between the technical and the academic aspects of university publishing. Furthermore, its professional contacts make it possible for the university press to attract manuscripts from a wide field. It is

said, in fact, that a university press with more than a third of its titles springing from its own institution's professoriate is getting a bit parochial.

There is a third obvious relationship stemming from the second one — the relationship with *the reading public*. Here, too, the reefs can be treacherous. A man once wrote me and said he had been to his college bookstore to buy a book. "To my great shock and disgust," he complained, "the price tag . . . was \$2.50. I have complained vociferously to all who would listen, including the teacher of the course. Surely, the goal in producing books for education should not be to fleece the student of every last dime on a cheap book you think he has to buy . . . When I get to be a college teacher and can order books, I will not forget this incident nor your prices."

Of course, the man is perfectly right about prices. But here the university press is in a dilemma. Naturally, when it produces volumes which will mostly head for academic libraries, no one person bears the brunt of the cost; the wistfully optimistic slogan EVERY LIBRARY WILL BUY ONE is well-known. But the individual buyer, too, is very much interested in and, certainly, entitled to quality at reasonable prices. However, the university press faces substantial expenses. Unit manufacturing costs tend to be greater than those of many commercial houses because of relatively small printings. By virtue of their frequent inclusion of detailed footnote, tabular, and illustrative material, university press books ring up considerable costs at both editorial and compositing stages of production. Moreover, because author and editor may perhaps work in the same building, or on the same campus, there is a great temptation for a superabundance of alterations and afterthoughts beyond initial estimates, all of which drive costs still higher.

Now, there are factors which offset these comparatively high production costs. Some university presses seek and receive outright grants from parent institutions, foundations, or appropriate professional organizations and are able as a result to build very reasonable price structures. Others feature rotating subsidies, returnable through profits for re-use in further publishing ventures. Chester Kerr of Yale has said of subsidies that a university press director must be "a man who understands why publication is as

important to his institution as the library, and that it is going to cost money in the same way that an English Department costs money.”¹¹

The fact remains, though, that trends in university publishing are toward higher prices. This trend is inevitable in a world where operations analysis, with its inputs and its outputs, is becoming so much a part of the educational order of things. I suggest that as prices are forced up, finer discrimination regarding the form and purpose of university publications becomes necessary. Borrowed dissertations, compressed journal articles, multilithed or mimeographed pamphlets, microfiche cards, centralized systems like the U.S. Office of Education's Educational Resources Information Centers, and microfilms have a distinct part to play in the business of exchanging the fruits of higher studies. Admittedly, intermediate publishing steps of this sort fail, perhaps, to lead to that exhilaration marking the miraculous appearance of fresh, glossy, new-smelling volumes, offspring of one's dawn inspiration and dusk agonizing. Warehouses, however, are too often stacked with university press books whose authors and editors once dreamed about a manuscript metamorphosed in aid of the popular image (and misconception) of bookselling.

I have tried to show that a university press must not be a passive adjunct to a broader university operation, ready to accept the equivalent importance of each and every manuscript coming its way merely to accommodate an urge, no matter how strong and legitimate, to appear in print. Rather, it must be a dynamic force, sensitive to the best of what is going on in the university and in the disciplines it professes. But beyond this, it must speculate about the future; for it may take two or three years at least to carry an idea from writer to reader by way of the meandering and sometimes frustrating path from first draft outlines to mint books. There is no instant book. So the university press needs to refine its prophetic powers in the realm of ideas. This, of course, it can scarcely do by publishing frivolities or by pricing its leading works out of the market.

To conclude, I should like to mention a fourth obvious relationship — that of the university press to *its widest possible public*. G. P. Day, founder of Yale University Press used to say that

a university press should "render distinct service to the world in general, through the medium of printing or publishing or both, and in such ways supplement the work of education which commands the devotion of the University whose name the press bears." ¹² In a latter-day observation, Marsh Jeanneret, distinguished Director of Toronto University Press, correctly declared that "the purposes and possibilities of the scholarly publishing arm of any university are more easily perceived by those who comprehend the purposes of the university itself." ¹³ One might add that considering the career implications of publishing and the pressure to publish subsequent to them, university presses need to preserve careful priorities if their publications pertinent to the solution of urban, race, illiteracy, poverty, or survival problems of a troubled world are to achieve maximum originality and power.

* * *

Since Oxford University Press first printed its commentary five hundred years ago, since men like Daniel Coit Gilman of Johns Hopkins, William Rainey Harper of Chicago, and Nicholas Murray Butler of Columbia made the connection between scholarly research and university publishing toward the end of the 19th century, since the formal organization of the influential Association of American University Presses in 1946, the formula of "teaching + library + press = university" has continued to test out pretty well. University presses, once on the periphery of university activities, through some centripetal intellectual process, are moving steadily toward the heart of university life. Theirs is the office, however, of developing relationships with their commercial associates, their financial mentors, their authors, their parent institutions, their readers, and their broader world of influence so that they can effectively resist the lesser calls of the moment — immediacy, visibility, glossiness, or pressure to publish trivia in the cause of personal advancement — and address themselves, rather, to the greater calling, advancing knowledge.

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The Impact of Mass Media on Education

John E. O'Brien

Living and Learning, the Report of the Provincial Committee on Aims and Objectives of Education in the Schools of Ontario, is an excellent example of how mass media are influencing in a total way what is happening in education.¹ Singularly arresting in shape and design, with splashes of color, excellent photography, and an imaginative use of white space, it alerts the reader to a new look in education even before he begins to read the report. Nor does it deliver less than it promises. The 258 recommendations are made in the belief that

we cannot build a society by looking solely to the past — to the record of what our history has shown us to be; for at any juncture in our history both past and future press equally upon us. Characteristic of our thinking today is our belief in the permanence of change. . . .

Like the men to make the initial landing on the moon, our children must be thoroughly prepared for a destination whose features no one knows at first hand. . . . The achievements of the past are there to orient our

youth; the vision, the speculation and the prediction for the future are there to challenge and excite their minds; it becomes a function of the school to provide that orientation and foster that excitement.²

Any realistic evaluation of the cultural environment would lead one to recognize, as did the Committee, the all-pervading influence of mass media on what might be called informal education. In the words of the Committee

[today's child] is daily barraged, enriched and deeply affected by the wonders of the age . . . In the sophisticated society of today, the laws and language of the Industrial Revolution are as obsolete as Fulton's steam engine. The bounties and distractions of modern living have created new values and new ideas, new concepts of time and space, new freedoms and new constraints. . . .

From colors to clothing, from speed to spending, he moves in an environment of constant impact upon his senses . . .

He has seen the launching of astronauts, the funeral ceremonies of Kennedy and Churchill, battles in Vietnam, peace marches and race riots . . . Faced with the presence of hallucinatory drugs, wars, violence, sex, and social pressures, he often finds himself on a turbulent sea of experience for which there are no charts.³

How does the educator react to this new electronic environment? One would like to think that he sees in it great possibilities for education and is eager to capitalize on them. But the evidence hardly supports such a sanguine view. Not a few teachers consider the output of mass media as trash; they rarely listen to AM radio; they have more important things to do "than waste time in watching television;" they cannot comprehend why anyone would listen to the Beatles and other similar groups; they consider much advertising a total waste of money and a constantly irritating factor in our society; finally, the less said about comic books and magazines the better. By way of contrast, AM radio is the constant companion of the typical teenager; television claims two full years of his life

by the time he is eighteen; the purchase of new records is an important item in his weekly budget; advertising more often than not presents the world to him as he would like it to be; and specialized magazines and pocket books are geared to his immediate interests and concerns. The educator may continue to believe that the school opens a wide window on the world, but for the student the window more often than not appears to be a one-way mirror, reflecting only what is taking place in a classroom carefully insulated from the real world outside.

Yet within that very classroom some educators are attempting to incorporate new approaches and methods into their teaching. The audio-visual explosion in many school systems is evidence enough of the fact. From elementary school through university, films, filmstrips, slides, overhead projectors and educational television programs are the order of the day. If young people today are at home with new media, the educator seems to say, then by all means let us use them. The emphasis seems to be on use rather than on most effective use. A teacher is delighted if he finds a film which will reinforce his own point of view, or which will replace the regular lesson; no discussion follows the screening, nor is the film shown a second time. Yet the teacher may feel he is quite progressive! Another teacher begins each week with the same film because he personally finds it stimulating; a third teacher experiments by playing recordings before class begins; the examples go on and on. Now if audio-visuals are merely gimmicks, then one cannot quarrel with this approach. Nor can one quarrel with teachers' colleges for not incorporating serious study of media into their curricula. But if on the other hand the electronic media have ushered in totally new ways to perception, then only a response on the same level is adequate to meet the challenge. Certainly it will not be met by merely incorporating into the classroom program more audio-visual aids.

At this point it might be appropriate to ask whether the educator considers the student to be a container which is to be filled to the brim with all that the system believes worthwhile and important, or as a light bulb to be turned on. If the former, then the parcelling out of bits of information daily is the answer; if the latter then a totally different approach seems to be demanded. Few educators would agree that students are containers, but in practice

many continue to act as if they were and to insist that there be no tampering with the curriculum. Just as the educator is liable to miss completely the possibilities for education that are everywhere present in the new cultural environment, so too he is liable to be completely closed to the possibility of learning experiences that are totally different from his own. *Living and Learning* puts it this way:

The mixed media approach, so well demonstrated at Expo 67 in the imaginative use of film techniques, raises many old and new questions for learning theorists. The simple Pavlovian Stimulus-Response formula is often found wanting as an explanatory frame of reference. In behavioristic tradition, one picture image, seen by itself, impresses one fact on the mind. But two or three picture images seen simultaneously, and often with continuously changing juxtaposition, conjure up a complexity of ideas and relations in which the whole is clearly more than the sum of the parts. Much more of learning is subliminal than we ever guessed, and such multiple ideas seem to stimulate ideas in the mind. Later, these images can be recognized and retained in varying ways, dependent upon the recipient. The real question of how to evaluate the residue of such experiences has not as yet been answered. It has been suggested that it is primarily a sensory emotional experience, and not intellectual, which brings about changes in attitude rather than changes in philosophies. . . We must remain vigilantly aware of this "blitzing of the mind" approach. . . Father John M. Culkin, Director of the Center for Communications at Fordham University, believes that a mind blitzed is a mind burst open and alert for intellectual combat. Both he and Marshall McLuhan claim that apathy, not stupidity, has been the enemy of intellect in our time, which has led to the posture of detachment and non-involvement which modern education must overcome.⁴

Several ideas here might be underlined! Would it be true to say that students generally read a multi-media presentation with much

greater facility than do their teachers? That they could create their own media presentations in school if given the opportunity and sufficient encouragement? Is it possible that this approach might involve them almost totally as persons in the learning process rather than as computers to store away memorized facts and data? Is it possible that television as a "cool medium" has been involving them from childhood in this total approach to perception and that as a result quite unconsciously they are seeking the same approach in education?

Constant experimentation in the past four years with university and high school students, with teachers and administrators, would lead the writer to conclude that the answers to these questions are in the affirmative. Can anything be done to close the gap between student and educator? One solution, and not the only one by any means, might be to begin "programming for discovery," to begin making much greater use of indirect rather than direct communication. Many pavilions at Expo employed the indirect method of communication with marked success, especially with the young. Basically, it provokes questions by introducing the participant to open-ended experiences. If the viewer becomes involved or "turned on," he begins to seek answers to his questions. In the classroom the teacher becomes a stimulator of curiosity and a resource person instead of being merely a dispenser of packaged information. As the student becomes involved in probing experiences with others, the teacher can direct him towards appropriate research materials. If the teacher is truly imaginative (and very secure!), he could suggest that the student or team of students, as the case may be, might attempt a creative presentation after the initial research was completed. At this point some may feel that this is altogether too idealistic an approach. But it has been successful with university and high school students and has resulted in superior work. Wherever "programming for discovery" has been attempted in a serious way, the total environment of the learning situation changes almost overnight. One course at Loyola has only four orientation lectures during the term; the remainder of the time is spent on individual projects and in consultation with the professor. Students find this approach difficult and unsettling. They are unable to fill their notebooks with outlines of lectures. They are lost without their "Linus Blanket." Gradually, however, they become involved

and as the involvement grows they begin to work much more seriously at the course than at any other in which they are enrolled. Similar experiments have been conducted with great success on the high school level. Surprisingly enough, students will spend hours on para-curricular projects which interest them if they are sufficiently challenged and their curiosity is aroused. One such instance centered around the film "21-87" by Arthur Lipsett of the National Film Board. As an experiment, the writer assigned two students who had never seen the film to produce an audio tape on Psalms 21 and 87, using the same inspiration as had Lipsett. After being assured that they might approach the project in any way they desired, they accepted the challenge. The result was a superb montage of sound, completely contemporary yet exactly faithful to the mood and spirit of the two Psalms. This assignment was voluntary, it was not for credit, yet the students spent more than fifty hours in researching the material and another twelve hours in producing the tape.

Films also can play an important role in "programming for discovery." No longer chosen by the teacher as re-inforcers of his viewpoint or as substitutes for teaching, they can offer a springboard for discussion in which teacher and students together probe their experiences for new and deeper understanding. During the first screening the tendency is to project one's opinions and biases into the film. In the ensuing discussion individual interpretations are challenged and probed, thus offering possibilities for a deeper and broader understanding of this shared experience. A second screening provides an opportunity to examine the points of view that emerged in the discussion, to compare them with one's own and with what the artist is attempting to communicate about man and society, and in the process to grow and become more truly human.

Obviously this approach requires careful preparation on the part of the teacher. He must discover what films are readily available, select and screen for himself the ones he thinks suitable, prepare questions which will stimulate discussion and schedule the films in the best time slots available. Many teachers concede that ideally this is the only valid approach but in practice they tend to disregard it completely because they themselves are not really convinced or because they lack the time for discussion and a second

screening or finally because they see no signs of cooperation or interest on the part of principals or school boards.

Just as the mere screening of films achieves little, so too the incorporation into the curriculum of much of what passes for educational television will only lead to disappointment. Most educational television programs to date have simply dispensed information without in any way attempting to involve the viewer. But, in the words of the Hall-Dennis Report, with careful planning and creative production

it is possible to prepare programs that involve the viewer in a variety of ways — by arousing his curiosity; by helping him to look more carefully at a subject; by transporting him, vicariously, in time and space to far-off events and places; by presenting for him various viewpoints on an issue; by creating situations leading to discussion or reflection; by showing him how to perform a skill; and by providing experiences which enable the viewer to form his own generalisations or conclusions. If educational television is to make its appropriate contribution to practices that emphasize inquiry, discovery, and the pursuit of individual interests, it will be essential that the planning and production of programs be based on this philosophy. Television programs for school use must support the teacher's goal of guiding pupils through inquiry, and must not subvert or compete with this goal by merely presenting packages of information.⁵

While it is true that few educators today exert control over the production of television programs for school use, it seems clear that this will not hold for the future. If educators actually had control today, would they end up by "merely presenting packages of information" or would they program for discovery? A student leader at McGill recently provided what might be the correct answer to the question when he described what is happening today:

We have a 250-year old lecture system "where the teacher writes something on the blackboard and 900 students copy it down. Even if only three people are there copying it down, it's no more than stenogra-

phy. . . Not only are teachers unwilling to change the lecture system, but they won't allow us to make it more bearable." So students have no control over their environment, and no real participation in the learning process.⁶

On this rather pessimistic note we might bring this paper to an end. The cultural environment, learning experiences, and informal learning programs reflect the all-pervasive influence of mass media on society. Education however and the school system seem to have been affected hardly at all, at least in ways that are relevant. Hope for the future seems to lie in enlightened reports like that of the Hall-Dennis Committee and in the television generation which will continue to press for major changes in education at every school level. Perhaps this is the only effective way to combat the "apathy which has led to the posture of detachment and non-involvement" on the part of many educators.

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Values communicated by film are interiorized and become a part of oneself, not simply an extension of the fold that parents and educators use to shield the young from the world.

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Some Psychological Perspectives on

Bilingualism and Second Language Teaching

L. Bruce Barkman

In Quebec, most educators agree that everybody should acquire a high level of competence in both French and English. The achievement of this goal will facilitate communication not only in everyday life but will lead as well to an understanding and appreciation of the values and aspirations of each cultural group. Perhaps a decrease in tension and hostility between the groups would also result from widespread bilingualism. Some groups of immigrants aside, the acquisition of English or French involves for most people the learning of a second language.

While it would seem that the most effective way to achieve widespread bilingualism in Quebec is through the development of compulsory second-language programs in the school systems, the results of such programs have generally been disappointing in that English-speaking children do not learn French well in school, nor do French-speaking children learn English there. Indeed, highly skilled bilinguals normally explain their success as the result of early and constant exposure to the second language in the streets or in the home. The lack of success of the schools' language programs has been attributed to a number of things, such as ill-trained teachers who are non-native speakers of the language they teach, large

classes, bad texts, the wrong emphases (reading/writing vs. hearing/speaking), and not enough time. For the past ten years, educators in the area have tried to improve second-language acquisition through the use of materials which are based on linguistically sound analyses of English and French. Naturally enough, better analyses have given somewhat better results. However, the linguists' strong emphasis on contrastive analysis and interference from the native language has tended to obscure those factors other than interference which hinder the acquisition of satisfactory bilingual behaviour.¹

In this paper, I would like to discuss some of the findings of psychologically oriented studies of bilingual communities and individuals and to suggest how some of these findings might be used in the preparation of effective second-language programs in schools.

Bilingualism and Intelligence

A great deal of controversy exists over the relationship between bilingualism and intelligence. Some investigators have concluded that bilingualism has adverse effects on intelligence, both verbal and non-verbal, while others have found that enhancement of intelligence results from bilingualism. No teacher or parent wants to discourage the full development of children, and the fears that second-language programs may do just that are certainly understandable, given the contradictory experimental results. The following studies of the relationship of bilingualism to intelligence may allay such fears.

Einar Haugen has provided an excellent summary of many of the experiments conducted in the United States up to 1954.² He accounts for the contradictory conclusions drawn by the investigators as "... due largely to confusion over the meaning of the words *intelligence* and *bilingualism*, as well as the use of testing instruments which make insufficient distinction between various kinds of linguistic behavior."³ Haugen further notes that if intelligence is defined as the innate ability to learn, most intelligence tests are really performance tests designed to test skills thought to be related to the ability to succeed in a given culture. The person with linguistic and cultural backgrounds different from the ones tested cannot be expected to achieve satisfactory test results. When non-

verbal performance tests were administered to many groups of bilingual and monolingual children in the United States, it was found that there were no significant differences in the scores achieved by the bilingual and monolingual groups. Haugen remarks that the handicaps that bilingual children show when measured by verbal tests of intelligence probably result from two factors. First, most of the children tested had no exposure to the second language, English, until they started school, so that they did not have as much experience with English as their monolingual peers. Moreover, they used their languages in different areas — one at home and one at school. Secondly, most of the bilingual children tested were from the lower socio-economic brackets, and as the socio-economic brackets became more similar, so did the test scores.

Another finding was that by the time bilinguals reached college age, their verbal intelligence test scores showed no differences from those of monolinguals, and that, in any case, at no time was the handicap “. . . more than a year or two in mental age.”⁴ From the studies described by Haugen, it appears that non-verbal intelligence is not affected by knowing two languages. Furthermore, the verbal intelligence of bilinguals is retarded at most by two years at any point, and disappears by the time bilinguals reach university age.

A more recent study by Elizabeth Peal and Wallace E. Lambert, which was conducted on ten year old bilinguals and monolinguals in Montreal, showed that the 89 bilingual children tested performed much better than the 75 monolinguals on both verbal and non-verbal intelligence tests.⁵ This beautifully designed and executed experiment should provide ample evidence to second-language teachers that they need worry no longer about retarding their students' intellectual development, especially since the study has particular relevance to Quebec.

Language Aptitude

Teachers and administrators are interested in determining the potential ability of individuals to learn a second language. Even in an area where second language instruction is compulsory, such knowledge may make it possible to achieve homogeneous grouping and to create different programs for students with different needs.

John B. Carroll has isolated four factors involved in language aptitude in connection with the development of the *Modern Language Aptitude Test*.⁶ The first is the ability to identify, recall and reproduce phonetic sequences over a significant period of time. Carroll states that a person who cannot do this adequately will have difficulty in imitating speech sounds and in remembering phonetic sequences. The second is the ability to manipulate the lexical items and the sentence patterns of language. The third is the ability to memorize foreign language sequences quickly by rote, through association. The fourth factor isolated by Carroll is the ability to make generalizations from new language material with little guidance.⁷ While only the first three factors have been incorporated in the *Modern Language Aptitude Test*, the success that this test has had in predicting the achievement of English speakers in learning foreign languages indicates that language aptitude, as Carroll has analyzed it, is certainly an important variable in successful second-language learning.

In a situation where all students must study a second language, it should be possible to increase the achievement levels of less gifted students through concentration on the four aspects of language aptitude described by Carroll. And if second-language instruction should become optional in Quebec, the test could be used to determine which students should study a second language, as well as for grouping.

Motivation

Teachers and students both consider lack of motivation a most important reason for failure to achieve satisfactory bilingual behaviour. Teachers often feel that whatever interest students may have had at the beginning of second-language courses, it is soon extinguished by the unimaginative materials in the textbooks. The humdrum lives of students' French or English counterparts, for example, are unlikely to cause more than a flicker of interest from teenagers. And topics which do interest them are likely to be taboo, at least in today's schoolrooms. Teachers who are aware of motivational differences may be able to shape existing motivations and to reinforce them through the creation of more exciting classroom materials.

A student who is motivated by the thought that another language will help him get a better job, that it will make him better educated or that it will help him achieve greater success in life, is said to have an *instrumental motivation* toward learning the language. A student who wants to understand the other culture and who may want to identify himself as a member of that culture as well as his own or to change his cultural identity entirely in favor of the norms of the other culture, is said to have an *integrative motivation* toward learning the language. In a study by Gardner and Lambert,⁸ language aptitude and motivation were isolated as separate variables, and good results were achieved in the second language if the students had either high language aptitude or an integrative motivation. Those who had an integrative motivation achieved greater success than those who had an instrumental motivation. This and other studies indicate that a favorable attitude toward the second-language cultural group is an important variable in the prediction of successful second-language learning. An integrative motivation, combined with a desire to become bicultural, may lead to a rewarding expansion of the student's cultural horizons. On the other hand, as the student progresses in the language and becomes more bicultural, he may experience *anomie*, a lack of cultural identification with either group, or rootlessness, and remorse at leaving one cultural group along with fear of joining another.

The second-language teacher wants his students to achieve competence in the language as quickly and painlessly as possible. Under some circumstances, he may wish to encourage an integrative motivation. In a Puerto Rican university, for example, the level of English achievement was consistently low at the first year level, even though the students had to take first year courses in which English was the medium of instruction. Furthermore, for most specializations, the medium of instruction for a great many upper division courses was English. The students certainly should have had a strong instrumental motivation for acquiring a high level of proficiency in English. But most of them had consciously hostile attitudes to American cultural values, partially as a result of the power of United States business concerns in Puerto Rico and their relatives' experiences with prejudice in the United States. If their English teachers had been able to reshape the students' unfavorable attitudes toward American culture, their English language achievement might have improved noticeably.

In other cases, the teacher may feel bound to stress instrumental factors with certain students because he perceives they are about to undergo the highly disturbing experience of *anomie*. In any event, while the language teacher may use his awareness of motivational aspects to achieve better results in the second language, he also has the enormous responsibility to use this awareness wisely.

Bilingual Skill Levels

The evaluation of the relative proficiency a bilingual individual has in each of his languages is a concern of both linguists and psychologists. While linguists try to estimate differences in the language skills of bilinguals on the basis of interference,⁹ psychologists have attempted to measure the relative skills of bilinguals according to their speed of response to stimuli in each of their languages. If a bilingual shows equal reaction times in both of the languages, he is a balanced bilingual. If the reaction times differ significantly, one language is dominant over the other. In a study conducted by Lambert,¹⁰ it was assumed that greater exposure to French instruction would lead to a decrease in reaction time to French stimuli. Undergraduate and graduate students who were majoring in French as well as native speakers of French were tested. The results of the experiment showed that reaction times to directions in French decreased with increasing amounts of French instruction. Ten of the undergraduate students had significantly faster reaction times to English stimuli and it was suggested that English was their dominant language, while four of them were considered balanced bilinguals. The graduate students reacted faster to French stimuli than the undergraduates. Seven of them were dominant in English, six were balanced, and one (a non-native speaker of French) was dominant in French. It was thought that this individual was particularly dissatisfied with English and North American culture. Ten of the native French speakers were balanced bilinguals, and four were dominant in French. The reaction time results were also positively related to measures of the individuals' knowledge of French vocabulary.

It would appear that reaction times in each of the bilingual's languages provide a good measure of relative skill in each language and that proficiency scales could be developed fairly easily using

devices similar to those employed in the experiment. If proficiency tests such as these can be developed, in such a way that they correlate with overall linguistic competence as well as with vocabulary, the second-language teacher might be liberated from much of the time-consuming testing and grading that is currently his lot and still have a pretty good idea of his students' progress. In addition, the determination of the language dominance or balance of his students has important implications for the content of the second language program itself. To take only one example, some non-native speakers of French may wish to do university studies in French literature. The secondary school program in French as a second language could be designed on a multi-track basis so that those individuals would have every opportunity to become dominant in French, at least in those areas where it would favor their future development.

Stages of Bilingual Development

The determination of the stages through which individuals pass as they become bilingual is another area psychologists have investigated. Teachers may find that the results of an experiment conducted by Lambert¹¹ suggest changes in second-language course organization.

In formal study situations at least, Lambert found that students of a second language must master increasingly more difficult levels of skill if they wish to achieve native-like control over the second language. Vocabulary and grammatical manipulation are the easiest of the skills to acquire. The next most difficult skill to develop is how to react automatically to utterances in the second language. The third and most difficult hurdle is the development of the skill to respond to the second language in terms of the cultural concepts of that language. At the stage where the students strove to achieve native-like control of the second language, native pronunciation was also acquired.

The results of this study could have far-reaching effects on the organization of material presentation in second-language courses. They suggest that certain kinds of material should be emphasized at successive stages in the course of study — perhaps in order of increasing difficulty of skill development. But it is probably just as important to include materials which encourage the de-

velopment of all the skills necessary for high achievement from the beginning, concomitantly with the major emphasis. In this way, it may be possible to bring the remaining skills up to the levels necessary for overall high achievement when the emphases are changed. The results of the study suggest in particular that the concentration on pronunciation skills, so common in elementary level courses, might better be transferred to a course at a more advanced level, by which time the students may have acquired the necessary skills to develop a good accent.

Compound and Coordinate Models of Bilingualism

The second-language teacher is concerned to have his students speak French or English, but not "Franglais." Psychologists and linguists are also interested in how bilinguals manage to keep their languages separate and relatively free from interference.

In 1953, Uriel Weinreich proposed, as a partial explanation, what are now known as the compound and coordinate models of bilingualism.¹² The compound model posits that the bilingual makes interlingual identifications in such a way that he has two modes of expressing the same meaning. If he is bilingual in French and English, he expresses the single concept 'milk-lait' in two ways, / mIlk and / le /. If he learns French with the help of English, he may not equate French / le / with the concept 'milk-lait' at all, but only with the English form / mIlk /. The coordinate model supposes that the modes of expression and the meaning concepts of each language are separate, so that French / le / is associated with the concept 'lait,' and English / mIlk / is associated with a different concept 'milk.' Weinreich suggests that most bilinguals have partially compound systems and partially coordinate systems, and that where systems are compound, interference is to be expected, while coordinate systems inhibit interference.

Ervin and Osgood state that a compound system is likely to develop when second languages are learned in school, or when a child learns the two languages in the same environments from the same people and under the same circumstances.¹³ While a coordinate bilingual increases his linguistic burden by having two systems of referents, it is presumably easier for him to keep his languages separ-

ate than for the compound bilingual, who has only one set of referents.

A number of studies have investigated various aspects of the compound and coordinate models of bilingualism. In one of these, Lambert, Havelka and Crosby tested the effects of the contexts of learning on bilingualism.¹⁴ It was first determined whether the subjects learned their two languages in separated or in fused contexts. It was assumed, in accordance with the compound and coordinate hypotheses, that language acquisition in separated contexts increases the bilingual's ability to keep his languages apart.

It was found that experience in separated contexts comparatively increases the associative independence of translated equivalents in the bilingual's two languages. If the bilingual has learned his two languages in culturally distinct contexts, the semantic differences between translated equivalents are comparatively increased.¹⁵

This and other studies indicate that the compound and coordinate models of bilingualism have some validity. At first blush, it might seem that the way for the second-language teacher to overcome interference is to enhance the development of coordinate bilingualism in his students, either by providing separated contexts of learning or by using the direct method. But another study conducted at McGill¹⁶ shows that advanced students in a six-week intensive French course achieved better grades if they mixed the semantic systems of their two languages than those students who kept the semantic systems separate, even though the direct method was used in the course. It may be that the French and English semantic systems resemble each other closely enough so that it is advantageous for students not to have separate systems. It would be interesting to conduct a similar study where the languages in question were not genetically related, and where the cultural outlooks differed greatly. Until more is known about compound and coordinate systems, teachers should proceed cautiously.¹⁷

Conclusion

Psychologists have not confined their investigations of bilingualism to the areas which have been discussed in this article. I

have tried to choose those investigations the results of which have relevance to second-language teaching, insofar as they might affect the learners, the teachers, and the materials used. I hope that educators, psychologists and linguists will be able to use together the insights they have gained separately toward the development of more effective second-language programs. If they can, they will be communicating not only among themselves, but the results of their labors will eventually open the avenues of communication between the two major language and culture groups in Canada.



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Meeting

Paddy Webb

"Why don't you pretend," you said,
and all the time I was lying
a little, saying what nice words
came into my head
just to please you.

Oh! my friend
I have squandered emotion;
I have never known the truth
but would wrestle for meaning,
lay bare a nerve, a muscle,
sometimes probe an artery
with the scalpel of my mind —
and my feelings — my feelings:
fragile as porcelain,
tough as an old boot,
tender as the flesh of laichees,
ruddy as pomegranates
burning like old old beacons
on the ancient hills of history
to drown in the pupil
of your alien eye.

I would send out messages,
tapping the keys like birdsong,
flickering blue-green sparks
from the centre of irises,
but I could not defile
the white blank purity
of the narcissus you.

Though I bleed frequently, in
and out of season, cannot train
the flow into tributaries
to craze the enameled
surface of your otherness.
We meet, we touch, we separate,
leaving only thumb-print
smudges on the edges of skies
washed by a smother of tears.

Views on Communication in Education

From a Teacher

PETER STICKNEY
Chateauguay

Non-verbal communication is something that is largely ignored by administrators, teachers, in-service training programs and teacher training institutions. This form of communication, because it expresses so clearly attitudes and judgements, and because it is so vital in the development of the child's self-image, merits the attention of all educators.

Non verbal communication may be grouped in three categories:

- (1) Non-verbal communication that is consistent with the verbal;
- (2) non-verbal communication that is inconsistent with the verbal;
- (3) non-verbal communication without verbal communication.

A recent incident that occurred while I was on morning playground duty will clearly demonstrate its importance:

One of the students came running up and breathlessly informed me that Rose (a fictitious name) was crying. I walked over to her, and saw that she was sobbing wildly, her hands covering her face.

"What's the matter, Rose?" I asked.

"I can't stand it! I can't stand it anymore! They're saying things because of my colour!" She was screaming and close to hysteria.

Rose is a ten year old Negro, second youngest of five children, slightly below average in intelligence, but extremely hard-working in class. She is a warm, responsive and apparently well-adjusted child who relates well with her peer group.

At this particular school, in a middle class suburban area, there is a larger than usual proportion of Negroes to whites for this socio-economic level. It is generally a community free of prejudice.

My first reaction was to try to reassure her, and this meant that I would have to disperse the crowd of children who were staring and gawking like spectators at an accident. But, to do this I would have had to raise my voice in a negative tone above the general noise of the playground, and I feared that this might have an adverse effect on a child whose emotions were already strained. The only genuinely reassuring action I could take was to put my arm around her shoulder and hug her. Immediately she buried her face in my overcoat, put her arms around my waist and continued weeping. Her arms around me indicated her recognition and acceptance of my reassurance. I could now raise my voice with no fear of her misinterpreting the act.

Once the children had moved away, we walked, with Rose still clinging to me, to a quiet corner of the playground, so that she could cry in privacy.

While we were alone, she continued her unrelenting sobbing. There were no words of sufficient meaning that could comfort her. I could only hold her hand, and transcend the verbal level; and she grasped my hand in response. After four or five minutes she was sufficiently calm so that I could ask who had done it; and between sobs she pointed out the children whom she recognized but could not name. Leaving Rose alone in our corner of the playground, I approached the children who had been singled out and spoke with them. At least Rose could see that the preliminary steps of justice were being taken. When I returned, I told her that I had their names and that I would take care of everything. She was almost quiet now, and merely nodded; and we resumed our slow walking back and forth in the corner of the playground.

The morning bell interrupted us. "I have to leave you. I have to get everyone else to line up," I said. "Can you line up and go in all right?" I asked, and she nodded.

I did not see her during the lining up process, but I knew I would teach her for the first period after home-room period. I had just finished the home-room period with my own class when there was a knock at the door. It was Rose. Instead of asking her to come in, I went out to see her in the corridor. "I can't stop crying.

I just can't stop," she sobbed. Again I put my arm around her shoulder, and she responded by putting her arms around my waist.

"You'll be all right, honey. Everything will be okay. It'll be all right. Everything will be fine," I repeated over and over. The simple words didn't mean much but the constant repetition of the same phrases in a soft soothing tone soon had the desired effect, and the crying nearly ceased.

Arm in arm we went down the corridor to the empty medical room. The curtains were closed and the light was quite dim in the room. We sat down on the cot. I still had one arm around her shoulders, and now I took her hand.

"Sometimes it takes a while to stop hurting, but you'll be okay after a while. You'll be fine. Sometimes crying is good for you and makes you feel better. You can stay here and cry for a while. I'd like to stay, but I have to go and teach the other boys and girls. You can stay here as long as you want to, but I have to go. You'll be okay." She nodded and I gave her a hug as I left.

I returned to my own classroom, and explained what had happened, spoke briefly on prejudice, and pointed out that what they had just witnessed on the playground demonstrated the cruel effects of prejudice.

After about fifteen minutes Rose returned to the classroom. The children ignored her completely — it was as though she were returning from a message or a trip to the washroom. I, too, made a point of ignoring her entrance. She had been the focal point of interest for too long, and if I had said anything, or gone to see her at her desk, the class' interest would have been focused on her. By this time, she must have been a little bewildered because now it must have appeared that I had forgotten all about her. The children were doing oral reading at this point, and they all had their heads down in their books. I looked down at Rose and caught her eye. She looked up with almost a blank expression on her face. I winked and smiled and she beamed back with happiness. No one else saw, no one else knew. It was just for us to know about.

In this incident the content of the verbal communication was without meaning; it was solely the non-verbal communication (tone of voice, physical contact, posture, smile) which communicated the reassurance and acceptance the child required.



From a Principal

J. W. M. KILLINGBECK
Sunnydale Park School
Dollard des Ormeaux, P.Q.

During the December flight around the moon, we on earth were kept informed of the Apollo 8's progress, the condition of the astronauts, and how the moon and earth looked at various stages of the trip. Our information was received through a communication system that was a tribute to modern technology, the men who developed it, and those who worked the equipment. The miles seemed to offer little resistance to what the crew wished to communicate. It was an exciting and informative period for those of us who were able to receive the messages from space, and a feeling of closeness, respect, and admiration developed for the people responsible for the NASA program. This event caused me to realize how important it is for us in our schools to open, and keep open, the avenue of communication between the school and its community.

The importance of having open communication lines is simply due to the fact that today, more than ever before, the elementary school has something to communicate. In the past, schools communicated pupils' standing to their families. This was usually a one-way passage of information to the parents. The only part the child played in this was to act as the courier. Seldom was he involved in the meaning of the report's contents other than to receive a pat on the back or a less positive form of recognition. Today, schools are changing, not only in architectural design, but also in curriculum content, methodology, and even in reporting. The community must be aware of the potential changes, why these changes are being recommended, and it must be encouraged to assist in planning what changes are to come into actual effect. To work cooperatively within a school community requires a two-way system of open line communication. Once this is established there is a greater opportunity to develop an understanding on the part of all as to why we use team teaching, or conference type reporting, or individualized learning, or adopt any other innovation.

We are responsible for communicating what should be changed, how the change should benefit the children, and the vocabulary of change. The community must be informed of the meaning of new

curricular approaches such as modern mathematics, ITA, and the linguistic approach to teaching reading. Also the new terms used to describe new school organizational plans such as "dual progress," "continuous progress," and "team teaching," should be explained. Our responsibility still remains to keep parents informed how their children are faring in school, but it is essential that our reporting procedures be altered in order that they "tell it like it is."

Our relationship to the home must not be a "This is what we are going to do with your child" approach. We must have a plan, but it is important that parents participate in the developing of the plan as sounding boards, as suggesters, and as partners with the school personnel. Once the plan has developed, then it is desirable that the total parent group hear about it and have the opportunity to question. In order to be certain that parents are involved in educational planning, the Quebec Government has recommended the establishment of the Educational Workshop.

Emphasis has been placed on communicating with the *parents*. This assumes that the *teaching personnel* have already been involved through their staff council and subject committees. When new plans are being arranged and introduced, it is imperative that *children* are not ignored as they have been in the past. They are part of the community and have an important contribution to make. A fear that must have existed in the past was that by inviting parents, teachers, and students to cooperate in formulating plans, the educational establishment would lose control. This is not the case, and it is not my intention that administrators should abdicate their decision-making responsibilities. We must avail ourselves of all that a community has to offer and, by the use of effective leadership, develop programs that will most benefit the children.

Since a community consists of more than those individuals directly involved in a school's life, provision must be made to inform these others, including the parents of pre-schoolers, and those persons with no children or whose children have already finished their elementary schooling. Certainly there has not been sufficient communication with the parents of pre-schoolers in the past, to inform them how best to help their children prepare for the more formal parts of their education. The second group deserves to know what is going on in the community school, if for no other reason than that their tax dollars contribute to the operation.

The elementary school is an exciting place to be working in today. We have a responsibility to share this excitement with the

people in the community who send their children to us and pay the taxes that contribute to our operation. We can only improve our communication practices if we recognize this need and set out to establish a program of effective dialogue in a school's community.



From a Student

PHILIP BRILL
McGill Faculty of Education

I am a student in a teachers' college. Today, as on the first day of the first grade, I view the back of several of my classmates' heads before focusing upon the teacher. Perceptually, physically, I am alienated from the teacher. This establishes a significant learner-teacher relationship. My visual experience is rarely at eye level with any other person in the room. I look up towards the teacher, while the teacher pans occasionally down at me. The physical position of the learner and teacher dictates and asserts a specific relationship and even a philosophy of communication. Did you ever have a teacher stand over or behind you? Both the learner and teacher are bound in their experience of each other. This relationship influences and directs their emotions, their ideas, their patterns of speech.

Tension, hostility, and anxiety can easily become products of the schoolroom's contrived and limited physical situation. The child comes into class filled with the freshness of wonder. There he experiences, not an involvement with the intimacies of this world, but an atmosphere which has been fashioned without him and which appears to him as an absolute to which he can only submit. The world suddenly becomes serious. "Sit up straight, be quiet." The world of fantasy and exploration becomes altered and constrained. The real world is that of adults, a world of parents and teachers where he is allowed to respect and obey. Parents and teachers have the power to exert authority and love. The way they exercise their authority is the key to the child's growth. If they are arbitrary, then the child's ability to communicate may be as contrived and

restricted as the neat rows of desks, as confined as the classroom walls.

Surely, a philosophy of communication is needed so that educators can transcend the physical atmosphere of the classroom. When man's philosophy changes, then everything also undergoes a change. Witness the present scene. Everybody wants either to do his own thing, or to hang on desperately to something that has already been done. "Doing your own thing" means that the individual is in a process of discovering the *possibilities of his own capacities*, potentialities, and goals. That's what it's all about.



D'un professeur

MARC CHAMPEAU
John XXIII High School
Dorval

On entend régulièrement parler de la valeur du dialogue entre parents et maîtres, entre enfants et maîtres, entre les employeurs et maîtres, mais entre maîtres et maîtres, jamais, ou presque!

L'instituteur qui écrit n'est pas une espèce en voie d'extinction: elle n'a tout simplement pas encore existé! Pourtant, l'éducateur, cette "fontaine de connaissances", devrait être le premier à se servir de l'écriture comme moyen de diffusion auprès de ses confrères. Les raisons alléguées?

— "Et mes copies à corriger?"

— "Qui va préparer mes examens?"

— "Mon cours de demain exige beaucoup de préparation."

On énumère une litanie de raisons, on s'esquive, on se dérobe complètement!

La situation n'est guère plus encourageante lors d'échanges verbaux. Aujourd'hui encore, un instituteur du niveau secondaire considère presque dégradant socialement d'avoir à frayer avec un confrère primaire (lire: "de niveau primaire"); la clause allouant \$300.00 de plus aux enseignants du niveau supérieur dans certaines régions du Québec n'aide pas le rapprochement entre les deux groupes. En toute justice cependant, on se doit de mentionner les

efforts entrepris pour corriger cet état déplorable dans la banlieue de Montréal.

Une autre déficience dans les moyens de communication entre professeurs au Québec provient de la barrière linguistique; les membres du P.A.C.T. et de la C.E.Q. ne considèrent même pas des rencontres entre les deux associations, tant sur des bases professionnelles que sociales. Des brèches sont effectuées lorsque vient le temps de signer une convention à l'échelle provinciale; mais aussitôt les pourparlers terminés, on s'éclipse subrepticement.

Lorsque pour diverses raisons on accoste un confrère ou une consoeur, on s'entretient en général presque exclusivement sur des sujets plus ou moins insipides.

Trop sombre ce tableau? Sans doute! Biaisé? Difficile d'y échapper lorsqu'on baigne dans le milieu: on aura spontanément tendance à se remémorer la conversation qu'on aura eue avec un tel instituteur, et on le fera justement parce que c'est l'une des rares qu'on aura eue depuis longtemps. Qu'on veuille se leurrer ou non, il y a un problème: pour survivre et s'épanouir au Québec comme ailleurs, le professeur, plus que toute autre profession, se doit de communiquer intelligemment et de façon extensive dans le contexte de son travail, sinon la stagnation et celle de son enseignement l'attendent à brève échéance.



From an Administrator

LESLIE J. B. CLARK
Education Officer

*Division of School Administration
Lakeshore Regional School Board*

Some years ago I noted the following extract from a *Monthly Letter* of the Royal Bank of Canada: "If we know what others are thinking, and if other people — in business and social life, nationally and internationally — understand what is in our minds, what we are striving for, what we hope for, many misunderstandings will be avoided."

Although the extract quoted may have been written with no thought of including the world of formal education, the statement is

certainly as valid for education as it is for any other field of endeavour. In educational administration we must attempt to know what others are thinking, and we must do our utmost to ensure that other people know what we are thinking and doing. In view of the fact that central administration is the hub of a good school system, it is imperative that it communicates with all parts of the machine as well as possible; otherwise the educational service will falter, perhaps fail.

A desirable pattern of communication can be seen in a situation which recently occurred when modular scheduling form was introduced at a comprehensive high school:

With approval of the School Board, and following discussions between personnel of central administration and school administrators, members of the school staff studied available written material on modular scheduling and visited U.S. schools using the system. Later, discussions were held with the whole faculty to examine the pros and cons of this type of schedule. Following these exchanges of views, staff members were invited to state their wishes concerning the adoption of a modular timetable. The vote was 97% in favour. Staff then began discussions with students. Parents were also invited to attend evening meetings at the school to hear presentations which would help them to participate in the decision.

As a result of these meetings, parents and students showed a keen desire to try a flexible schedule based on a 20-minute module. With such complete support from everyone who would be affected by such a change, the School Board willingly authorized the administration to set the plan into operation in the new school year. It is reasonable to suggest that because an attempt was made to present all aspects of the change thoroughly, and because there was wide participation in the decision to move ahead, a great effort will be made by all those involved to ensure the success of the new schedule. The experiment may fail, but had this unfamiliar method of school organization been imposed upon staff and students by central administration without consultation, it is probable that it would not have had the remotest chance of success.

It is also fair to expect that ideas which originate with a Home and School Association, a Student Council, or with a school staff, will be submitted to headquarters in order to provide for consultation with specialist staff and, when necessary, with Board members. Just as it is unreasonable for a Board or a headquarters staff to im-

pose policy of a new program on school staffs without giving staff members an opportunity for full participation, it is equally unreasonable for a headquarters staff or for a school board to find itself forced by a school staff into a position which offers no possibility of dialogue.

In summary, educational headquarters must ensure dialogue between all parties involved in the educational process in order to coordinate and evaluate the educational services of the district, and to enable planning to proceed in an efficient manner which truly will represent the needs of the students in the communities served by the schools of the Board. Without such communication and group interaction there will be little opportunity for a school system to flourish in our modern society which more and more questions every facet of the education scene.



From a Media Expert

W. HILLGARTNER, DIRECTOR
Instructional Communications Centre
McGill University

Contemporary educators face a serious dilemma: how can large numbers of students be provided with activities designed to individualize instruction? A survey of college and university campuses throughout the country would reveal that much money and space is still being devoted to accommodations designed for large-group instruction. But will these spaces satisfy all the needs of changing curricula in higher education?

In recent years, a number of departments at McGill have been utilizing television as an integral part of undergraduate instruction. Programs range in complexity from pre-laboratory demonstrations to the presentation of all formal lectures via television.

One of these courses, Chemistry 100, utilizes television for its formal lectures and provides instructor-student contact through small group tutorial and laboratory sessions. The course enrolment is approximately 1300 and each lecture is shown three times. The students view their lectures via a large screen projection system in a lecture hall that seats 650 students. Data derived from student

exams over the past two years indicate that this method is effective.

Since the Chemistry 100 course draws students from a variety of academic majors, the three viewing periods cause extraordinary difficulties in overall university scheduling. Problems such as these can only increase as the university moves toward more televised instruction. Clearly, alternate solutions must be found. The individual study - and viewing - area may provide an answer.

Individual study carrels are fairly simple in construction and require only a TV receiver and a single coaxial as a signal source — one cable can carry as many as twenty-five simultaneous programs. Carrels can be placed in classroom buildings, libraries or even homes and dormitories. Any available space can become a personal classroom.

The Instructional Communications Centre at McGill, in conjunction with the Chemistry Department, is presently conducting an experiment on individual carrels. It is hoped that data from this experiment will provide information concerning:

- achievement differences between methods of viewing televised instruction;
- student attitudes concerning methods of viewing;
- the effects of multiple viewing on achievement and attitude;
- the effect on student attendance, when it is not obligatory;
- feasibility and logistics of individualized carrel television instruction.

This information will be used to help develop guidelines on the future use of instructional space at McGill and it could also be generalized to other instructional situations.

A report on the results of this experiment will appear in a later issue of this *Journal*.



D'un éducateur

C. HAWKINS
Associate Professor of Education
McGill University

Il n'y a pas très longtemps, la tâche principale de l'enseignant était celle de transmettre à ses élèves l'héritage séculaire de la culture, ou plutôt cette parcelle de la culture que le maître avait ac-

quise. La formation intellectuelle de l'élève constituait donc un procédé par lequel il accumulait un bagage de connaissances, de points de vue, voire de croyances, amassé au cours de ses contacts avec une série de professeurs plus ou moins instruits et, si l'étudiant avait reçu une bonne formation, alimenté des lectures qu'il aurait faites des chefs-d'oeuvre du passé.

Souvent on passait sous silence un auteur qui, indépendant d'esprit, osait tant soit peu ébranler la structure de cet héritage. Tout au plus faisait-on du trouble-fête un homme de paille pour le démolir par la suite avec des arguments plus ou moins valables, de sorte que l'étudiant devint d'autant plus convaincu de la vérité de l'enseignement orthodoxe.

Il en était ainsi dans tous les pays occidentaux, et il en est ainsi en quelque sorte même de nos jours. Et cependant depuis quelques décennies un nouveau souffle se lève dans le monde de l'éducation. A l'instar des grands philosophes du passé, on essaie de cultiver chez les jeunes l'interrogation socratique, le doute cartésien, afin qu'ils développent pour eux-mêmes une forte intelligence et qu'ils se dotent d'une philosophie particulière pour affronter la vie moderne dans toutes ses complexités.

Comme chaque nouveauté insoumise à une sage surveillance, l'encouragement de l'indépendance complète chez les jeunes mène quelquefois à des extravagances nuisibles non seulement à la société mais aussi à l'individu. L'interrogation socratique peut devenir le rejet total de tout ce qui a été jusqu'ici accepté; le doute cartésien peut donner lieu à des incartades anarchiques. Le dialogue dégénère vite en tour de Babel. La discussion devient rapidement confrontation.

La tâche de l'éducateur de nos jours semble être celle de révaloriser l'apport du passé et d'en tirer ce qui est éternel pour en faire l'application à la vie contemporaine; ou, dans une autre perspective, de canaliser les efforts de découvertes et de créations personnelles des jeunes dans des voies que les leçons du passé indiquent comme les plus aptes à conduire les étudiants vers leurs buts.

Ce ne sera pas facile.

Pour accomplir cette tâche complexe l'éducateur ne pourra plus dépendre uniquement des ressources qui lui ont servi jusqu'ici. Il devra toujours posséder une bonne culture générale, mais à cela viendront s'ajouter une perception des besoins des élèves, de leurs buts, de leurs aspirations, et une connaissance de ce qui se fait

ailleurs dans le monde de l'éducation pour satisfaire aux nouvelles exigences. L'éducateur sera dorénavant voué à l'éducation permanente. Il voudra à la fois transmettre et recevoir les renseignements nécessaires. Il sera appelé à exploiter à fond les techniques de la *communication*.

Ce qui nous a manqué jusqu'ici a été la communication. L'ancienne pédagogie peut se comparer à une rue à sens unique; c'est un procédé selon lequel les données de l'éducation sont transmises par l'enseignant à l'élève sans que celui-ci ne puisse agir autrement que comme un récepteur passif. La nouvelle pédagogie ressemblera plutôt à un réseau d'autoroutes, et le professeur se trouvera solidement planté au carrefour où ces boulevards s'entrecroisent et se rencontrent. L'échange de renseignements, de points de vue, de croyances, se fera à travers lui. A l'éducateur donc de faciliter cet échange — de s'informer auprès des universités, des organismes du gouvernement, de sa profession, des étudiants, des parents, et surtout auprès de chacun de ses étudiants; d'y ajouter également sa part et de participer activement au processus; de dire à chacun ce qu'il veut qu'il sache; bref, de *communiquer*.

Les autoroutes n'ont pas apporté la solution à tous les problèmes de la circulation. Il reste d'ailleurs des conducteurs qui par mauvaise volonté commettent exprès des infractions. La communication, dans le sens où nous employons le mot, n'apportera non plus l'utopie dans le domaine de l'éducation; et il restera toujours, dans tous les camps, des fanatiques réfractaires au raisonnement. Mais il faut croire à la bonne volonté de la majorité, sans quoi toute entreprise sociale échouera. Et l'éducateur se voit appelé à l'effort et à la tâche exaltante de puiser dans le passé, d'employer toutes les ressources du présent, tantôt d'écouter et tantôt de parler, somme toute de faciliter l'éducation des jeunes en ouvrant toutes les voies à la communication.



James J. Shields, Jr.

Liberal and Professional Studies in the Undergraduate Curriculum

The problem of how to strike a happy and reasonable balance between liberal and professional studies in the undergraduate curriculum is a particularly acute one for American academicians who must account to their various publics for the practical and immediate relevance of their programs as well as for their intellectual quality. The rapid expansion of undergraduate teacher programs over the last fifty years has been a major factor in keeping this problem alive and public. So important is teacher education as a symbol of the problem that some institutions, notably Yale University under A. Whitney Griswold, have tried to resolve the issue by severely curtailing teacher education programs. However, there are few for whom the question of professional studies in the undergraduate curriculum is an all-or-nothing issue. For most, the issue involves a consideration of *when* professional courses should be given, *how many* should be required, and *what kinds* are the proper concerns of colleges and universities.

In spite of the controversy, liberal arts colleges have been steadily adding more professional courses to their programs. Earl McGrath found in his studies of liberal arts colleges that they are

providing extensive pre-medical, pre-legal, pre-engineering, and other pre-professional courses of study as limited in range and subject matter as those offered in schools of medicine, law, and engineering. McGrath's findings indicate that nearly all liberal arts colleges offer programs composed of general studies and specialized instruction related to a particular occupation for all students regardless of their career objectives. And there are no signs at all that this trend will reverse itself.

Louis T. Benezet in his first *Annual Report to the Board of Trustees* as President of Colorado College describes three major types of American colleges that identify themselves as liberal arts colleges. They are (1) small universities with Master's degrees in strong specialties, (2) selective colleges emphasizing a few saleable fields, and (3) community colleges with more practical programs geared to community needs.² This wide range of colleges, identified by their sponsors at least as liberal arts colleges, strongly testifies to the fact that the uniform liberal arts college model that existed in the United States prior to the Civil War is now mostly a matter of history.

The expansion of professional studies in liberal arts colleges and of liberal arts courses in professional schools has not resulted in a noticeable reduction in the traditional conflict between liberal arts professors and professors in the professional fields. Instead of "bridging the gap" between academics, it has widened it to such an extent that the kind of dialogue which could result in truly integrated collegiate programs has not been achieved.

There are, of course, exceptions. Harold Rugg found significant cooperative rethinking and reconstruction of teacher education in a number of colleges where the facilities for the education of teachers are closely integrated with the liberal arts program. However, while occasional examples of significant promise can be found, the extent to which liberal arts and professional programs are actually integrated is extremely slight.³

There is a variety of possible explanations for this difficulty. One derives from the prestige attached to a liberal arts education. Along with barns rebuilt as homes, small foreign cars, and "name" universities, a liberal arts education is an "in" group status symbol for many. Professional studies, on the other hand, do not enjoy this

kind of status. The view that liberal studies are superior is so ingrained in our culture that anyone who proposes that professional studies are on an *equal* footing with liberal studies is more often ridiculed than engaged in serious debate.

With the progressive diversification of course offerings in liberal arts colleges, there has been a strong counter-movement to keep the liberal arts "pure," which is expressed in the condemnation of the changes and in the glorification of definitions of the liberal arts which have been borrowed from other ages.

Historical Perspectives

All of these earlier definitions assume that professional studies are less intellectual than the traditional humanities. This assumption can be traced to Ancient Greece where the practical arts were held in disdain and not considered to be fitting subjects for free men.

The Greeks did themselves a great disservice by supporting this viewpoint. Because they accepted it, it never occurred to them to apply their scientific findings to the production of goods and services in a way which might have produced an industrial revolution. As a result, their progress in technology never kept pace of their progress in more theoretical scientific endeavors. James Harvey Robinson in *The Mind in the Making* speaks to this point:

[In Greece] . . . there was no one to devise the practical apparatus by which alone profound and ever increasing knowledge of natural operations is possible. The mechanical inventiveness of the Greeks is slight and hence they never came upon the lens . . . microscope . . . telescope . . . a mechanical timepiece . . . a thermometer, or a barometer.⁴

A second assumption is that the more "literary," "linguistic," and "mathematical" a college course is, the purer it is. This assumption has roots in the Hellenistic Period, a period in which the concept of a fitting education for free men was extremely narrow. Earlier in the Archaic Period, a liberal education consisted of a

more balanced curriculum of athletics, language and literature, and music and drama. Each of these subject areas was considered to be of equal importance. In addition to studying in each of these areas, a youth was expected to serve as an apprentice to a public official. In time, less and less attention was given to music, gymnastics, and the period of apprenticeship. With the declining interest in the development of well-rounded individuals came an increased interest in education which consisted solely of abstract, literary, linguistic, and mathematical studies. When the Romans conquered the Greeks, they appropriated this view of education with its narrowed purposes, modified it, and passed it on to the European cultures, upon which America built its educational philosophy.

Both of these assumptions have led to the arbitrary limitation of the liberal arts curriculum to a handful of courses and books. The height of this tendency was reached in the Middle Ages when the liberal arts were defined in terms of seven subjects: logic, grammar, rhetoric, arithmetic, geometry, astronomy, and music. For centuries, educators refused to adapt academic programs to emergent social problems and scientific advances and smugly stood by the conviction that a "liberally" educated individual can be defined in terms of a few required books, sometimes rounded off at 100, or of a prescribed set of courses.

The Common Purposes

Now that the pattern of separating liberal and professional studies into different institutions has been reversed to the point where most undergraduate colleges are offering programs of both liberal and professional studies, it is time for academics to put aside their prejudices and to examine their traditional assumptions in a way that will result in a more satisfactory integration of these studies on every level of undergraduate education.

An excellent place to start in the quest for a fuller integration of liberal and professional studies is with an analysis of their purposes. Both areas of study can be profitably examined within the context of the development of competence, commitment, creativity, and character among students. These purposes constitute a common

ground where a meaningful integration of all undergraduate studies can begin.

The nurturing of all of these characteristics on all levels of formal education is crucial. Max Lerner in "Why Do Civilizations Die?" said "... that whether or not a society is viable depends primarily upon will and intelligence." This viability is rooted in the skill individuals have in using their intelligence (competence) and in a disciplined will, which is necessary if ideals (commitment) are to be translated into action through the basic societal institutions.

Later in the essay, Lerner asserts that "One clue to the death of civilizations is rigidity . . . a hardening of the intellectual and moral arteries of a civilization so that it can no longer adapt itself to drastically changed situations."⁶ Here Lerner provides a rationale for including *creativity* among our educational goals. Schools tend toward rigidity. Traditionally, the school has been the institution where individuals are taught how to conserve existing societal structures. Few educational institutions encourage their students "to do their own thing." But schools must do this if society is to have sufficient numbers of people who can cope successfully with the demands of a world in which the pace of change is accelerating so rapidly that the world an individual learns about in primary school bears little similarity to the one he inhabits in the prime of his life.

In the face of all change, whether slow or rapid, man needs other men to meet physical, intellectual, and emotional needs. Increasingly, man makes contact with other men through large corporate superstructures and mechanical devices. None the less, all men continue to depend upon other men, whether they interact with them as individuals or in groups, or whether they interact with them directly or indirectly. It is at the point of these contacts where character becomes important. Individual and group survival require that men act toward one another with respect and with responsibility. These characteristics are not learned easily; they must be nurtured in men early and continuously in every phase of schooling.

By definition, these four purposes fit into what Carl Rogers calls "significant learning," that is pervasive learnings which affect every portion of the learner's behavior.⁷ Education when examined this way renders the traditional division between liberal and profes-

sional studies meaningless. At the very minimum, all education must be geared toward these purposes. Beyond this it may be directed toward more, but never less.

What will follow is a short discussion of how these purposes are intertwined in liberal and professional studies. What is discussed is not what typifies the liberal and the professional studies, but what, by definition, they should typify.

The most misunderstood of the purposes, especially in terms of its relevance to professional studies, is the development of intellectual competence. Contrary to the views of most academicians, professional courses can be more than mere "fix it" and "how to do it" courses. Professional courses properly taught do help students learn how to think. In these courses the emphasis goes beyond the acquisition of skill and deals with why these skills are important, how they developed, how they can be improved, and how they affect society. The student learns more than how to perform; he learns to raise questions about his performance.

Yes, the student learns technical skills in professional courses, but he learns technical skills in liberal arts courses as well. This is as it should be and is necessary. However, the acquisition of these skills must always be secondary to the development of an inquiring and a disciplined mind. The key learnings in any educational program are the abilities to recall, to classify, to infer, to deduce, to compare, to generalize, and to synthesize. These learnings are cultivated by allowing students to analyze systematically man's relationship to his physical environment and to other men.

Traditionally, these learnings have been developed through the liberal arts: the "pure" humanities, the "pure" social sciences, and the "pure" physical sciences. As a result, the full role of professional studies in humanizing man has yet to be adequately explored.

Too often, the liberal arts concentrate upon man's past and in doing so undervalue the importance of man's present. On the other hand, the professional studies frequently stress man's present and ignore his past. Both studies, liberal and professional, must attend to the past and the present if they are to succeed. For while a man is all the "wiser" for knowing the past, he does not begin on the road to wisdom until he understands his contemporary surroundings.

Courtney C. Smith in a Voice of America Forum Lecture raised the question as to whether the development of intellectual competence is the sole or principal function of a college. He answered his own question with a quotation from a speech Woodrow Wilson delivered at Swarthmore College in 1913:

I cannot admit that a man establishes his right to call himself a college graduate by showing me his diploma. The only way he can prove it is by showing that his eyes are lifted to some horizon which other men less instructed than he have not been privileged to see.⁴

What Wilson is talking about here are two additional common goals of liberal and professional studies, commitment and character. Commitment is expressed in any one of a number of highly developed personal goals. For example, there is the commitment to the creation of the beautiful which often leads to professional studies in architecture, sculpture, music, or the dance. There is the commitment to the search for truth which takes many into advanced research in the behavioral and the physical sciences. And, there is the commitment to help young people become their best selves, which takes many students into the fields of teaching, social work, and community health.

Commitment and character in terms of the role of a college have to do with helping students to learn that their fulfillment is best achieved by using their capacities to assist their fellow men. Professional studies have a particularly important role in this regard. At the very least, it is demonstrated in the efforts of professionals to establish codes of ethics. By definition, a professional is expected to have a strong sense of values and, of necessity, the nurturing of these values is an important part of professional training.

Finally, there is creativity. Competence, character, and commitment have little long term value unless they are accompanied by a creative spirit. This spirit is characterized by an adventurous mind, a dissatisfaction with things as they are, and a restlessness for new perspectives, theories, methods, and practices. It is evidenced in the ability to find fresh answers to old questions, and in the talent for asking entirely new questions.

The common purposes discussed here, competence, commitment,

creativity, and character, synthesize the mission of both liberal and professional studies. They provide a viable point of departure for a meaningful integration of all studies offered on the undergraduate level. Clearly, we can no longer continue in good faith to divide course offerings into "think" courses on the one hand and "fix-it" courses on the other. Pure "fix-it" courses unrelated to a larger societal framework, under no stretch of the imagination, represent "higher" education, and "think" courses abstracted from other considerations have little more than recreational value. We must return the discussion of higher education to an exploration of its purposes and how specific courses and programs fit these purposes. When we reach this point, we shall have a valuable basis for curbing the haphazard and *ad hoc* proliferation of collegiate courses; but, more importantly, we shall be ready to engage all members of the academic community in serious and productive dialogue.

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Gerald T. Rimmington

Geographical Traditions and Education

There is a strong resemblance between confessional traditions and the various traditions of geographical learning and teaching. Just as members of denominations usually realize that they are all trying to obtain and enjoy communion with God in their own way, so also do geographers of different traditions realize that, though they are divided in their methodology and immediate interests, they are united in their attempts "to understand the entire globe as a single interacting system."¹ To this end they all engage in field work and the use of maps in attempts to interpret and explain the spatial relationships of observed phenomena. The intention here, therefore, is to note and explain the various geographical traditions, in terms of their contribution to the structure of the discipline and their value as educational instruments.

From the outset it has to be understood that traditions in geography have developed in a similar way to those of other disciplines. Initially there was a series of assumptions based upon a combination of crude observation, misinformed religious dogma, and rumour. For many centuries people believed sincerely that the earth was flat, and that it was the undoubted centre of the universe.

Outside the continents of Europe, Asia, and Africa there was only a watery void that gave hints of a possible descent from the lip of the terrestrial saucer if one's ship ventured too far. The voyages of discovery that heralded the Renaissance brought a new interest in the development of mathematical geography. A spherical earth had new seas to chart and new lands to discover. Facts were unearthed; new calculations were made. Men were happy for several centuries to pursue the unknown, and render it knowable in cartographic form. In the late nineteenth century, when vigorous social and political movements brought educational opportunities to the masses, there was a sharp reversal of the scientific trend. At the highest levels there came the development of a literary tradition. In the universities, Arts students, conversant mainly with literature, languages, and history, were drawn more to the use of accurate but beautiful literary forms than to a scientific preoccupation with non-literary analysis. At the lowest levels, there was another development which corresponded well with Victorian fussiness about precision in spelling (a relatively new phenomenon), and which was to give to geography an image that was unworthy of its possibilities. The memorization of capes and bays, and towns and products, accorded well with an age in which there was virtue in the training of the "memory." In recent years there has been a return to scientific investigation. The Space Age demands a greater precision than literary forms could give, more meaning than memorization programs have made available. It can be seen that geography is subject to the general historical climate; the spirit of the age tends to be reflected in it.

A brief account of development within a discipline inevitably places each aspect end to end in the time sequence, when in reality there is considerable overlap. It is possible for several traditions to co-exist. It is also possible for traditions that have seemingly terminated to show a resurgence. Indeed, the development of some disciplines is a story of attempts to synthesize differing viewpoints, or at least to establish an equilibrium between them. Geography is such a discipline.

McNee² has attempted to define geographical traditions as consisting of:

1. Physical geography . . . "the arrangement and functioning of 'natural' things on the surface of the earth."

2. Cultural geography . . . "the relationship between man and his environment."
3. Regional geography . . . "what a given place is like as a 'totality.'"
4. Spatial geography . . . "the geometry of the earth's surface . . ."
5. Political geography . . . "how the political system impresses itself on the landscape."

He claims these research "traditions" as having been in existence "from the time geography was first studied in ancient Greece."³ However, this is too neat a division. While it is possible to assert that these divisions represent geography as it is researched and taught at the present time, it is certainly incorrect to claim that each of these is in fact a tradition that may be traced back to a point in the distant past. It is also impossible to substantiate the suggestion, implicit in McNee's classification, that each of these aspects appeared as a coherent set of values and relationships at a particular point in time, and has maintained its essential character through succeeding ages.

Tradition is the outward expression of modes of thought that have gained refinement and sophistication through the ages without losing their essential characteristics. Thus if we wish to explore geographical tradition, we have to attempt to identify and isolate those modes of thought which have continued through time and which have been expressed in various ways in the development of the discipline. This is not easy, for the traditions which are to be noted here have never been entirely separate from each other. They intermingle in a disconcerting but stimulating way, to form the changing kaleidoscopic patterns of geographical study.

The Exploring Tradition

An early developing tradition may be seen in the attempts of man to discover routes through unknown territories or uncharted seas, and to record in map and written description what he had seen for the benefit of others. Often the purpose was to find trade routes, as with Marco Polo's travels in the Orient, with Columbus'

accidental discovery of the Americas when in search of India, and with Mackenzie in the North-west Territories of Canada. Sometimes it was to found a new land away from oppression, as with the Great Trek of the Boers in South Africa, and the westward migration of the Mormons under Brigham Young beyond the mid-nineteenth-century frontiers of the United States. In other instances, as in David Livingstone, exploration was mixed with religious and social ideals, or, as in Alexander the Great and Julius Caesar, with military conquest.

The exploring tradition, although initiated by people whose main interest was not geography, was raised to its greatest height by people either specifically interested in the geographical phenomena that they saw or whose interests were non-commercial. As Debenham has noted, "the real incentive to make land maps came rather from interest in places than from any need to find the way from place to place."⁴ It is significant that geographical societies were founded in Paris (1821), Berlin (1828) and London (1830) at a time when there was a great upsurge in explorations by Europeans in North America, Australia, New Zealand, and Africa — developments, of course, related to colonization and empire building. These societies did much to assist explorations, and to make use of new discoveries in the writing of geographical description and the construction of maps. It is not surprising that the verdict of modern geographers on their Victorian predecessors is that, though they failed to develop adequately other geographical traditions, they were justifiably preoccupied with the wealth of material flowing from explorations.⁵

The exploring tradition is less important in modern geography. There are few areas of the world that have not yet been opened to geographical study, although one may still visit small, hilly areas of East Central Africa, where the inhabitants flee on the approach of a European, and which are obviously virgin territory for micro-exploration. Yet from the educational viewpoint, the explorer's approach is a valuable one.

Even when well into adolescence a pupil in school may feel, through a significant field experience, the challenge and excitement of seeing a new landscape (new to him, that is) on which he can test classroom theory or develop theories for further analysis in

the classroom. For many of those who become geographers it is the simulated exploration of fieldwork in unfamiliar territory, demanding questions and hypotheses, and the proofs that may be found in compass traverse and soil sampling, the comparison of real landscape with map, and human activity with physical environment, that has drawn them to the discipline. It is in simple fieldwork and small-scale sample studies (a vicarious kind of exploring), that today's pupil finds his geographical starting point.

The Aesthetic Tradition

The beginnings of an aesthetic tradition can be seen in ancient map-makers who were "concerned more with filling blank spaces with portraits of potentates or succinct remarks such as, 'Here is much rhubarb,' than with any representation of permanent features."⁶ Crude as these were, they indicated a firm belief that a map existed in order to tell a story in "a most complex form of shorthand, saving pages of descriptive text."⁷ In more recent years, Wooldridge has noted that geography is concerned with understanding "how our terrestrial home is constructed, the meaning of its scenery and of the patterns of its sky."⁸

The most notable developments in the aesthetic tradition occurred during the present century, when geography became for a time a literary subject. In France, where study of the humanities was always more prestigious than scientific study, the subject was claimed for the former. In Britain, also, geography was normally classified as an arts subject in the grammar school.

Isolation of the aesthetic tradition is especially difficult, because it is bound up with the growth of regional study, which itself is also a product of attempts to "soften" the effects of determinism, to be discussed later. It is perhaps sufficient at this point to note that the response of geographers to the educational milieu was to produce a concentration on regional study, which in many cases consisted of the writing of what were basically deterministic accounts, proceeding from physical structure to human occupations, with the relationships between the various categories sometimes clarified, often blurred, by the beauty of language. Language can

be used to conceal awkwardness of argument as well as to reveal truth.

Nevertheless, it has to be admitted that there was a need for this type of study, to integrate the collections of material that frequently existed in Europe, for in countries like France there existed clearly defined physical regions in which cultural distinctiveness was also apparent. European feudalism had left its mark in a relatively immobile peasantry that tended to maintain regional dialects and customs. The industrial revolution had not substantially changed this because migration had been mainly within regions; in spite of the growth of railways, the average migrant did not move far. Moreover, statistical information on a national or supra-national basis was lacking. The most useful accumulations of facts had been the work of interested individuals whose studies had been entirely within a region, and were usually in a form that did not match with studies elsewhere.

What often appealed to the literary regionalists was the possibility of achieving, in micro-geographical form, a harmonized study of the earth as a whole. In 1903 A. J. Herbertson noted that "geography is not concerned with the distribution of one element on the earth's surface but with all."⁹ In the same year, Paul Vidal de la Blache's *Tableau de la Géographie de la France* appeared as "a contribution to literature as well as to the geography of France."¹⁰ Each study within it noted the harmony of physical and human features.

Herbertson and Vidal de la Blache had been preceded by Carl Ritter with his teleological approach to regionalism; they were co-existent with Sir Halford Mackinder, who founded the Oxford school of geography, and who contributed much to the teaching of regional geography. It was left, however, to James Fairgrieve to popularize regional geography in schools, to emphasize that the gaining of an understanding of man-land relationships is part of education in citizenship.¹¹

This view is echoed in the present by Neville V. Scarfe. Scarfe stresses the need for less "accumulation of knowledge" and more encouragement "to inquire enthusiastically about their world," less

domination by the text-book and more inquiry in field and laboratory, but indicates his beginnings in the literary regional approach when he chastises television producers for not realizing that what teachers really need is "*simple ungarbled descriptive data* by means of which children can be brought into almost direct contact with the reality."¹²

The Deterministic Tradition

Regional geography was a product, not merely of the aesthetic tradition, but also of the deterministic tradition. Determinism in geography was mainly a product of the late nineteenth century, and arose out of Darwinian theory. Friedrich Ratzel in his *Anthropogeographie* (1882) envisaged man as a creature of his environment.¹³ It is significant that the conception of a region, as has been noted above, was soon to be defined in terms of physical unity, that the study of a region was to proceed in "logical" order from physical "determinants" to human products, and that, even in the present, when regional study is becoming less fashionable, the terms "geographic factor" and "geographic influence" are still used popularly (though not professionally) to mean physical factors only.¹⁴ Even when it became obvious that in at least some cases, such as Quebec and the English "Potteries," the physical region was less significant than cultural affinities that crossed physiographic boundaries, the older framework was retained, or a curious mixture of physical and cultural regions was adopted, and the order of study within remained basically the same. P. W. Bryan's cultural landscape studies,¹⁵ which aimed at analysis of "the concrete representation of man's adaptation of his environment,"¹⁶ were worthy attempts to redress the balance. They did lead on to the development, by Griffith Taylor, C. Daryll Forde, H. J. Fleure and others, of a social geography in which even "religions and philosophies are amenable to study by the geographical approach."¹⁷

The development of social geography was accompanied by changes in regional study. Both owed much of their impetus to the disillusionment caused by a world war and the subsequent periods of economic depression. The late nineteenth century, with its Darwinism crudely applied to human development and the sudden rise

in living standards due to technological advancement and rapidly increasing trade outlets, had been rife with unfounded optimism, in which man was seen to be at or near the pinnacle of the evolutionary process. Now it was realized that man's future lay in his ability to make decisions intelligently and co-operatively. Regional geography took refuge in a modification of determinism known as *possibilism*. Whereas E. Demolin could declare that "if the history of Mankind began again and the present surface of the earth were to remain unchanged, that history would be repeated in all its main traits,"¹⁸ and Ellen C. Semple could assert vigorously:

Man is a product of the earth's surface . . . On the mountains, she has given him leg muscles of iron to climb the slope; along the coast she has left these weak and flabby, but given him instead vigorous development of chest and arms to handle his paddle or oar . . .¹⁹

Brunhes observed, in writing of the interrelation of all phenomena on the earth's surface, that "we must ascertain in what measure it has determined them, and in what measure on the other hand it has been affected by their influence."²⁰ Meanwhile, Vidal de la Blache noted that the largest ears of corn were grown, not in their native tropical habitat, but on the prairies of the American Mid-West, and that nature's role in human affairs was that of an adviser.²¹ In general the possibilist position was that nature makes available a number of possibilities for human occupation of the earth's surface, and that man, within this framework is able to exercise choice. At times, as seen in the development of new quicker ripening grains and the encouragement this gave to settlement in the Peace River District, on the borders of Alberta and British Columbia, the peripheries of nature's framework are eased outward a little. But it is never a matter of man defeating nature, only of co-operating with it more intelligently.

Determinism was a worthy attempt to achieve order, the function of any science, but in its strictest form it had an air of unreality. In its more refined possibilist form it was less unreal, but suffered from the obvious difficulty of matching the items within a still-used deterministic framework in terms of cause and effect. The effect was to bring about a reliance in the high school class-

room on the memorization of the descriptive sequence within a region so that progression was measured by the ability to memorize a greater number of related facts more efficiently. It was little wonder that regional geography with this format failed to excite the interest of many pupils, or to provide sufficient stimulation for some of the more able of them. Some teachers feel it is regrettable that this particular tradition is so faithfully maintained in schools, often to the exclusion of others, at a time when the world's "physical characteristics are no longer seen to have the same explanatory force and their tedious reiteration in school texts can serve no purpose other than to dull the wits of the student."²²

The Integrating Tradition

A fourth strand which may be discerned in geography is the integrating tradition. Whereas determinism and aesthetics conspire to draw physical aspects and human aspects toward each other, attempts to integrate geography with other sciences have tended to result in the pull of physical geography toward the physical sciences and of human geography toward the social sciences. It is significant that McNee, writing in post-deterministic, post-regional study style, has some difficulty when he tries to discern what it is that present-day geographers share.²³

It is true to say that educational thinking in the twentieth century has been dominated by the long shadow of John Dewey. Dewey was conscious of living in a country in which old ways of life were rapidly giving way to new forms. Developments in science and technology were bringing about new industrial undertakings in which the family as such had no place, and there was a huge immigrant population. In Europe, parents had been able to advise their children, but confronted with, in many cases, problems of language, differences of culture, differences of work opportunity, and unfamiliar styles of government, they were unable to cope. The task of Americanizing, democratizing and socializing had to be passed on to the school. It is not surprising, therefore, to find Dewey stating that "the true centre of correlation in the school subjects is not science, nor literature, nor history, nor geography, but the child's own social activities."²⁴

Since Dewey and his followers saw, in the North American

schools of their time, a kind of geography in which none of the traditions here described was adequately represented, and which concerned itself with little more than the memorization of only tenuously related facts, they concluded that geography *per se* was of little educational value, and it would be better, therefore, if anything of value in it were amalgamated with social studies, to promote the examination of society as it is. In so doing there was more loss than gain, for pupils lost any sense of structure they might otherwise have acquired, so that, while they gained much social experience at more superficial levels, they were not provided with the analytical tools and ways of thinking of the various disciplines so merged. Geography in particular lost its physical aspects, and its distinctive points of view in human aspects tended to become subordinated to an almost equally emasculated history.

The reaction to Dewey's pragmatism among professional geographers was not generally to move to an opposite pole, but, while asserting vigorously the need for distinctive geography teaching, to recognize the desirability of demonstrating the fundamental unity of all knowledge. C. Daryll Forde, for instance, noted that:

The present academic subjects known as History, Sociology, Ethnology, Human Geography, and Economics are not autonomous fields to the degree that may be claimed for Physics or Botany. Their separation is largely one of convention, and results rather from the inelasticity of academic organization than from any substantial claim to utility in the advancement of learning.²⁵

It was out of this kind of thinking that there arose, in the schools, a definite tendency to accept that man himself was the central theme of geography. Many geography teachers also went so far as to suggest that the subject should be taught with broad social purposes in mind. Fairgrieve, for instance, stated quite bluntly that:

The function of geography is to train future citizens to imagine accurately the conditions of the great world stage and so help them to think sanely about political and social problems in the world.²⁶

Others have echoed this to greater or lesser degree. R. C. Honeybone notes that "many teachers would agree that it is a desirable aim to foster a sympathetic and critically understanding attitude towards foreign people and their problems, and that the proper teaching of geography can contribute towards that end."²⁷ Long and Roberson, commenting upon a series of experiments at the University of London Institute of Education, designed to show whether or not the use of geography for improving attitudes toward foreign people can be effective, state that "although specific effort to improve attitudes by means of geography teaching may not always be successful, unless this effort is consciously made, attitudes are likely to remain unchanged."²⁸

A relationship between geography and other disciplines has always been recognized, as in regional studies use was made of material from geology, climatology, agriculture, sociology, history, etc. to build up a complete picture of man-land associations. What Deweyan influence has achieved is a more general recognition that geography is distinguished from other disciplines, not by content, which may be common, but by modes of thought. So that the planning of a geography curriculum has to take account of developments in other disciplines, which will share the same or similar content.

The Scientific Tradition

The fifth and final tradition in geography is the scientific tradition. It begins in the fifth century B.C., with the intelligent observations of Herodotus, who saw the black soil along the river Nile, recognized it as deposited silt, and then concluded that the Nile delta had been built up by such depositions. Scientific geography languished, like science generally, during the middle ages, saw only spasmodic development between the Renaissance and the nineteenth century, began then to show a more scientific outlook, but only during the present century, and especially during the present decade, showed signs of substantially changing the established structures and teaching traditions.

Modern expressions of the scientific tradition may be noted in the work of physical geographers, like W. M. Davis, who was not

content with the description of landforms, but went on to formulate hypotheses in order to explain them.²⁹ While his "cycle of erosion" was undoubtedly oversimplified, it provided food for thought, and still gives rise to investigation and healthy controversy of a type that other traditions do not provide. The physical geographers, especially the geomorphologists, accepted the need for the development of theories much earlier than others, but the groundwork for a scientifically based human geography was being laid at the same time, in the work of, for instance, the German W. Christaller, who in 1933 developed a theory to explain the relationship, in spatial terms, of the various types of settlements in an area. It is based upon the idea that one may visualize a landscape on which is superimposed a series of hexagonal latticework patterns, related to each other by the central point of a smaller hexagon becoming one of the corners of a larger hexagon. The central place within each hexagon is then presumed to be larger and more important than others within the hexagon, because it develops marketing facilities more specialized than those of smaller population centres. It is obvious that such a theory would be especially relevant to areas where the location and development of settlements is apparently fortuitous, as in the great plains that stretch from the Gulf of Mexico to the Laurentian Shield, so that we find American geographers, such as Lösch taking the basic idea and, in adapting it, finding ways of making it more flexible.³⁰ Subsequently Gunawardena has noted the relevance of the Löschian system to settlement patterns in southern Ceylon,³¹ while Skinner has made similar discoveries in the Szechwan province of China.³²

At the present time, many geographers are preoccupied with the task of constructing theoretical models to explain and assist in remembering the various types of geographical phenomena. Basically this entails the detailed observation (in which one or more ideas gain preliminary testing) of a number of cases of the same type of phenomenon. The common elements are then incorporated into a model (i.e. a simplified miniature of reality) which may then be applied to other similar phenomena elsewhere on the earth's surface. Obviously no model can adequately represent what is unique, for precisely the same geographical conditions cannot be found in two different places. But this does not justify the discarding of the model. Through the establishment of a good model a

better understanding of reality is achieved, but there comes also the realization that the reality is far too complicated and variable for full understanding to be achieved by model application. More sophisticated models may achieve better generalization, but their very complexity may be inimical to understanding.

The question of understanding is important, for in the teaching situation, as distinct from the research situation, we have gained nothing if the end result of model construction and application is confusion in the mind of the student. Continued mental stimulation is also necessary. As Chorley and Haggett have noted, not only do model frameworks have to be constructed so that they are "capable of considerable exploitation through time as experience with the model leads to more and more sophisticated handling of the information within it," but they need to be constructed so that when a basically simple framework has outgrown its usefulness as an element in child development, it can be discarded, and an imaginative leap made to a more complicated model framework.³³ What is not known yet is exactly where these imaginative leaps should be; at what point in a child's development should he move on to a new structuring? Much geographical and educational research must necessarily be done before there is a scientifically reasonable hierarchy of models to be applied in the high school.

It is overstating the case for the scientific tradition to say that, in geography generally, and in geographical teaching particularly, it will supersede the other traditions entirely. One hopes that it will always contain something of the drama and excitement of exploring. An emphasis upon science ought not to be at the expense of good descriptive writing, and maps and illustrations that are tasteful as well as accurate. The integrating tradition will be more meaningful within a scientific framework. Determinism, in its possibilist guise, may well continue to serve a useful purpose, if some form of regionalism is retained.

It has to be admitted, though, that the scientific tradition is likely to gain the greatest strength in the immediate future. And there are good reasons for this. In the first place geography is now in a position to benefit by new techniques in statistics. Not only are there more standardized statistics available, but there are computers available to retrieve information and construct complex pat-

terns with great speed. There are aerial photographs which can trace changes in landscape patterns (the Cuban missiles) within a day or so. In the second place the neat tidy regional arrangements of yesteryear have broken down, in some cases under the disruption of warfare, in others simply because economic changes and new administrative patterns have been so rapid in developing. The new circumstances call not merely for description, but for *prediction*.

In the high school situation what we need to do now is to see that "what the child does for the first time is what the scholar does at the forefront of his discipline."⁸⁴ And this, Winter has suggested, means being concerned with the ability to apply facts to new situations, "with the analysis of complex situations, and with intuitive synthesis of ideas to resolve complicated problems."⁸⁵

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Nineteenth-Century Canadian School Mathematics

Harold Don Allen

Quantity is any thing that can be increased, diminished, or measured. Mathematics is the science of quantity.

— 1858 definition.¹

The present generation of Canadian educators is sufficiently removed in time from the schools and programs of the nineteenth century that Victorian practices in curriculum and instruction are tending to take on attributes of the legendary. However, abundant evidence can be found of the actual course contents and approaches in most, if not all, nineteenth-century subject areas. This is particularly true in school mathematics.



The mathematics of the Victorian classroom came to comprise arithmetic and mensuration, readily justified as of "distinct value in the business of life,"² plus algebra and Euclid, which had entered the school from the college program.³ (Even in the 1880's, university undergraduate mathematics offerings consisted mainly of calculus and analytic geometry.⁴) "Up to the end of the last century," an English study has noted, "school mathematics . . . generally consisted of arithmetic, algebra and geometry (Euclid) and there was very little correlation between the subjects."⁵

The dominant role that the textbook came to assume in the Victorian mathematics class cannot be doubted, and the single-volume Arithmetics, Algebras, and Euclids, accordingly, are of great interest. An earlier period, however, had known few textbooks, and a small book of rules and examples of arithmetic, *The Tutor's Assistant*, published in Montreal in 1845, offers insight into classroom procedures.⁶ The author, one Francis Walkingame, indicates that an accepted practice in the mathematics class was for the teacher to write out "the rules and questions" in each pupil's notebook, and he says:

When a master takes upon him that laborious, (though unnecessary,) method of writing out the rules and questions in the children's books, he must either be toiling and slaving himself after the fatigue of the school is over, to get ready the books for the next day, or else must lose that time which would be much better spent in instructing and opening the minds of his pupils.

Walkingame, accordingly, had prepared handwritten booklets, one for each level of instruction, and had encountered a new difficulty.

Where there are several boys in a class, some one or other must wait till the boy who first has the book, finishes the writing out of those rules or questions he wants, which detains the others from making that progress they otherwise might.

Walkingame, therefore, ventured to publish his "compendium."

A number of Canadian Arithmetics did exist in Walkingame's time, and many others were to follow, Canadian products as well as imports from England and the United States. Indeed, fifteen years later, John Bruce, the Quebec school inspector, was moved to write about the teacher who, because of his own limitations, "is obliged to follow the very letter of the book."

Bruce, in an early number of *The Journal of Education for Lower Canada*, spoke of the teacher "who knows nothing of the subject but what is contained in the book before him, and who knows *that* only as he reads it during the intervals occasioned by the hesitations of the class." Observed Bruce, "The tendency of such teaching is to discourage thought."

Laying claim to being the first "Canadian Arithmetic in the English language," *Adams' New Arithmetic*, by Daniel Adams, a physician, was published at Stanstead in 1833 and at Sherbrooke in 1849.⁸ It is antedated by a quarter century, however, by a French-language text, *Traité d'arithmétique pour l'usage des écoles*, printed in Quebec City in 1809.⁹ Both books are startlingly comprehensive, extending from the rudiments of "cyphering" to cube root, the progressions, and the more sophisticated applications to banking and commerce. Thus, the 1809 treatise asks:

Un homme, partant pour voyage, fit 10 lieues la pre-

mière journée et se rendit de 8 jours, augmentant sa marche de 5 lieues par jour. Combien fit-il la dernière journée?

Adams, as late as 1849, presents three monetary systems: the "currency of the country," Halifax currency, denominated in pounds, shillings, and pence; "old currency" of the French regime, in livres, sous, and deniers; and "Federal money" of the United States, in eagles, dollars, dimes, cents, and mills. Adams asserts: "The importance of the *principal* and *essential* alteration of this book, viz., the adaptation of it to the currency of the country, will not fail to be observed by every one."

An antiquated system of "French square measure," of which vestiges persist in Quebec to this day, is tabulated, through the square French foot, *toise*, rod, *arpent*, and league. An English duodecimal concept is interestingly extended, in linear and surface measurement.

Duodecimals are fractions of a foot. . . . A foot, instead of being divided into ten equal parts, is divided into twelve equal parts, called inches, or *primes*, marked thus, ($'$). Again each of these parts is conceived to be divided into twelve other equal parts, called seconds ($''$). In like manner, each second is conceived to be divided into twelve equal parts, called *thirds* ($'''$); each third into twelve equal parts called *fourths* ($''''$), and so on to any extent.

Adams points out, accordingly, that a *fifth* is $1/248832$ of a foot, and extends the notation to area by giving as the product of 371 feet 2'6" multiplied by 181 feet 1'9", the duodecimal 67242 feet 10'1" 4''' 6'''.

The contents of *Butler's Arithmetical Tables*, "designed chiefly for the Use of Young Ladies" and published in Montreal in 1855, include a surprising diversity of items.¹⁰ Among them are "current coin," Roman and Greek coin and moneys, Kings and Queens since the conquest, wage rates, "Old Ale and Beer Measure," populations, and "astronomical characters." In the tables as in the school arithmetics, the attempt is to provide or predict the useful. That this is not easy is borne out by Thorndike's observation that "percents were once as rare in the shop and on the street as fractional exponents are now."¹¹

John Herbert Sangster, a Toronto physician, undertook "at the suggestion of the Chief Superintendent of Education for Upper Canada" to produce "a complete text-book on the subject of Arithmetic," and his *National Arithmetic in Theory and Practice*, issued in 1859, enjoyed several decades of Canadian use.¹² "Urging on his fellow-teachers" with recommendations on the need for drill, memorization, revision, absolute accuracy, care with operational signs, and originality in problem preparation, he seems decades in advance of his time. "Designed for the use of Canadian schools," the National Series of texts found widespread endorsement when, in the words of a Quebec school board report, books in use were "very various."

The popularity in the Canadian provinces of Hamblin Smith's *A Treatise on Arithmetic*, the English classic, led W. J. Gage and Company of Toronto to bring out a Canadian edition in 1877.¹³ The Canadian revision was by Thomas Kirkland and William Scott, respectively principal and vice-principal of the Normal School, Toronto. The same authors produced the following year, "intended as an introductory text-book to *Hamblin Smith's Arithmetic*," their *Elementary Arithmetic on the Unitary System*, with editions in 1878, 1888, and 1895.¹⁴ The second edition claimed authorization in Ontario, Quebec, Nova Scotia, Prince Edward Island, Manitoba, Northwest Territories, British Columbia, and Newfoundland.

The Hamblin Smith text is divided into two parts, Pure Arithmetic and Commercial Arithmetic. The former, in 113 pages, extends from, "Write in words the numbers expressed by the following figures: — 7, 13, 45, . . ." (p. 5) to such a demand as, "Find . . . the sixth roots of 24794911296; 282429.536481" (p. 113). Topics in "Commercial Arithmetic" include, predictably, English, Canadian, and United States currencies; measures of time, length, surface, solidity, capacity, and weight; fractional measures (e.g. $3/73$ of a year + $9/56$ of a week + $7/12$ of an hour); decimal measures; simple interest; compound interest; present worth and discount; equation of payments; averages and percentages; profit and loss; stocks and shares; division into proportional parts; alligation; exchange; ratio and proportion; the metric system; measurement of area (e.g. carpeting floors, papering walls).

Kirkland and Scott claimed as a chief virtue of their book the new approach to the presentation of arithmetic topics. Previously,

they note, a rule had been stated first, an example illustrating the rule followed, and the reason for it had come last, while "exactly the reverse of this is adopted by all good teachers." The examples and illustrations precede and lead up to the enunciation of the rule, whenever a rule is considered necessary.

The single-volume Arithmetics in general use through most of the nineteenth-century provide little insight into the assignments of the various grade levels. The first "Course of Study" for Quebec Protestant schools, released in 1883 or 1884, is of some interest in this regard.¹⁵ Four elementary grades, three model school grades, and three academy grades, are provided for.

- First Grade: Counting. Mental Arithmetic. Addition and Subtraction of numbers of three figures. Reading and Writing Nos. to 1,000. Multiplication table to 6 times 9.
- Second Grade: Mental Arithmetic. Four Simple Rules to Long Division, inclusive. Multiplication Table. Avoirdupois Weight. Long and Liquid Measure.
- Third Grade: Mental Arithmetic. Long Division. Compound Rules. Simple Examples in Fractions. Dry, Time, Square and Cubic Measures.
- Fourth Grade: Mental Arithmetic. Fractions, Decimals, Elementary Interest and Percentage.

The Fourth Grade program included, as well, an introductory course in "Bookkeeping," requiring "single entry bookkeeping, making out accounts, receipts, orders, etc."

More advanced students, in the Model School or the first Academy year, met percentage applications in "Commission, Brokerage, Insurance, Interest and Profit and Loss." They concluded their program with "Present Worth, Discount, Equation of Payments, Stocks, Partnership, Square and Cube Roots."

Mensuration, the study of measurement, has been described as "one half of arithmetic," and in the late nineteenth century it may have had the stature of a separate subject. In *Practical Mensuration*, published in Owen Sound in 1893, the author, C. A. Fleming, argues:

There is scarcely a transaction in every-day life to which [Mensuration] does not apply, from the pur-

chase of a yard of calico to the great railway contracts that require the time of their execution to be counted in years.¹⁶

Devoting forty pages to applications of measurement, Fleming treats such "common measurements" as those relating to wood, lumber, land, lathing, plastering, painting and kalsomining, papering, stone and brick work, shingling, carpenter work, fencing, cisterns, timber measure, measures of grain and hay, gauging, and shoe-maker's measure.

As in this representative example from Hamblin Smith, most mensuration problems were relatively straightforward, called for some care in computation, and were little concerned with "rounding off" or significant digits:

How many flag-stones, each 5.76 ft. long and 4.15 ft. wide, are requisite for paving a cloister, which encloses a rectangular court 45.77 yd. long and 41.98 yd. wide, the cloister being 12.45 ft. wide?

Other late Victorian examples, less frequently encountered, proved anything but routine:

If a rifleman can plant 11 per cent of his bullets within a circle of 1 foot in diameter, at the distance of 100 yards, find the diameter of that circular target which he might make an even venture to hit the first shot.¹⁷

The stated answer, to an improbable degree of precision: 2 feet 5.2656 inch.

Algebra, "a science which treats of the relations of numbers,"¹⁸ was shown to be useful in circumstances where arithmetic methods were difficult to apply. Kelland, a Scottish clergyman, made this point in a textbook of 1869.

In a great number of arithmetical operations, it is possible to carry on a continuous train of reasoning by means of which the various data are successively introduced in their proper places, and the conclusions to which they respectively lead, combined and worked into the final result. . . . We must of necessity have in view the conclusion itself, or something involving it, even at the very outset of the solution. . . . The science of Algebra has for its primary object the exhibition

to the eye, of all the operations which in this case would have been represented only to the mind.¹⁹

"Manipulative skill seemed to be the aim of the teaching," it has been asserted, "and the skill demanded went far beyond that which the non-specialist was ever likely to use."²⁰ The Victorian educator was not unaware of this aspect of algebra teaching, and Hall and Knight cautioned, in 1885, "lest first lessons should degenerate into a more mechanical manipulation of symbols, uninteresting and uninstrusive, because little understood."²¹ Approach and content varied little from textbook to textbook, the operations with algebraic expressions, the solution of equations, the application to "type problems," and an unconnected final chapter on graphs. Apart from integration of the graphwork, little essential change in approach is found through 1850, so the format of a traditional algebra is not hard to recall. "Word problems," undeniably, have altered, so the question from Kelland's *Algebra*, can claim a certain antiquarian charm. So can this "clock problem," from the nineteenth-century *Algebra* of the Ontario authors, Robertson and Birchard.

It is between 2 and 3 o'clock, but a person looking at his watch and mistaking the hour-hand for the minute-hand, fancies that the time of day is 55 minutes earlier than it really is. What is the true time?²²

Problems dealing with such "seeming trivialities" are "to be welcomed rather than condemned," according to Carson, for they "exemplify the handling of rates in ways which are more real to young children than others which have more actual utility."²³

Since Euclid is a work lending itself to citation by book and proposition, if not chapter and verse, nineteenth-century limits in geometry instruction are readily ascertained. The first three books of Euclid constituted the subject matter for a 150 mark matriculation paper to McGill University in 1875. Quebec limits of 1883, unaltered through 1898, reflected this requirement:

Academy, Grade I : Definitions, Book I, 1-26;
Academy, Grade II : Books I and II;
Academy, Grade III: Books I, II and III.

Since the assignment of propositions is not very different from that of sixty years later, a look at examinations reveals a great, perhaps unexpected, difference in approach and emphasis.

The High School of Montreal, in a paper attributed to sessional examinations of 1861, asked for "I.11" by number, and required, "Give the propositions used in the construction and demonstration of I.48 Pythagorean converse."

Teachers aspiring to Quebec's Model School Diploma in 1882 had as 20 mark obligatory questions:

Draw the figures of the 4th, 8th, and 24th propositions in Book I, the 11th in Book II, and the 9th in Book III.

Give the general enunciation of the 5th proposition in each of the Books. Enunciate also the propositions you consider the most difficult in Books I and II.

Change came at the turn of the century. The 1900 edition of the *Course of Study* added to Academy, Grade I requirements, *at least five easy deductions*. Ten deductions were to be done in the second grade; fifteen in the third. In 1906 it was directed that the Academy Grade 1 paper have "at least one simple deduction among the compulsory questions." Minutes of the McGill University Matriculation Board for 1909 contain the telling entry:

That candidates should be informed that it will be necessary to buy not only the text-book but also a set of drawing instruments.

Euclid, clearly, would never be the same! However, Mayor's observation of 1959, that "a resourceful teacher could use a translation of Euclid's *Elements*, written more than two thousand years ago, and with appropriate mimeographed exercises meet the course syllabus requirements," was essentially true in Quebec of 1900 as it is in most of Canada even in this decade.



The prevalent conception of Victorian school mathematics as manipulation to near perfection, rote learning, and inherent irrelevance represents a distortion and an oversimplification. It does no justice, for example, to the very real efforts of the nineteenth-century author or schoolmaster to prepare his youthful charges for a harsh, demanding world. Bookkeeping in Fourth Grade! Arithmetic, certainly, shows attempts to drill the useful, even to predict the useful, a difficult feat during a time — not unlike ours — of

unprecedented technological and social change. Strict accuracy was, of course, at a premium when business was governed by hand ledgers (the black and red ink pots!), before the typewriter, cash register, desk calculator and computer shifted the demand to different skills. It cannot be denied that algebra carried manipulation — “symbol shoving” — to unneeded lengths, asking little in terms of understanding, and geometry often failed to call for original thought; it is also evident that emphasis was on the “mental discipline” of the subject and the assumed carryover of learned patterns of logical thought. Nevertheless, nineteenth-century mathematics instruction should not be lightly dismissed and from an understanding of its strengths and weaknesses may emerge a fuller appreciation of the changes being recommended and implemented in today’s curriculum.



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REVIEWS

Paddy Hearsy, Review Editor

Margaret Gillett. *Readings in the History of Education.* Toronto: McGraw-Hill Co. of Canada, 1969, 301 pp. Appendix.

The preparation of a book of Readings in the boundless realm of the history of education must be a colossal undertaking and a severe test in "decision-making." Here in this volume, Margaret Gillett states disarmingly in her Preface, is "a very small selection from the vast material that deals with the development of educational thought and practice throughout the world." That the selection should be so very well done marks a splendid achievement, an achievement that readers of this book, or those who consult it, will readily appreciate.

The author's name is well-known across Canada, and elsewhere, as also is her book, *A History of Education: thought and practice*, to which this new volume, as even a cursory comparison of content and intent of the two volumes will show, provides a suitable companion. They complement each other. They are both characterized by the same breadth of outlook and purpose, and the same erudite treatment, and they both reflect the same wealth of experience and

recognition of international dimensions in education. They both cover every important aspect of educational theory and practice.

In structure the book is well-conceived, straightforward and eminently effective. Not unexpectedly it provides sections of Readings that relate to the usually recognized periods of influence and advancement in the history of education from ancient times to our own disturbed, clamorous, contemporary period. It is noted, however, that while six of the eight sections fall in line with the main plan, the first and last, particularly the last, are different, "out of step" so to say; the first because while it is rooted in the wisdom of the ancients it ends, not inappropriately of course, with excerpts from Reports in 20th century Canada; the last because it is a unit, albeit with its own particular value, representing developments in Canadian history of education.

One wonders whether it might have been possible to "integrate"

(blessed word of educationists!) excerpts reflective of the history of education in Canada within the more widely representative sections, just as McLuhan for example finds a place in Section VII. This but illustrates, however, that the Editor of a book of this kind no doubt has intentions that are both declared and undeclared and has a right to sustain them. Both teacher and reader may be expected in any case to know, or come to know, that Canadian education is not a wholly independent chapter in the history of education. Indeed two of the purposes declared by the Editor in her Preface are "to illuminate some of the perennial ideas and issues in education," and "to suggest the relevance of the past to the present and future." Within her praiseworthy purview she has Canadian education and Canadian students clearly in mind.

As one approached each of the central six sections one was tempted to try to note beforehand from what sources the excerpts or quotations might come. Naturally there are outstanding writers and thinkers in each period who could not be omitted; perhaps naturally too the knowledgeable reader will find one or two of his favourites excluded while he can at the same time

welcome a number of pleasing surprises. Of the unexpected inclusions perhaps the most attractive of all, is the extract from Churchill's *My Early Life* (*Mensa! O Table!* — perhaps he would have fared better on *puella pulchra* as this reader did!) Also striking a reminiscent note is the appearance of the *Gaudeamus* (though unfamiliar in English). These and others serve to introduce the lighter and brighter element that critics of books on education seem generally to find wanting. Of the weightier, unexpected, and interesting, excerpts one may mention that from Peter Abelard's *Sic et Non*. And of course one is glad to find Kaufman's *Up the Down Staircase* and Goodman's *Growing Up Absurd* represented in Section VII alongside of extracts from Bestor and Bruner and the formidable Montessori and Dewey.

On the other hand, with one of the emphases in the book being placed on teachers and teaching, Mulcaster for example might have found a place in Section IV, as also might Elyot as an alternative to Castiglione; or in Section V one thinks of Joseph Priestley while reading from Franklin; or when the sides are taken in the Science — Humanities conflict in 19th century England, John Stuart

Mill might well have been regarded as a useful "mediator." But such comments present no criticism. They merely reflect this reader's reactions and they simply illustrate again the compulsion upon the Editor of a book of this kind to set limits to her selections and to select according to her own clear plan and purposes.

It is at this point perhaps that attention should be drawn to the fact that each section has been given its own very useful, relatively unobtrusive, explanatory introduction. These sectional introductions, along with certain excerpts that serve to link successive sections, assist in providing and preserving the desired continuity and coherence in the volume as a whole. In

addition there is an Appendix giving information about films, arranged in sections corresponding appropriately to the eight sections of Readings.

Without question this is a book of Readings that for many students of educational history and theory, apart from those who become advanced students and are not so much in a 20th century hurry, will find both helpful and attractive. Indeed it merits a chance to contribute to the development in students of a desire to consult the sources more fully and even, as the Editor clearly hopes, of a lasting interest in "the rich, varied and exciting study that is the History of Education."

Andrew F. Skinner
University of Toronto

Frank H. Blackington III and Robert S. Patterson (eds.). *School, Society, and the Professional Educator — A Book of Readings*. New York: Holt, Rinehart and Winston, 1968. 416 pp. \$5.45.

As a rule, books of readings are not inspirational documents, because of their "second hand" character or because they are constructed on the dubious premise that quality assembled is quality increased. To their credit, the editors reject the role of passive spectators whose only function is to introduce the material and then quietly withdraw to let the readings speak for

themselves. Rather, they are always in command of the situation, even to the point of advancing a theory of their own regarding the character and function of professional educators.

The underlining message of the book is that the teacher or teacher-to-be is first of all a professional person (defined as one who has "dedication to service of society in and through a special-

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The underlining message of the book is that the teacher or teacher-to-be is first of all a professional person (defined as one who has "dedication to service of society in and through a special-

ized competence or range of knowledge and skills not generally available to the public") and, only secondly, a craftsman or technician. As a professional the teacher is duty bound to examine, reflect and comment on the crucial issues confronting society and education. The teacher is wrenched from his traditional and pedestrian role of classroom performer and thrust into the role of social commentator. From this conception flows the recommendation that teacher preparation devote less time and emphasis to the "training" function and more time to the "education" aspect. And if, as the editors argue, teachers are social theoreticians before they are technicians manipulating a clientele, to what issues should they devote their attention? The readings are intended to illustrate the outstanding issues.

The editors have assembled a wide variety of readings, both past and present, whose common thread is a deep concern for problems facing society and education. In keeping with the book's approach, the readings deal more with the what and why than with the how of education. The readings center around four major areas: the nature of professionalism in education; aims and purposes of education; teacher preparation; and politics and education. In general, the guest authors are no strangers to the well-read in the social foundations of education, for they include such leading lights as Robert Hutchins, Myron Lieberman, Max Lerner, John Childs, Sidney Hook, Ayn Rand, to name a few. Such a cast goes a long way in making this work a quality book of readings.

Roger Magnuson

Robert Gilpin, *France in the Age of the Scientific State*. Princeton, New Jersey: Princeton University Press, 1968, 474 pp. \$U.S. 12.50.

Students of the social sciences will find this work of great value whether they approach it from the point of view of science-state relations, international relations, or as a case-study of modernization.

In clear, expository style, Gilpin, a Princeton political scientist, chronicles the French re-

sponse to the challenge posed by American scientific and technological prowess. Sensing a threat to the integrity of its civilization, France has ineluctably been drawn to the path followed by the world's major powers, the United States and the Soviet Union, and has thus proceeded to transform herself from

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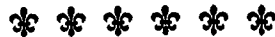
sponse to the challenge posed by American scientific and technological prowess. Sensing a threat to the integrity of its civilization, France has ineluctably been drawn to the path followed by the world's major powers, the United States and the Soviet Union, and has thus proceeded to transform herself from

a traditional to a modern scientific state.

Gilpin's research reveals that one of the major tasks confronting France in its quest for modernity is the reordering of its rigid, conservative educational system. Current reports, coupled with the understanding of French goals provided by the authors, suggest that at last

France has decided to heed the call for radical educational reform sounded by Paul Langevin and Henri Wallon nearly a quarter of a century ago.

Educators will find that this significant study provides a major contribution to an understanding of education in the age of the scientific state.



Philip H. Coombs, *The World Educational Crisis; A Systems Analysis*. New York: Oxford University Press, 1968, 241 pp. \$U.S. 6.

Unencumbered by the theoretical and methodological niceties of the fledgling discipline of comparative education, Philip Coombs relies on the straightforward approach of the economist and the wisdom derived from years of observation and experience for his global view of education.

For Coombs, the problems facing educational systems throughout the world vary in degree rather than in kind. Virtually all nations are confronted by increased demands for education and higher costs on the one hand and corresponding inadequate offerings and facilities on the other. This quantitative problem is compounded by the even more difficult one of the

lack of suitability of the educational system's output or, in other words, the inappropriateness of the process and product in terms of individual and national needs. Taken together, the problems of inadequacy and unsuitability constitute "the world educational crisis."

Both the specialist and the general reader for whom the work is primarily intended can profit from Coombs' diagnosis of the world's educational ills. Likewise, his prescription in the form of a strategy for dealing with the educational crisis and priorities for educational innovation merit serious consideration.

John Lipkin

Monika Kehoe, ed., *Applied Linguistics: A Survey for Language Teachers*, New York, Collier-Macmillan International, 1968, 154 pp.

In this brief text, Monika Kehoe, Chairman of Applied Linguistics at Marianopolis College, has brought together a set of original papers written to introduce teachers to the field of applied linguistics, especially as regards second-language teaching. The topics that receive particular attention include the history of linguistics, the organization of language, contrastive analysis and linguistic interference, methods of language teaching, and the description of specific programs in teaching English as a second language. These subjects and others are compressed into six papers, an introduction where the editor tucks in a bonus paper by William Moulton, and some concluding remarks. Two of the three appendices especially complement the main text: a selected bibliography and a list of information sources on language instruction and teaching opportunities around the world.

The development of linguistics as a discipline, particularly in the United States, is treated by Estrella Calimag in "The Historical Background of Linguistics." European trends and the situation in Canada are sketched in Professor Kehoe's Introduc-

tion. These two papers, along with Moulton's essay, also attempt to cover the internal organization of language, and introduce the student to useful terminology. But the task is too much for the few pages devoted to it. Many of the points in the exposition demand further refinement, elaboration, and examples to prepare the students adequately for the other chapters.

Several of these are given to the presentation of contrastive analysis, that is, the comparison of linguistic subsystems for similarities and differences in order to provide an understanding of language-learning difficulties and, by extension, to provide a basis for the organization of instructional materials. This topic is handled by Gaston Saint-Pierre in "Language Learning," by C. Douglas Ellis in "Teaching Classical Languages: The Structural Approach," and by L. Bruce Barkman in "Bilingualism and the Teacher of English as a second Language." The emphases here, as suggested by the titles, are different: Saint-Pierre treats learning to speak and write a language in the classroom, Ellis convincingly brings classical languages to that setting in spoken form, while Bark-

man wisely views the classroom as only one particular setting for language contact. Each writer gives detailed attention to the contrastive analysis of phonology that is certainly instructive. But in this compact book, the elaboration of the same central points in three different chapters is a luxury taken at the expense of greater attention to grammar, vocabulary, writing systems and socio-linguistic contexts of language use.

The chapters by Saint-Pierre and Ellis also exemplify how a given stance on linguistic structure and its realization in speech can shape instructional materials. Their arguments for what they call the "oral approach" and the "structural approach," respectively, make sense in terms of their view of language and are, presumably, supported by their experience. But it is worth noting that A. V. P. Elliott later in the book questions linguists' authority on the matter of methods, reminding us that they assure psychological principles along with their linguistic rationale. These psychological principles are too often taken for granted. Because this is the case, Elliott's remarks on the doubts that some specialists in Britain hold for the virtues of applied linguistics should make for valuable class discussion.

With his chapter entitled "Teaching and Training: The British Experience" and Monika Kehoe's "Teaching English to Speakers of Other Languages," the book moves away from linguistics to an overview of teaching English as a second language. Elliott vividly describes the involvement of the British Empire — later Commonwealth — in establishing English programs in Asia and Africa, teacher-training centres in Britain, examination procedures, as well as courses to fit the needs of immigrants. Dr. Kehoe reviews North American programs, outlines conditions that a teacher in a developing country might face, and examines English teaching in the specific context of Korean and Ethiopian society. Her aim here, and in her Conclusion, is to enlarge her readers' view on the present and future of nations, their linguistic needs, and technical responses to these needs. Just as in the early chapters which introduce linguistics, many of her points are stunted in their development. But Dr. Kehoe's verve encourages the reader to pick up where she left off in projecting the place of second-language learning in the twenty-first century.

Rose-Marie Weber
Department of Linguistics
Faculty of Arts and Science

CONTRIBUTORS TO THIS ISSUE

Harold Don Allen, a McGill Science graduate, has a Master of Science in the Teaching of Mathematics (Santa Clara) and a Master of Education (Rutgers). He was on staff at the Mathematics Summer Institute at Macdonald College in 1968 and is currently at Rutgers University.

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