

## ARTICLES

### *Abstract*

Economic thought about education has been different in each of three reasonably distinct periods. Until the 1950's economists demonstrated little concern about the relationship between education and society's economic performance. In the 1960's the neoclassical school became preoccupied with education's investment potential, and its views meshed with those of the Keynesians to form a consensus on greatly increased expenditures. In the 1970's, the judgement was reversed. In all periods the views of economists have had an important influence on educational policy-makers.

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### **Economic Thought and Educational Policy Making: an Historical Perspective**

The future benefits from increased efforts in education are very large, and the economic returns to the nation from increased investment in education are likely to exceed by a considerable margin those from other types of expenditures.

Economic Council of Canada, 1965<sup>1</sup>

Too many people are emerging from the educational systems to find that their knowledge and skills are not as marketable as they had been led to expect. This inevitably results in frustration . . . Education for education's sake will always be a part of formal education (to the good of our culture), but there are limits on how much of this a country can afford at a given stage in its development.

Economic Council of Canada, 1971<sup>2</sup>

The uncertain support economists have given education in recent years is an important factor in understanding its rapidly changing fortunes. Economists helped to stimulate the enormous spending spree on a wide variety of educational institutions during the 1960's, and they have had a hand in the curtailment of expenditure growth in the 1970's. Considering the substantial influence they exercise in the educational policy-making process, a systematic examination of their views is long overdue. The objective set for this paper, however, is not quite as ambitious as that. My main purpose here is to make a contribution to the larger task by surveying the changing attitudes of the practitioners of the "dismal science" to education over the years; I also hope to indicate in a general way what some of the connections are between these changes and the educational policies of various Canadian governments, both federal and provincial.

Viewed in an historical perspective, the interest of economists in educational policy may be conveniently divided into three reasonably distinct periods. The first covers a considerable span of time from the beginnings of the discipline through to the middle of the twentieth century. During this era economists remained for the most part armchair observers of educational policy-making, and education was not assigned a significant role in economic

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analysis. However, as is noted below, a number of ideas that were later to advance educational policy to an important position in the discipline were stated by classical and neoclassical scholars. The second period embraces roughly the decade of the 1960's, or the years of the so-called "human investment revolution."<sup>3</sup> Throughout this period education was treated as a matter of great consequence by a number of influential economists who claimed for it a vital role in the explanation of economic growth. At the heart of their analysis was the theory of "human capital"—a conjecture that the amount of general education provided in a country, together with the production of knowledge in its institutions of higher learning, contributed measurably and significantly to economic growth. The third period—the one we are now in—finds this human capital or education-as-investment school of thought in disarray. Economists who have the ear of governments in the 1970's strike a comparison between Canada and countries with less elaborate educational systems but more impressive economic statistics, and conclude that both a policy of restraint and a closer meshing of school programmes with labour force requirements are necessary. A voluble, disunited minority dissents from this view, but not out of any lingering sense of loyalty to the theory of human capital. In different ways, these dissident economists propose a radical analysis of education's role in their own economic interpretations of society. The remainder of this paper deals with the relationship between economic thought and educational policy within each of these three time periods, with particular emphasis upon the Canadian experience.

### *Before the Revolution in Human Capital*

When any expensive machine is erected, the extraordinary work to be performed by it before it is worn out, it must be expected, will replace the capital laid out upon it, with at least the ordinary profits. A man educated at the expense of much labour and time to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. The work which he learns to perform, it must be expected, over and above the usual wages of common labour, will replace to him the whole expense of his education, with at least the ordinary profits of an equally valuable capital.

Adam Smith, 1776<sup>4</sup>

The importance of education as a form of investment, as the above quotation indicates, was well recognized in classical economics. Mary Jane Bowman and others have traced this interest beyond Adam Smith to the mercantilist William Petty.<sup>5</sup> Yet despite many examples of acute thinking on the matter over the centuries, the prevalent view in classical, neoclassical, and Keynesian economics has been that education is a form of consumption, not investment.<sup>6</sup> That is, education has been valued for its general welfare functions—its role in preserving a healthy social climate for investment and so forth—but not as something from which measurable economic benefits could be derived.

The problem of measurement appears to have been the chief mental and practical stumbling block to the acceptance of the theory of human capital. The views of the founder of the neoclassical school, Alfred Marshall, may be taken as a case in point. Marshall acknowledged the importance of education as an investment when he observed that "(a)ll that is spent during many years in opening the means of higher education to the masses would be well paid for if it called out one more Newton or Darwin, Shakespeare or Beethoven."<sup>7</sup> He was also known to have supported Dewey's prescription for a more broadly-based school curriculum which would take into account the interests and realities of the industrial age—a prescription that came very close to recognizing the material value of education to a modern society.<sup>8</sup> But Marshall stopped short of endorsing the view, advocated by some educators as well as economists, that education should be considered a form of social capital, and his reluctance to do so evidently stifled further work on the theory. It is said that Marshall expressed an aversion to the idea of quantifying education in terms of economic criteria—a necessary step to advance the theory of human capital beyond

the stage of armchair speculation—but it is also said that his real concern was that the means for undertaking useful empirical assessments did not exist at the time.<sup>9</sup> On this latter point it is worth noting that in fact none did until the American census of 1940, which was the first to ask questions about educational attainments, and therefore to render possible statistically sound investigations of the theory of human capital.<sup>10</sup>

Despite the refusal, for whatever reason, of the discipline's dominant personality of the early years of this century to entertain the possibility of measuring the economic value of education, in time a number of economists followed the lead of popular journalism, which, by the 1920's in Canada (and earlier in the United States) had made dramatic claims for education as a form of private investment.<sup>11</sup> The method employed was to show how increased years of schooling led to higher average incomes for various occupations. In the 1930's, J. R. Walsh modified this basic approach by making an allowance for earnings forgone in the calculation of benefits conferred by education; his findings purported to show that education was a rewarding *private* investment.<sup>12</sup> He did not, however, endeavour to assess the returns to *society* from quantitative increases in education. Walsh's methodology was harshly criticized in the post-war literature—largely on the grounds that it could not be assumed that education was the decisive factor in determining additional increments of income—and the theory disappeared until such time as it was resuscitated by Edward Denison and other neoclassical scholars in the 1960's.

What did Keynesian economics, which greeted the world at about the same time as Walsh's study, have to say about education? Keynes followed the neoclassical school in classifying education as consumption, and thus made no allowance for the human capital argument.<sup>13</sup> But Keynes advocated deficit public spending to maintain adequate aggregate demand in the economy (to insure full employment), and the acceptance of this idea in post-war Canada made it politically possible to undertake the massive indebtedness required to finance the expansion of school facilities for a rapidly growing youth population. Subsequent developments in Keynesian analysis made educational policy a matter of direct interest to many economists in the 1960's, when it was thought that it could be "fine-tuned" to serve the goals of full employment and economic stability. These changes are explored further in the next section of this paper.

The first Canadian economist to make a case for education as an investment was very likely Abbe Baillairgé, whose economics textbook published in 1892 dealt with the question of human capital.<sup>14</sup> But as far as one is able to tell, the curriculum reforms of early twentieth century Canada were not inspired by his thinking. In fact, economists generally showed little interest in the changes that were made at that time in a number of provinces to make the schools more attuned to changing economic realities. While the occasional scholar such as S.M. Wickett, (a member of the Department of Political Economy in the University of Toronto), was involved in the technical and vocational education lobby, the main thrust for curriculum change came from the business community, the mainstream of the labour movement, educators, and eventually, the politicians.<sup>15</sup>

Despite its auspices, however, the vocational education movement was inspired as much by noneconomic factors as it was by any thought of pecuniary gains for the Canadian economy. Certain groups in the business lobby were more concerned with finding the means to establish effective social control than they were with upgrading the work force,<sup>16</sup> and many educators saw the movement as the practical application of Dewey's pedagogical theory rather than a scheme to "vocalize" the schools<sup>17</sup>—indeed, the latter was a thought that many of them regarded with decided abhorrence. But some educators, such as Ontario's Superintendent of Education, John Seath, expounded the view that the schools must be made to serve the requirements of an industrializing society, and some businessmen and politicians were bold enough to assert that education was a solid investment in the

country's future.<sup>18</sup> Eventually the belief of these educators and politicians in the economic worth of education was enshrined in the first important piece of federal legislation on vocational education, the Technical Education Act of 1919.<sup>19</sup> Economists, however, were simply bystanders to this milestone accomplishment and the events leading up to it.

Very likely the first occasion when Canadian economists were *obliged* to consider the merits of education's claim to a greater share of the public purse occurred when the Report of the Royal Commission on Dominion-Provincial Relations (the Sirois Commission) was drafted at the end of the Depression. One economist, H. F. Angus, served on the Commission, and a number of others were involved in the preparation of the report.<sup>20</sup> The case for education had been forcefully presented at the Commission's hearings by several pressure groups advocating a strong federal role to insure equalized educational opportunities throughout the country.<sup>21</sup> But the Commissioners were not prepared to recommend a policy that would jeopardize the prerogatives of the provinces in this field. Reflecting the influence of Keynesian ideas, their report proposed unconditional national adjustment (equalization) grants—a proposal not taken up until the Diefenbaker years—rather than grants earmarked for particular services. Had the Commissioners thought of education as making a direct contribution to the economy, perhaps their recommendations might have been formulated differently, as the whole question of federal involvement in the financing of education was not as controversial a matter then as it is today. But by classifying education as a "welfare service"<sup>22</sup> they expressed the orthodox view that it was a form of consumption, not investment. Walsh's findings were either unknown to the Commissioners or not recognized by them.

The Sirois Commission's general approach and attitude towards education—it had argued that education should have "to fight for its life"<sup>23</sup> among competing claims to the public purse—appears to have had a lasting effect upon those few economists who ventured to discuss educational policy in the post-war period. Or perhaps the Commission simply reflected a conventional wisdom that was to remain essentially unaltered until the restatement of the theory of human capital in the 1960's stood the economics of education on its head. Whatever the case, economists such as Andrew Stewart, a member of the Royal Commission on Canada's Economic Prospects (the Gordon Commission) during the 1950's, were prepared to recognize that society benefitted materially from education, but held to the Sirois Commission's view that the level of support must be determined by "the free expression of consumers' preferences in the market."<sup>24</sup> The Research Director of the Gordon Commission, Douglas LePan, expressed similar sentiments in a speech to the Canadian Conference on Education in 1958.<sup>25</sup>

The Gordon Commission itself recognized clearly Canada's impending plight in education in the late 1950's: its own investigations had spelled out the implications of the declining immigration of skilled workers from northern Europe and Great Britain.<sup>26</sup> It forecasted serious "structural" unemployment (i.e., shortages in specific occupations) unless Canada's provincial school systems were expanded and overhauled.<sup>27</sup> The Commission's approach, however, was that a developing economy required educated and skilled workers, and not that educated and trained workers were a proximate cause of economic development. Accordingly, its proposals were designed to meet projected labour force needs rather than to encourage a general expansion of education to bolster the economy. The first legislative response to the Gordon Commission's analysis of the manpower situation was the Technical and Vocational Training Assistance Act of 1960 (TVTA), which was designed to alleviate the perceived structural unemployment problem by infusing massive amounts of funding into the provincial educational systems. TVTA was also a response to the heightened Cold War paranoia of the post-Sputnik period, which induced a widespread faith in technical education as a solution to the East-West "technological gap."<sup>28</sup>

Up until the 1960's the main contribution of economic thought to education was to recognize that it was a deserving recipient of public funds in Keynesian-inspired plans to stimulate aggregate demand. As Ronald Manzer has observed, Canada was one of the first countries to take Keynes's advice to heart, and in the Canadian experience this was interpreted to mean that any effort to assist disadvantaged groups—through education or other social policies—was permissible.<sup>29</sup> In addition to this indirect endorsement of educational spending, a few economists were prepared to argue that the federal government should have a role in financing the universities, on the grounds that their research and development activities contributed directly to the national economy.

### *The Human Investment Revolution*

The growing "technological gap" between America and Europe is due primarily to a paucity of higher education (in Europe), and thus to a relative weakness of science and research. But it is also due to an apparent inability—stemming from a refusal to make an investment, which is precisely the work, in man—to grasp and vigorously apply *modern methods of management*.

J.J. Servan-Schreiber, 1967<sup>30</sup>

Estimates have shown that better education appears to have raised labour earnings per man by about 30 per cent from 1911-61 in Canada, and that this has contributed almost one quarter to the rise in output growth per employed person. However, this represents merely about one half of the comparable achievement in the United States...It was also estimated that about one third of the income difference per man, prevailing in the two countries at the beginning of the 1960's, appears to have been the result of lower Canadian educational attainments.

Gordon Bertran, 1966<sup>31</sup>

By the mid-1960's many foreign observers of the United States were convinced that the theory of human capital provided the key explanation for that country's remarkable economic growth. Moreover, as the above quotations indicate, they felt certain that the American experience could be transferred to their own countries with equally impressive results. It was the strong correlation between educational attainments and economic growth that transformed the theory of human capital into an irresistibly persuasive doctrine; Edward Denison's quantification of education's contributions to America's prosperity, as set out in his book, *The Sources of Economic Growth in the United States and the Alternatives Before Us*, became the celebrated message of the decade.<sup>32</sup> Forgotten or ignored were earlier critiques of the theory of human capital.

Although the revolution in human investment was the mainspring of the economist's faith in education during the 1960's, it was not the sole factor inspiring a new outlook. Two parallel but much less publicized developments in the discipline won additional converts to the cause of educational expansion. First of all, for many neoclassical scholars a growing recognition of the importance of "externalities," or "spillovers"—that is, the effects of the policies of one jurisdiction upon others—rationalized equalization, and later, regional development policies. And the implementation of such policies meant, among other things, that there were substantial improvements for the educational systems of underdeveloped regions within provinces, and for the educational systems of underdeveloped provinces within the country. Secondly, the further refinement of Keynesian ideas on how stabilization and full employment might be achieved had important implications for educational policymaking. During the 1960's, the evolution of a manpower policy combined with a variety of social assistance schemes marked a concerted effort by the federal government to gain control over the supply side of the labour market, and hence to define effectively the meaning of "full" employment. This thrust, together with its emphasis upon "contra-seasonal" training and retraining, reflected a logical maturing of Keynesian policies—policies that were designed to make the educational systems of the country serve the goals of stabilization and full employment. (It should be noted that capital spending on education

had earlier been recognized in the Gordon Report as a useful contra-cyclical policy<sup>33</sup>.) The developments in neoclassical and Keynesian thought are considered in further detail in the following subsections.

1) Developments in neoclassical analysis: the theory of human capital and externalities

What made the theory of human capital acceptable in the 1960's after earlier efforts to popularize it had proved unsuccessful? According to Lockhart, it was the inability of established theory to explain adequately the problems of the post-war economy. His explanation takes the following form: the co-existence of surplus capital and labour in the years following the second world war led to excess plant capacity and increased unemployment, when, under classical theory, these circumstances should have resulted in high rates of economic growth. In order to explain the unanticipated phenomenon, neoclassical scholars postulated that shortages of skilled manpower in certain key technological industries had created "bottlenecks" in the economy. Their remedy for this problem, according to Lockhart, was to draw attention to the importance of an educated and skilled labour force in the expansion of wealth—to recognize, that is, the existence of human capital.<sup>34</sup>

There was a second dimension to the emerging theory. The expansion of education at the tertiary level led to an increased production of usable technological knowledge—knowledge that contributed directly to economic growth. In his assessment of the contributions of education to the economy, Edward Denison estimated that 23 per cent of the growth in national income in the United States between the years 1929 and 1957 could be attributed to education, and a further 20 per cent to advances in knowledge.<sup>35</sup> Another student of the theory of human capital, Gary Becker, estimated the investment yield of education at no less than 11 per cent, and this figure was accepted by many economists of the neoclassical school.<sup>36</sup>

The theory of human capital was based on the assumption that education and knowledge production explained the "residual" in economic growth—that is, the component of growth which could not be accounted for by known factors. Although criticism of the theory appeared almost immediately in the literature, it was largely ignored by economists and educational planners who were in a position to advise governments. The Economic Council of Canada (ECC), for example, urged immediate and uncritical acceptance of the theory<sup>37</sup> (following Bertram's staff study which replicated the American findings<sup>38</sup>), and the Organisation of Economic Co-operation and Development's (OECD) report on Canada's manpower policies did likewise.<sup>39</sup> In fact, acceptance of the theory spread so quickly, that by the end of the 1960's it was stated platonically in many economics textbooks.<sup>40</sup>

Commissions and committees investigating education at this time were alert to the instantly established paradigmatic status of the theory. The Byrne Commission in New Brunswick, which relied heavily upon the advice of an economist, underlined the investment value of education to help justify its sweeping and costly reform proposals.<sup>41</sup> The Warren Commission in Newfoundland followed suit.<sup>42</sup> Even the Hall-Dennis Committee in Ontario, famous for its child-centered Deweyan ideology, paid homage to the human capital theory and the importance of schooling to the material welfare of society.<sup>43</sup>

Governments were obviously impressed by the general arguments that they received from these investigative bodies. The Byrne Report formed the basis for Premier Robichaud's programme of equal opportunity; the Warren Commission's proposals led to a fundamental overhaul of Newfoundland's educational system; and the Hall-Dennis Report served to legitimize a massive educational revolution underway in Ontario to extend a full spectrum of opportunities to virtually all children through to the post-secondary level.

The influence of "externalities" or "spillovers" in the economic analysis of educational policy is not as easily documented, even though interest in this idea can be traced back many

years. As early as 1910 the President of the American Economic Association made the following observation about spillover effects in education:

...no one can tell what particular portion of the country will profit most by the fact that the people of some remote school district...have taxed themselves to the limit for the purpose of training in the best possible way the children of that district.<sup>44</sup>

He might have added that no one can tell which part of a country will incur the greatest expense in attending to the welfare of those who have been denied a suitable education, for spillovers take the form of costs as well as benefits. That is, the graduates of an impoverished community's school system are a spillover benefit, but its unskilled and undereducated drop-outs who migrate are a spillover cost. Weisbrod has observed that in education spillins and spillouts seldom cancel each other out—the tendency of spillover benefits to cause underexpenditure does not have as its counterpart a tendency of spillin benefits to cause overexpenditure.<sup>45</sup>

The first tangible recognition of spillovers in education occurred when school boundaries were enlarged and provincial grant plans established. But these schemes were not the outcome of a careful economic analysis of externalities. Rather, they were based on the conviction that children should be given the education necessary for a satisfactory way of life in a modern society. Economists became interested and involved in the question of spillover effects when massive equalization schemes were first proposed to assist entire regions of the country—many years after the process of school district enlargement had commenced. And many economists expressed strong opposition initially to policies that would interfere with the movement of labour (and capital) to centres of productivity, since it is a fundamental axiom of classical economics that labour and capital must be “free” to find their own markets. For economists of the classical tradition, subsidization schemes of any kind were viewed as a disincentive to mobility, and hence an impediment to the proper working of the market economy. As they viewed matters, it was far better not to attempt to redress inequalities, since the market would “correct itself” once surplus population moved from unproductive to productive areas. Thus with reduced supply the remaining labour pool in disadvantaged regions would be able to command fair wages, and at that point be taxed to provide better schools.<sup>46</sup>

The importance of the concept of spillovers is that it demonstrates that such faith in the “equilibrating” nature of the market place is wrong. If people are not educated then they become a burden almost immediately—whether they stay in unproductive areas where there is no employment, or whether they migrate to new locations where there is employment, but for which they have no appropriate skills. It serves no useful purpose to deprive them of the where-withal to survive in the modern state. But as this argument was bandied back and forth among neoclassical economists<sup>47</sup> (it was really a non-issue for the Keynesians, who supported general government spending of all kinds to sustain a balanced economy), perhaps the decisive factor in winning converts to the cause of fiscal subsidization was the realization that empirical evidence showed that it was the educated people who were prepared to relocate. In other words, the interest of the market was better served by subsidies because, ultimately, that was the most efficient way to promote the depopulation of uneconomic areas.<sup>48</sup> Conversely, it was seen that a failure to remedy spillover effects resulted in a deepening crisis: communities would not tax themselves to support their own liquidation, and, in consequence, the undereducated and unskilled formed an ever larger pool of surplus humanity in regions incapable of supporting them.<sup>49</sup>

The first major investigation that attempted to quantify spillover effects in education was Weisbrod's 1964 study,<sup>50</sup> but by that time many neoclassical economists were persuaded of the need to take externalities into account in setting fiscal policy. In fact, Marshall's prize pupil, A. C. Pigou, had proposed special taxes and subsidies to rectify spillover effects as

early as the 1920's.<sup>51</sup> By the beginning of the 1960's in Canada, conservative politicians were employing the spillovers argument to justify assistance for depressed regions such as the Maritimes.<sup>52</sup>

Recognition of the significance of externalities also prepared the ground for regional development policies. As Professor Nagarajan has pointed out, neoclassical analysis could not adequately explain the circumstances causing underdevelopment in regions which were detrimentally affected by nonmarket factors.<sup>53</sup> What the analysis of spillovers showed was that such regions would never develop if limited equalization policies served only to cream off the educated segment of the population. In order to encourage development it was necessary for a region to provide those services that would attract new industries, and this meant establishing facilities of all sorts on a par with other regions of the country.<sup>54</sup> In time this argument crystallized as the case for "infrastructure."<sup>55</sup>

## ii) Keynesian theory and educational policy

Although Canada was the first country to commit itself fully to Keynesian policies in the post-war era, education was only an indirect beneficiary of this development. The reason for this, as was noted previously, was that Keynesian theory failed to recognize education's contribution to the economy. Nevertheless, the indirect influence was extremely important, for the massive expansion of school facilities during the 1950's would not have been possible had the Keynesian faith in deficit spending not trickled down from federal budget planners to the ranks of provincial and local government authorities. Of course in some areas of the country niggardly politicians resisted Keynes's heretical ideas, and in consequence many children were consigned to "split-shift" schooling in grossly inadequate facilities during these years. But this was not generally the case in the main areas of population growth.

By the 1960's the Keynesian approach was modified to include educational policy within the general scope of economic analysis and planning. This change did not come as a belated recognition of education's investment potential. Keynesian views on that question remained unaltered. What had changed were the forces militating against economic stability. Unemployment rose sharply at the end of the 1950's, a good deal of pump-priming of the economy in the prescribed Keynesian fashion notwithstanding. Moreover, regional unemployment was greatly exacerbated at this time even though the Keynesian-inspired corrective policy of fiscal equalization had been established. In other words, traditional Keynesian approaches had been tried and found wanting.<sup>56</sup>

A careful analysis of the overall unemployment problem revealed that it was caused partly by structural difficulties: Canadian workers were not qualified to fill many job vacancies that existed and immigration was no longer taking up the slack. But the high rate of unemployment in some regions reflected an insufficient dispersal of demand in the economy. In the Keynesian perspective a two-fold remedy emerged. The structural aspect of the problem could be dealt with upgrading the labour force through job training and retraining programmes. The regional aspect could be addressed through economic growth strategies. Both aspects of the remedy involved improved and altered educational policies.

Efforts designed to improve the quality of the labour force went through two distinct stages. The initial thrust was the Technical and Vocational Training Assistance Act of 1960 (TVTA)—a scheme that infused large amounts of federal funds into the various provincial educational systems through a system of conditional grants. The purpose of the legislation was to redirect provincial educational priorities largely by means of a generous 75% subvention for any building costs associated with technical and vocational instruction, and by limited assistance for operating costs for various vocational programmes. (The two-year restriction on the 75% subsidy was designed also as a contra-cyclical measure to stimulate

the construction industry.)<sup>57</sup> To this end the legislation was successful: unable to resist the bait, most provinces quickly implemented curriculum changes in order to take full advantage of the federal offer.<sup>58</sup> But TVTA proved to be a crude instrument for shaping the labour force to meet the demands of the economy. The provinces controlled the quantity of training and the curriculum. Professional educators saddled with the task of implementing adult training and retraining programmes under TVTA were plainly unsympathetic with federal economic goals. Moreover, the programme was slow to get started in the undernourished regions of Canada where it was most needed, because the poorer provinces found it difficult to raise the funds to take full advantage of the legislation. The result of all of this was an unsatisfactory match-up between job training programmes and actual labour force requirements. The programmes were also plagued by extremely high drop-out rates.<sup>59</sup>

The second stage commenced with the Adult Occupational Training Act (AOTA) of 1967, which replaced TVTA and was designed to overcome its weaknesses. Under this act, the federal government abandoned cost-sharing in favour of direct intervention in the labour market to purchase training for individual clients. The provinces were to supply the training on an individual contract basis, and where this was not possible, the federal government would look to the private sector. AOTA's explicit aim was to make manpower policy an instrument of economic growth and stability, as well as equity.<sup>60</sup>

The legislation facilitated the achievement of these goals in a number of ways. In the first place, it represented a head-on approach to the problem of structural unemployment: the federal government would identify occupational shortages and purchase the training necessary to fill them. Secondly, the new policy introduced a control over the rate of unemployment. If unemployment figures were too high, additional training could be purchased to keep would-be workers off the labour market. That this became a central objective of the new policy there can be little doubt. Under TVTA it was estimated that about 1 in 50 of the unemployed was involved in training or retraining programmes.<sup>61</sup> Under AOTA the average increased to three-quarters of a percent of the total labour force<sup>62</sup> (or about 1 in 8 of the unemployed). Thirdly, the federal government was able to phase its training to take into account the seasonal nature of the Canadian economy. Winter-time training enrolled about 1 ½% of the total labour force, while in the summers the figure dropped to ¼%.<sup>63</sup> Finally, AOTA permitted the government to deal directly with the regional aspects of the unemployment problem, since the supply of training was not dependent upon provincial participation in a shared cost programme.

The second part of the remedy—regional growth strategies—also developed through a number of stages. While it is an arguable point whether the Keynesians in Ottawa's bureaucracy were truly sensitive to the need to develop regional economic policies,<sup>64</sup> some of them at least realized that demand deficiency in underdeveloped areas could not be corrected by redistribution policy alone, and supported the establishment of much more comprehensive development strategies.<sup>65</sup> The first of these appeared at about the same time as plans were made to upgrade Canada's labour force.

From the outset regional development policy incorporated educational objectives. Research studies carried out under the first of these programmes in the modern era, the Agricultural Rehabilitation and Development Act of 1961 (ARDA), indicated that inadequate educational attainments in under developed areas were a primary obstacle to any form of development.<sup>66</sup> While ARDA itself provided some funding for retraining, subsequent programmes such as FRED (Fund for Rural Economic Development) devoted a major share of their funds for this and other educational purposes.<sup>67</sup>

Education became a major priority in regional development as it became clear that investment could not be attracted to slow growth areas unless various social amenities, as

well as basic facilities for industry and business, were made available roughly on the same basis in all parts of the country. This was the case for infrastructure. As it was reflected in the Comprehensive Development Plan for Prince Edward Island, it meant an overhaul and reorganization of that province's entire educational system.<sup>68</sup> As it was reflected in the first set of special area agreements under the federal government's Department of Regional Economic Expansion (formed in 1969), it meant that education became the number two spending priority in Atlantic Canada.<sup>69</sup>

It would be wrong to exaggerate the importance of Keynesian thought in the development of these programmes. But the basic Keynesian notion that an adequate dispersal of demand is essential to a sound economy supported these endeavours. And this notion formed part of the broad consensus on regional development policy during the 1960's—a consensus that only now is showing signs of breaking down.

### iii) The neoclassical-Keynesian consensus on educational policy and its effects

By the 1960's, neoclassical and Keynesian economists had come to support virtually the same set of educational policies, albeit by different routes. The Keynesian focus upon full employment and stability lent support to equalization initially, and later to manpower and regional development policies. The neoclassical emphasis upon human capital and spillovers provided support for the same policies once it was established that they promised to improve the operation of the market system. Seymour Wilson has noted that governments did not recognize that educational policy could be made the servant of the economy until the middle years of this century.<sup>70</sup> The reason appears to be that such a recognition awaited the acceptance and further refinement of Keynesian ideas, and a substantial revision of neoclassical assumptions. When all of these changes finally occurred, a consensus on a basic policy for education began to take shape.

The consensus was not without its critics, but during the 1960's they were largely ignored. Some educators railed against federal intrusion into the sacred domain of the provinces,<sup>71</sup> and, in recent years, a complaint has been issued that assistance to education under various guises amounts to "equalization piled upon equalization."<sup>72</sup> Some economists have remained convinced that the traditional assumptions of neoclassical analysis are correct. Parcival Copes, for example, has continued to counsel the government of Newfoundland that the only cure for its problems is the substantial depopulation of the province.<sup>73</sup> On the whole, however, the neoclassical-Keynesian consensus removed educational policy from the arena of political debate during the 1960's and transformed it into a "motherhood" issue: with most experts agreed that more and more spending was desirable, all that remained was to quibble about the total amount.<sup>74</sup> There was scant evidence of even that before the 1970's.

### *After the Revolution in Human Capital*

...the educational policy climate has changed fundamentally in the last few years. The reformers who sailed gaily ahead (and who spent money freely) for the past 20 years, now find the wind is coming from a decidedly less favourable direction.

Organisation of Economic  
Co-operation and Development,  
1976<sup>75</sup>

In the interest of working parents (the two-parent-job-holding family having become ever more common during this period), and in the interest of social stability and the orderly management of an increasingly rootless urban population, the schools have developed into immense teen-sitting organizations, their functions having less and less to do with imparting to the young those things that society thinks they must learn.

Harry Braverman, 1974<sup>76</sup>

Canadian enthusiasm for the American approach to education produced some astonishing results by the 1970's. Canada now leads the industrialized world in educational enrollments in relation to its population, and it also devotes a higher percentage of its Gross National Product to education than any other major industrial power.<sup>77</sup> But Canada's economy has not benefited from this greatly accelerated commitment to education to the extent that was expected. Indeed, it has slipped badly relative to other member countries of the OCED. Accordingly, economists now observe that the leaders of the world economy, such as Japan and West Germany, manage to get by with much less spending on education than we do, and the OECD now informs us that in some ways our educational growth was "impetuous," and that care must be taken "not to further anger unwilling taxpayers."<sup>78</sup> Lockhart has made the telling comment that the "once ubiquitous referencing of human capital theory" has vanished from the policy documents prepared by Canadian economists.<sup>79</sup> The theory of human capital has in fact been buried under an avalanche of criticism in recent years.<sup>80</sup>

What remains of the economist's faith in education? The tendency of policy advisors today is to promote traditional solutions for the contemporary shortcomings of the educational system. As expressed by the OECD and the ECC—in rather different ways, admittedly—schools must become more closely aligned with the workaday world. The OECD proposes the reform of our comprehensive secondary educational institutions to accord manual work a greater dignity by means of a closer integration of "technical and humanistic materials."<sup>81</sup> It also urges a "firm goal orientated" approach to establishing educational policies for the country as a whole.<sup>82</sup> The ECC has more bluntly proposed that efficiencies can be realized by reducing the time spent on formal education (while covering the same curriculum), and by forging a working relationship between schools and the business world.<sup>83</sup> Paradoxically, both agencies continue to argue that the educational systems of Canada's underdeveloped regions must be upgraded to the level of the wealthier provinces—a level which they now find unnecessarily opulent. Clearly regional development is still a sacred cow!

The contemporary swing to vocationalism does not find favour with all economists, however. Studies have shown that vocational training has not in all cases effectively provided for the needs of the labour market,<sup>84</sup> and, as was noted previously, such training, which can be anywhere up to five times as expensive as regular classroom academic instruction, is often plagued by high drop-out rates, and a poor record of job placement.<sup>85</sup> In part the problem has been that institutional responses to changes in labour force requirements are very slow. But as the OECD discovered, some vocational schools see job preparation as a secondary goal, having defined their main purpose as a therapeutic one in which the central task is that of counteracting "developmental injury—even, perhaps, 'school injury'."<sup>86</sup> Perhaps reflecting its own analysis of the shortcomings of vocational training, the Graham Royal Commission in Nova Scotia—headed up by an economist—argued against implementing a job-oriented curriculum in the regular public high schools in its 1974 report.<sup>87</sup>

But the main and basic problem does not appear to rest with either the curriculum or the self-defined role of these schools. It appears rather to be a misconception on the part of some economists about the nature of labour force requirements in the age of automation. The so-called structural unemployment problem forms but a small component of the overall crisis of unemployment. The ECC's own analysis of the labour market for the years 1973 and 1974 reveal that over half of Canada's employment openings were in the semi- and low-skilled job categories—hardly the expectation of those who counselled acceptance of the human capital theory a few short years ago.<sup>88</sup> But the realities of today's labour market were accurately forecasted by at least one researcher, James Bright, who predicted that

automation would generate a greater demand for untrained labour than for highly skilled technicians.<sup>89</sup>

When one turns from the opinions of economic policy advisors to the critical literature on the economics of education, even less sanguine analyses of education's role are to be found—at least for those who have prided themselves on the *status quo*. Two schools of thought expressed in this literature warrant consideration here. One may be classified as the marxist interpretation of education, even though its main conclusions are now more widely accepted than this narrow ideological label would appear to suggest. The other, which may be labelled as the ecological interpretation, places educational policy-making within the context of environmental considerations.

The Marxist critique of education cuts right to the heart of one of the most cherished myths of educators, and of liberal-democratic society—the myth that the schools extend to all an equal opportunity to succeed in life. With increasing quantitative precision, a number of scholars have shown that this is simply not the case. In Canada, the tradition may be traced to two educational researchers, R. W. B. Jackson and W. G. Fleming, whose data on the utilization of human resources inadvertently established the basis for John Porter's pioneering class analysis of education in *The Vertical Mosaic*.<sup>90</sup> Subsequent studies have reaffirmed Porter's initial conclusion that schools are biased against lower income groups.<sup>91</sup> But today's analysts are less concerned about the role of schooling than Porter and his contemporaries were, because they are no longer persuaded that even a *true* equalization of educational opportunity (generally considered to be equalizing of education *outcomes* among all social groups) would have a noticeable effect upon the social structure, or upon the distribution of society's wealth. The American scholar, Christopher Jencks, was perhaps the first critic to state this thesis forcefully;<sup>92</sup> the Marxist economists Gintis and Bowles have given the following statistical definition to the argument in their recent book, *Schooling in Capitalist America*:

...children of the poorest tenth of the population have roughly a third of the likelihood of winding up as well-off as the children of the most well-to-do tenth, *even if they have the same educational attainments and childhood IQs*.<sup>93</sup>

Thus in the Marxist interpretation, education is, as the Canadian sociologist Wallace Clement has put it: "...a consequence of inequality which appears elsewhere in the society...an institution which further reinforces inequality but is...not itself the cause of that inequality."<sup>96</sup>

The critique advanced under the banner of ecological economics—if terminology may be coined that seems to describe appropriately the common concerns of a number of writers—should be more discomfiting to those who are content with present educational trends than is the exposé of the myth of equal opportunity. Its almost Luddite-like recommendations counsel a return to institutional forms that hitherto have been widely considered obsolete. Borrowing from the social criticism advanced by Ivan Illich and others in recent years, ecological economics holds that the modern consolidated and comprehensive school, with its "hidden curriculum" of bureaucratic procedures and hierarchical specialization, is an institutional form peculiarly suited to urban technocratic life. And its cafeteria-style curriculum is the training ground for behaviour appropriate to the market place of a consumer-goods economy. Ecological economics addresses itself to the dysfunctional nature of this kind of schooling for an urban civilization imperilled by its own pollution and wastefulness, and its unbreakable dependency upon a rapidly depleting stock of non-renewable resources.

The leading exponent of ecological economics is E. F. Schumacher, who, in his small but influential book, *Small is Beautiful*, flatly contends that schools must be fundamentally

reformed to teach man to surrender this appetite for material goods.<sup>95</sup> An interpreter of ecological economics in Atlantic Canada, Jim McNiven, states that "requisite variety" is being lost when small rural school systems are abandoned and replaced by the "single-crop" alternative—the consolidated comprehensive urban model.<sup>96</sup> Citing renowned authorities such as Barbara Ward on the fragile and uncertain future of urban society, McNiven argues that the elimination of the only working alternative model to contemporary forms of education must be seen as an unwise step, given the questionable viability of large-scale human settlements. Another student of the ecological approach to economics, David Alexander, suggests that there is a need to disentangle the concepts of economic development and economic growth. The former, he maintains, can occur no matter what the rate of growth might be, as long as people have a way of life that is both satisfactory to themselves and culturally fulfilling, whereas the latter may in fact be antithetical to genuine development if it does nothing more than exploit human and natural resources.<sup>97</sup>

The case advanced by ecological economics has its counterpart in contemporary political and journalistic commentary. Linden MacIntyre, an investigative reporter for the CBC, has questioned the value of copying educational methods designed mainly to help the Atlantic Region emulate the "statistical overdevelopment of the Niagara peninsula."<sup>98</sup> David MacDonald, a Member of Parliament from Prince Edward Island, has voiced a concern that his province's new schools are undermining the traditional fabric of society by inculcating "inapt" middle class values. This process, he believes, threatens to turn the Island into "one giant manpower centre," since it is unable to sustain and support those who have acquired an appetite for consumer goods.<sup>99</sup>

The message of ecological economics, then, is that contemporary schooling is purposefully designed to serve the economy of a civilization in peril. Its conclusion and its plea is that traditional forms be retained, if for no other reason than that they provide alternative models that might well be needed in the future. And there is a suggestion too that traditional forms of education provide the key to true development—development that is not defined simply as economic growth, but rather, takes into account the limitations of the environment and the broader social and cultural needs of people. The essence of this position is succinctly and pithily stated in this passage from an annual report of the Atlantic Provinces Economic Council:

We are lucky in an odd way. There's a sense in which our very misfortunes have finally left us fortunate. The perpetual depression in Atlantic Canada, the fact that for generations we've been industrially underprivileged means that we never got the chance to build the cities where, at best, the pace of life and business are punishing and, at worst, the heart of the place rots, and bubbles in social unrest... The speed with which Americans and central Canadians are buying recreation land in east-coast Canada indicates that a lot of people know that the Atlantic Provinces are a place, one of the very last accessible places, where things are still as they once were and perhaps should be.<sup>100</sup>

### *Conclusion*

Two fallacies, each in part the result of misguided economic thinking, have given rise to a good deal of misguided educational planning in Canada. One has been the mistaken idea that the adoption of American educational methods will bring the Canadian economy up to the same level as its southern neighbour. Quite apart from the question of whether this is a desirable prospect or not, Canadians should know by now that the simple transfer of institutional structures carries with it no guarantees of this kind. As John Kenneth Galbraith once observed, the American economy is fat enough to support all sorts of services which less affluent societies would best do without.<sup>101</sup> American prosperity was in fact built without these services—Canadian observers have confused cause and effect.<sup>102</sup>

The second fallacy is that a uniform educational system across the country will, among other things, help to improve the Canadian economy. The OECD's report provides the most

recent example of the illusive quest for this wrongly-conceived panacea. And here Galbraith offers another illuminating insight. In *The New Industrial State* he points out that the decentralized educational systems of the United States (but on this point he might have been speaking of Canada as well) have spawned a dispossessed and undereducated populace that drifts to major metropolitan areas, there to become an unwelcome lumpenproletariat. In the advanced European countries, on the other hand, the centralized delivery of educational services has produced more or less uniform results, and in consequence, there is little evidence of the migrant "Okie" phenomenon. His point is not that this is a superior arrangement, but that the elimination of the migrant does not eliminate the function he performs, and so the wealthy European states import and export cheap labour as required for the jobs that their own citizens will no longer do.<sup>103</sup> This is one of the most significant implications of establishing national standards and goals for education—an implication that the OECD, in its scarcely hidden enthusiasm for the European experience, failed to point out. And in Canada one can see the beginnings of the European phenomenon even without the benefit of a national education policy. Equalization has gradually reduced regional disparities to the point where Canadians no longer do much of the low-paid, seasonal, agricultural work. Instead, Caribbean peoples are imported en masse in a new coolie-labour arrangement. It should go without saying that such a development will only breed hostility and resentment in the long run.

In this paper I have attempted to show that the various booms and busts experienced by Canada's educational systems reflect the changing moods of the country's economic policy advisers. It would be presumptuous to conclude that these economists have themselves been the causes of shifts in educational policies, but as the interpreters of economic needs they exercise a signal influence upon policy-making today. This may seem a rather bland note upon which to conclude this discussion, but as many educators continue to be wedded to the notion that the up and down fortunes of the schools reflect the whimsical nature of public and professional opinion—the swing of the pendulum from the lean look of the "3R's" to the expensive fads and frills of progressive education is the popular metaphor—it is still a point worth making. While there is something to be said for the power of the pendulum, it is but one determinant—and likely the least important one—of the degree of financial support provided schooling in a modern society. John Kenneth Galbraith, so frequently cited in the concluding section of this paper shall, with the reader's forbearance, be permitted the final word on the matter:

It is the vanity of educators that they shape the educational systems to their preferred image. They may not be without influence but the decisive force is the economic system.<sup>104</sup>

L'aspect économique de l'éducation a été différemment conçu au cours de trois périodes clairement différenciables. Jusqu'aux environs de 1960, les économistes ont témoigné peu d'intérêt pour les relations entre l'éducation et la situation économique de la société.

De 1960 à 1970, l'école néo-classique s'est préoccupée du potentiel d'investissement de l'éducation et ses vues se sont accordées avec celles des disciples de Keynes pour former un consensus afin d'accroître considérablement les dépenses. À partir de 1970, l'opinion inverse prévaut.

À toutes les périodes, l'avis des économistes a eu une grande influence sur ceux qui font les politiques de l'éducation.

## Notes

<sup>1</sup>Economic Council of Canada, *Second Annual Review: Towards Sustained and Balanced Economic Growth* (Ottawa: Queen's Printer, 1965), p. 121.

<sup>2</sup>Economic Council of Canada, *Eighth annual Review: Design for Decision-Making* (Ottawa: Information Canada, 1971), p. 223.

<sup>3</sup>M. J. Bowman, "The Human Investment Revolution in Economic Thought," in M. Blaug (ed.) *Economics of Education* Vol. I (Penguin Books, 1968). Ms. Bowman suggests that this revolution took place in the 1950's, but since the most influential studies were not published and acted upon until the 1960's, in this paper I have located it in the latter decade.

<sup>4</sup>Quoted in M. Blaug, *An Introduction to the Economics of Education* (Penguin Books, 1970), p. 2.

<sup>5</sup>Bowman, *op. cit.*, p. 103; E. A. J. Johnson, "The Place of Learning, Science, Vocational Training and "Art" in Pre-Smithian Economic Thought," in M. J. Bowman *et al.* (eds.) *Readings in the Economics of Education* (Paris: UNESCO, 1968).

<sup>6</sup>The various branches of economic thought are discussed in M. Stewart, *Keynes and After* (Penguin Books, 1967), p. 116; See also P. A. Samuelson and A. Scott, *Economics: An Introductory Analysis* (Toronto: McGraw-Hill, second Canadian edition, 1968), pp. 407-408 and 666. Briefly, classical economics holds that governments should not interfere with the natural workings of the market economy; the neoclassical school accepts the need for governmental intervention to maintain and improve the orderly working of the market place; Keynesian economics assigns government a direct and major role in the operation of the economy to insure adequate aggregate demand and overall stability.

<sup>7</sup>Quoted in Blaug, *An Introduction to the Economics of Education*, p.3.

<sup>8</sup>J. Vaizey, "What Some Economists Said About Education," in Bowman *et al.*, *Readings in the Economics of Education*, p. 53; for Dewey's views on education and industry see C. A. Yengo, "John Dewey and the Cult of Efficiency," *Harvard Education Review* (Winter, 1964), pp. 33-53; J. Dewey, "Current Tendencies in Education," *Dial* LXII (April 5, 1917), p. 288 ff.

<sup>9</sup>Blaug, *An Introduction to the Economics of Education*, pp. 2-6; Bowman, "The Human Investment Revolution in Economic Thought," p. 104; T. W. Schultz, "Investment in Man: An Economists View," in Bowman *et al.*, *Readings in the Economics of Education*, p. 70.

<sup>10</sup>Bowman, "The Human Investment Revolution in Economic Thought," p. 114, n.17.

<sup>11</sup>R. M. Stamp, "Vocational Objectives in Canadian Education: An Historical Overview," in S. Ostry (ed.) *Canadian Higher Education in the Seventies* (Ottawa: Information Canada, 1972), p. 256; H. G. Shaffer, "A Critique of the Concept of Human Capital," in Blaug, *Economics of Education* Vol. 1, p. 49.

<sup>12</sup>Bowman, "The Human Investment Revolution in Economic Thought," pp. 112-113; J. R. Walsh, "Capital Concept Applied to Man," in Bowman *et al.*, *Readings in the Economics of Education*, pp. 453-474.

<sup>13</sup>Blaug, *An Introduction to the Economics of Education*, pp. 17-18.

<sup>14</sup>Stamp, *op. cit.*, p. 249.

<sup>15</sup>R. M. Stamp, "Technical Education, the National Policy, and Federal-Provincial Relations in Canadian Education, 1899-1919," *Canadian Historical Review* L11, 4 (Dec. 1971); T. R. Morrison, "Reform as Social Tracking: The Case of Industrial Education in Ontario 1870-1900," *The Journal of Educational Thought* 8,2 (August, 1974).

<sup>16</sup>Morrison, *op. cit.*, and S. Schecter, "Capitalism, Class, and Educational Reform in Canada," in L. Panitch (ed.) *The Canadian State: Political Economy and Political Power* (Toronto and Buffalo: University of Toronto and Buffalo: University of Toronto Press, 1977), pp. 390-391.

<sup>17</sup>Morrison, *op. cit.*, pp. 99, 104-105; R. D. Heyman, R. F. Lawson and R. M. Stamp, *Studies in Educational Change* (Toronto and Montreal: Holt, Rinehart and Winston, 1972), p. 32 and pp. 48-51.

<sup>18</sup>Stamp, "Vocational Objectives in Canadian Education: An Historical Overview," p. 251; Stamp, "Technical Education, the National Policy, and Federal-Provincial Relations in Canadian Education, 1899-1919," p. 409.

<sup>19</sup>The exact wording was: "to aid in promoting the mechanical trades and to increase the earning capacity, efficiency and productive power of those employed therein." Quoted in Stamp, "Vocational Objectives in Canadian Education," p. 254.

- <sup>20</sup>R. Neill, *A New Theory of Value: The Canadian Economics of H. A. Innis* (Toronto: University of Toronto Press, 1972), p. 76; M. Prang, N. W. Rowell: *Ontario Nationalist* (Toronto: University of Toronto Press, 1975), p. 489.
- <sup>21</sup>M. A. Cameron, "Education and the Rowell-Sirois Report," *The School* (January 1941); J. N. Barnett, "The Rowell-Sirois Report: A Reply to Dr. Cameron," *The School* (April, 1941); J. C. Miller, *National Government and Education in Federated Democracies: Dominion of Canada* (Philadelphia: 1940), pp. 412-414.
- <sup>22</sup>Canada, Royal Commission on Dominion-Provincial Relations, *Report* (Ottawa: King's Printer, 1940) Book II, p. 51.
- <sup>23</sup>*Loc. cit.*
- <sup>24</sup>A. Stewart, "Financing Education: An economist's view with some personal bias," in G. E. Flower and F. K. Stewart (eds.) *Leadership in Action* (Toronto: W. J. Gage, 1958), p. 169.
- <sup>25</sup>G. G. Croskery and G. Nason (eds.) *Canadian Conference on Education: Addresses and Proceedings* (Ottawa: Montreal Press, 1958), p. 31.
- <sup>26</sup>Canada, Department of Labour, Economics and Research Branch, *Skilled and Professional Manpower in Canada, 1945-1965* (Ottawa: 1957), p. 103.
- <sup>27</sup>Canada, Royal Commission on Canada's Economic Prospects, *Report* (Ottawa: Queen's Printer, 1957), pp. 446-447 (hereafter referred to as the Gordon Report).
- <sup>28</sup>A. Lockhart, "Future Failure: The Unanticipated Consequences of Educational Planning," in R. M. Pike and E. Zureik (eds.) *Socialization and Values in Canadian Society Vol. II: Socialization, Social Stratification and Ethnicity* (Toronto: McClelland and Stewart, Carleton Library, 1975), pp. 190-191.
- <sup>29</sup>R. Manzer, "Public Policies in Canada: A Developmental Perspective," *Proceedings of the Canadian Political Science Association*, 1975, pp. 10-11.
- <sup>30</sup>J. J. Servan-Schreiber, *The American Challenge* (Avon Books: 1969), p. 90.
- <sup>31</sup>G. Bertram, *The Contribution of Education to Economic Growth* (Ottawa: Information Canada, 1966), p. 62.
- <sup>32</sup>E. F. Denison, *The Sources of Economic Growth in the United States and the Alternatives Before Us* (New York Committee for Economic Development, 1962).
- <sup>33</sup>S. Ostry and M. Zaidi, *Labour Economics in Canada* (Toronto: MacMillan, second edition, 1972), ch. 6.
- <sup>34</sup>Lockhart, *op. cit.*, p. 189.
- <sup>35</sup>E. F. Denison, "Measuring the Contribution of Education (and the "Residual") to Economic Growth," in M. J. Bowman *et al.*, *Readings in the Economics of Education*, p. 320.
- <sup>36</sup>See, for example, T. W. Schultz, "Investment in Man: An Economist's View," in Bowman *et al.*, *Readings in the Economics of Education*, p. 74.
- <sup>37</sup>Economic Council of Canada, *Second Annual Review*, p. 171.
- <sup>38</sup>Bertram, *op. cit.*, p. 50ff.
- <sup>39</sup>Organisation for Economic Co-operation and Development, *OECD Reviews of Manpower and Social Policies No. 4 manpower Policy and Programmes in Canada* (Paris: OECD, 1966), p. 96 ff.
- <sup>40</sup>For example, M. Armstrong, *The Canadian Economy and Its Problems* (Scarborough, Ontario: Prentice-Hall, 1970), pp. 143, 149; Samuelson and Scott, *op. cit.*, p. 875.
- <sup>41</sup>New Brunswick, Royal Commission on Finance and Municipal Taxation, *Report* (Fredericton: 1963), Chapter 8.
- <sup>42</sup>Newfoundland and Labrador, Royal Commission on Education and Youth, *Report* (1967), Chapter 1.
- <sup>43</sup>Ontario, Provincial Committee on Aims and Objectives in the Schools of Ontario, *Living and Learning* (Toronto: Ontario Department of Education, 1968), pp. 171, 213.
- <sup>44</sup>Quoted in B. A. Weisbord, *External Benefits of Public Education* (Princeton, N. J., Department of Economics, Princeton University, 1964), p. 2.
- <sup>45</sup>*Ibid.*, p. 7; see also W. J. Brown, "Restructuring the Financing of Education to Meet Emerging Needs," in W. J. Brown and H. P. Moffatt, *New Goals, New Paths* (Ottawa: Canadian Teachers' Federation, 1973), p. 104.

<sup>46</sup>J. M. Buchanan, "Federal Grants and Resources Allocation," and A. D. Scott, "A Note on Grants in Federal Countries," in C. S. Benson (ed.) *The Economics of Education* (Boston: Houghton Mifflin, 1963), pp. 296-7, 307; Samuelson and Scott *op. cit.*, 635-636.

<sup>47</sup>See the exchange between Professors Scott and Buchanan in Benson, *op. cit.*, pp. 294-315.

<sup>48</sup>Buchanan, *op. cit.*, p. 304; R. B. Hughes (Jr.) "Interregional Income Differences: Self-Perpetuation," in Benson, *op. cit.*, pp. 45-47; for a more cautious appraisal, see J. F. Graham, *Fiscal Adjustment and Economic Development* (Toronto: University of Toronto Press, 1963), pp. 163-164.

<sup>49</sup>Brown, *op. cit.*, p. 107; H. Whalen, "Public Policy and Regional Development: The Experience of the Atlantic Provinces," in A. Rotstein (ed.) *The Prospect of Change* (Toronto: McGraw-Hill, 1965), p. 108.

<sup>50</sup>*Supra* n.44.

<sup>51</sup>Samuelson and Scott, *op. cit.*, p. 175 n. 6.

<sup>52</sup>See, for example, Robert Stanfield's comments to the Federal-Provincial Conference of 1963 reprinted in J. P. Meekison (ed.) *Canadian Federalism: Myth or Reality* (Toronto: Methuen, 1968), pp. 225-228.

<sup>53</sup>P. Nagarajan, "An Analysis of the Economic Performance of the Atlantic Region vis-à-vis the Canadian Economy 1954-1973," *The Abegweit Review* 2, 1 (Spring 1975), p. 10.

<sup>54</sup>See, for example, Graham *op. cit.*, pp. 164-165.

<sup>55</sup>Also referred to as social capital; see Economic Council of Canada, *Living Together* (Ottawa: Minister of Supply and Services, 1977), p. 25.

<sup>56</sup>J. S. Dupré *et al.* *Federalism and Policy Development: the Case of Adult Occupational Training in Ontario* (Toronto and Buffalo: University of Toronto Press, 1973), p. 31.

<sup>57</sup>*Ibid.*, p. 39.

<sup>58</sup>See, for example, D. M. Cameron, *Schools for Ontario* (Toronto and Buffalo: University of Toronto Press, 1972), p. 74, Figure 9.

<sup>59</sup>H. Fluxgold, *Federal Financial Support for Secondary Education and its Effect in Ontario 1900-1972* (Toronto: Ontario Teachers' Federation, 1972), p. 97.

<sup>60</sup>P. Pacquet, "The Future of Manpower Training: What is at Stake?" in *Manpower Training at the Crossroads* (Ottawa: Institute Canadien d'éducation and Canadian Association for Adult Education, 1976), p. 61; Dupré *et al.*, *op. cit.*, p. 26.

<sup>61</sup>Cited in Canada, Report of the Special Senate Committee on Poverty, *Poverty in Canada* (Ottawa: Information Canada, 1973), p. 151.

<sup>62</sup>S. Ostry and M. Zaidi, *op. cit.*, p. 169.

<sup>63</sup>*Loc. cit.*

<sup>64</sup>A. Careless, *Initiative and Response* (Montreal and London, McGill-Queen's University Press, 1977), p. 126; I. Adams *et al.* *The Real Poverty Report* (Edmonton: Hurtig, 1971), p. 128.

<sup>65</sup>Economic Council of Canada, *Living Together*, p. 28.

<sup>66</sup>T. N. Brewis, *Regional Economic Policies in Canada* (Toronto: MacMillan, 1969) p. 111.

<sup>67</sup>*Ibid.*, p. 116.

<sup>68</sup>See G. D. Michael, "The Administration of Public Schools in P.E.I. to 1974," (unpublished M.A. thesis, Dalhousie University, 1975), Chapter 5.

<sup>69</sup>Atlantic Provinces Economic Council, Fifth Annual Review: *The Atlantic Economy* (Halifax: APEC, 1971), pp. 30-34.

<sup>70</sup>V. S. Wilson, "Federal Perspectives on Education: Social, Political, and Economic Policies," in H. A. Stevenson and J. D. Wilson (eds.) *Precepts, Policy and Process: Perspectives on Contemporary Canadian Education* (London, Ont.: Alexander, Blake Associates, 1977), p. 38.

<sup>71</sup>For example, N. W. Sisco, "Canada's Manpower Training and Education: A View from Ontario," *Canadian Education and Research Digest* (Dec. 1967).

<sup>72</sup>E. D. Hodgson, *Federal Intervention in Public Education* (Toronto: Canadian Education Association, 1976), p. 54.

<sup>73</sup>P. Copes, *The Resettlement of Fishing Communities in Newfoundland* (Canadian Council on rural Development, 1972).

<sup>74</sup>This was also the Conclusion stated by the Organisation for Economic Co-operation and Development in *Reviews of National Policies for Education: Canada* (Paris: OECD, 1976), pp. 19-21 and 98-99.

<sup>75</sup>*Ibid.*, p. 37.

<sup>76</sup>H. Braverman, *Labor and Monopoly Capital* (New York and London, Monthly Review Press, 1974), p. 439.

<sup>77</sup>OECD, *Reviews of National Policies for Education: Canada*, pp. 23, 29.

<sup>78</sup>*Ibid.*, pp. 35, 37.

<sup>79</sup>A. Lockhart, "Educational Policy Development in Canada: A Critique of the Past and a Case for the Future," in R. A. Carlton, L. A. Colley, and N. J. MacKinnon (eds.) *Education, Change, and Society* (Toronto: Gage Educational Publishing, 1977), p. 82.

<sup>80</sup>See, for example, I. Berg, *Education and Jobs: The Great Training Robbery* (Boston, Beacon Press, 1971).

<sup>81</sup>OECD, *Review of National Policies for Education: Canada*, p. 43.

<sup>82</sup>*Ibid.*, pp. 102-103.

<sup>83</sup>Economic Council of Canada, Eighth Annual Review, *Design for Decision-Making* (Ottawa: Information Canada, 1971), p. 224.

<sup>84</sup>For example, Dupré *et al.*, *op. cit.*, *passim*.

<sup>85</sup>P. Pacquet, "The Present Situation: current Operation of the Canada manpower Training," in *Manpower Training at the Crossroads*, p. 31 (Table 7), and p. 33 (Table 9); for an earlier slant on the problem, see G. R. Forsyth and J. R. Nininger, *Expanding employability in Ontario* (Toronto: Ontario Economic Council, 1966), p. 33; and W. E. Mann, "Adult Drop-outs," *Continuous Learning V* (March-April, 1966).

<sup>86</sup>OECD, *Review of National Policies for Education in Canada*, p. 111.

<sup>87</sup>Nova Scotia, Royal commission on Education, Public Services and Provincial-Municipal Relations, *Report III: Education* (Halifax: Queen's Printer, 1974), chapter 41, pp. 1 and 30; Ch. 59, pp. 36-37.

<sup>88</sup>Cited in M. Lazerson and T. Dunn, "Schools and the Work Crisis: Vocationalism in Canadian Education," in Stevenson and Wilson, *op. cit.*, p. 301 n. 21.

<sup>89</sup>James R. Bright, "Does Automation Raise Skill Requirements?" in Benson, *op. cit.*, pp. 68-69, 76-77.

<sup>90</sup>J. Porter, *The Vertical Mosaic* (Toronto: University of Toronto Press, 1965), chapter 6.

<sup>91</sup>For example, R. Pike *Who Doesn't Get to University—and Why* (Ottawa: Runge Press, 1970); E. Clark, D. Cook, and G. Fallis, "Socialization, Family Background and the Secondary School," in Pike and Zureik, *op. cit.*, pp. 77-103.

<sup>92</sup>C. Jencks *et al.*, *Inequality* (New York: Harper and Row, 1972), pp. 191-192; 226-227.

<sup>93</sup>S. Bowles and H. Gintis, *Schooling in Capitalist America* (New York: Basic Books, 1976), p. 141 (emphasis added).

<sup>94</sup>W. Clement, *The Canadian Corporate Elite* (Toronto: McClelland and Stewart, The Carleton Library, 1975), p. 4.

<sup>95</sup>E. F. Schumacher, *Small is Beautiful* (Sphere Books, 1973), chapters 1, 2, 6.

<sup>96</sup>J. McNiven, "The Impact of School Reorganization on Rural Lifestyles," in E. W. Ricker (ed.) *Education and Development in Atlantic Canada* (Halifax: Department of Education, Dalhousie University, 1978), pp. 274-288.

<sup>97</sup>D. Alexander, "Economic Growth, Development and Higher Education," (mimeographed), pp. 7-9.

<sup>98</sup>L. MacIntyre, "Education and Development: A Journalist's Perspective on the Underdevelopment of the Maritimes," in Ricker, *op. cit.*, p. 159.

<sup>99</sup>D. MacDonald, "Education and Development: Promise and Praxis in Atlantic Canada," in Ricker, *op. cit.*, p. 140.

<sup>100</sup>Atlantic Provinces Economic Council, *Sixth Annual Review* (Halifax: APEC; 1972), p. 58.

<sup>101</sup>J. K. Galbraith, *Economic Development* (Boston: Houghton Mifflin, 1962), pp. 58-59.

<sup>102</sup>On this Point see also Lockhart's "Future Failure: The unanticipated Consequences of Educational Planning," p. 198 ff.

<sup>103</sup>J. K. Galbraith, *The New Industrial State* (Mentor Books, Second Edition, Revised, 1971), p. 241 n. 15, and p. 243; on this point see also E. Z. Friedenberg, "The Role of Schools in the Underdevelopment of Atlantic Canada," in Ricker, *op. cit.*

<sup>104</sup>*Ibid.*, p. 236.