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Brian Lee Wood

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MEGATRENDS, WHITEHEAD AND EDUCATION: THE GENERAL EDUCATIONAL THOUGHT OF ALFRED NORTH WHITEHEAD AS SEEN IN LIGHT OF THREE OF JOHN NAISBITT'S TEN MEGATRENDS

By

Brian Lee Wood

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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The research entitled Megatrends, Whitehead and Education is a partial response to the many critics and critical reports which rail against America's educational systems and a response as well, to some who are offering seemingly unproductive solutions to these problems. Often the response to the perceived failings of education is a call to do more of everything and do it harder, and then demand more testing.

This response may, ultimately, hinder progress towards a solution. The research addresses the problem by proposing the adoption of some different educational perspectives. These perspectives are, for the most part, informed by researching and illuminating the educational writings of the great educator, mathematician, and philosopher Alfred North Whitehead and resonating these writings with the evolving future as seen by John Naisbitt.

The research is in the main analytical, but methodologies are also borrowed from historical and philosophical research models. The combined techniques not only help to render the data but also foster its analysis which

ultimately leads to the wanted conclusions. Initially, Naisbitt's Megatrends are reviewed as a body, and then reduced to three trends which are then each supported by other educator/authors. This portion of the research, primarily in chapter two, provides the context for the subsequent application of Whitehead's work. The context for A. N. Whitehead's work is offered in a brief overview of British history focusing on the time frame of Whitehead's educational writings. By analysis and extrapolation, six Whiteheadian educational tenets are rendered. They are systematically resonated with the three specially selected trends and those findings are discussed in light of more contemporary research, most notably that of John Goodlad.

Finally, implications and recommendations from the applications are discussed with that discussion focused on four areas. The first centers on reconceptualizing our approach to people in general. The second focuses on reconceptualizing our approach to working with colleagues. The third area discusses some implications resulting from reconceptualization of the first two areas. The fourth area briefly covers reconceptualizing our ideas of "proper" research methodology in order to allow additional studies of the kind employed in this research.

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CHAPTER I

New studies detailing the woes of public education have become such frequent occurrences that they have had an almost numbing effect upon the educational community. Whether it's A Nation at Risk, A Place Called School, or Why Johnny Can't Read, Part II, all have provided their share of doom and gloom. Many of our society's educational pundits are attacking not only the skills and content of today's education, particularly kindergarten through grade twelve, but also attacking the system itself. One often cannot tell if the voices are many or just loud or both. Sometimes extravagant claims are made that America's schools are turning out products who are not capable of functioning in the present society, let alone the one of the near future.

In Writing A Place Called School, noted author and researcher John Goodlad, speaks pointedly of these attacks. He notes that a growing number of Americans do not seem to perceive the importance of the relationship between the public schools and the attainment of the highest order of democracy. As Goodlad puts it,

> It is not easy, however, to convince a majority of our citizens that this relationship exists, and that schools require their support because of it. It is especially difficult to convince them if they perceive the schools to be deficient in

> regard to their traditional functions. Unfortunately, the ability of schools to do their traditional jobs of assuring literacy and eradicating ignorance is at the center of current criticism, which is intense.[1]

Thus, our graduates so it is claimed are less literate, less skillful, and probably less confident than those of previous generations. Some claimants, too, see the problem as the inferior preparation to today's youth and after typically laying the problem at the doorstep of public education, most think that they have the answer. Most in fact do have the answer if the question is one of raising test scores. The answer, according to many claimants, is time, and much more of it; more time on task, more time in the school day, and more time added to the school year.[2] More time translates into the memorization of more facts which translates into higher test scores. If such a proposition leaves some readers uneasy at this point, they should be advised that they are not alone.

Of course the fallacy here is that higher test scores may or may not indicate or even predict one's future ability to function in society. This kind of fallacious thinking almost insures the fact that the problem of preparing today's youth will not even be addressed, because turning the "means" of education into the "ends" of education yields a narrow and unproductive perspective. The ultimate folly of such a perspective is a race between "content memorizers" and "information generators," and the generators are not only going to win every race, but win by progressively

greater margins. Quite possibly educators need a new set of perceptions in order to find solutions to existent problems.

Research Goals

The following research has a primary goal which may foster potential directions. The goal is to extrapolate and present the tenets and perspectives of the general educational thought of the great educator, mathematician, and philosopher Alfred North Whitehead. This presentation forms a major portion of the content of the research. The second goal is to develop and use a research technique which provides the comparison of concepts from differing time periods but in similar contexts. The central question is, does this method valuably facilitate the application and illumination to current contexts of concepts and principles drawn from Whitehead and his times?

The research proceeds in a somewhat non-traditional manner. Traditional behavioral science models usually lack stages and progressions necessary for illumination of such tenets as Whitehead's and the form for comparing concepts in differing historical contexts. The methodology and style employed have similarities to critical research as one might find in the field of literature. More will be said with regards to methodology in chapters five and six.

Definitions

In this study the researcher used a number of key words which are defined in the following discussion. The word

"context" is used to mean the circumstances surrounding actions and/or events. The term "perception" is used to reflect the attainment of awareness or realization. "Perspective" is here understood as the aspect in which a subject or its parts are mentally viewed. The word "resonate" is used to express the meshing and often the amplification that an idea or precept bears with and upon another. "Useful" is normally taken to mean serviceable to a beneficial end, and "utilization" carries the meaning of turning to profitable account or use.

Limitations

Limitations are innate in studies of this type. The study is subjective in its rendering of Whitehead's work and in its applications. In addition, it is subjective to some extent in extrapolating and comparing the necessary contexts for both the megatrends (to be discussed later) and Whitehead's work. The reader should be advised that though education and educators in Great Britain and the United States are strikingly alike, one is not an exact copy of the other. Further, it behooves the author to be as conscious of his passions as possible, and to be dispassionate in rendering the propositions in chapters two and four. Though it is important to be dispassionate in assembling the components of the research, one should not construe such dispassion as negating the fundamental propositions of the paper. In due course, particularly in chapters five and six, some degree of passion is useful and expected else the work may lack some necessary expressive qualities.

The remaining portion of this first chapter highlights the main thrust of each of the succeeding five chapters beginning with chapter two. The second chapter is the presentation of present contexts using John Naisbitt as spokesman. Chapter three sketches the era of Alfred North Whitehead's educational writings. The fourth chapter discusses the tenets of A. N. Whitehead as well as his own background, which will be formulated in a manner similar to the discussion of Naisbitt. Chapter five is the systematic application of Whitehead's tenets and their resonation with three specially selected Naisbitt trends. The sixth and final chapter is a presentation of implications and/or recommendations drawn from the application of Whitehead's tenets to the selected Naisbitt trends, and includes applications of the thought of B.F. Skinner, Arthur Combs and others.

Overview of the Study's Rationale

In summary, what the following pages hope to accomplish will pursue this line of argument:

1) The general outline of Naisbitt's work will be presented, representing current contexts.

2) Three of the ten Megatrends will be specially selected and supported by other authors.

3) The context for A. N. Whitehead's education writings will be established.

4) A. N. Whitehead's general education tenets will be extrapolated and receive comment by additional authorities.

5) Whitehead's tenets will be systematically applied and resonated with three specially selected trends per Naisbitt.

6) Implications will be drawn from the application of Whitehead's tenets and the selected Naisbitt trends, including applications as they might pertain to other selected educator/authors.

The study, then, is an attempt to articulate the tenets of Alfred North Whitehead and their appropriateness to the context of our times as defined by Naisbitt.

CHAPTER I FOOTNOTES

[1]John I. Goodlad, A Place Called School, (New York, 1984), p. 2.

[2]Fenwick English, An address to American Association of School Administrators, 1979.

CHAPTER II

Chapter two formulates present day context drawing upon Naisbitt as spokesman. Because this chapter includes the body of John Naisbitt's ten trends, along with three trends selected for special elaboration, an awareness of Mr. Naisbitt's background and the role of the Naisbitt Group will prove useful.

John Naisbitt grew up in a strict Mormon family in Utah. After leaving high school at the tender age of fifteen, he spent two of the succeeding four years in the United States Marines and followed that stint by going home and enrolling in the University of Utah. In succession, his work experiences include: the public relations department of Eastman Kodak, the Unitarian Service Committee, the Great Books Foundation, the public relations department of Montgomery Ward, the director of information with the National Safety Council, the U.S. Commission on Education in Washington, a special assistant on John Gardner's staff, and two years with IBM in Chicago. Shortly after leaving IBM, and additionally after being influenced by reading Bruce Catton and reading of the research methods that he used in putting together his great works on the Civil War, Naisbitt produced the first of his now well-known Trend Reports,

which used a modified version of Catton's newspaper analysis style. The Trend Report, then, provides the cornerstone of the activities of the Naisbitt Group of which he is chairman.

The Naisbitt Group functions in three major areas. The first is that of analyzing the data that are received from Newsbank, a newspaper-article-clipping-company which Naisbitt helped found. The company is responsible for scanning some 200 plus newspapers a month. The analysts at the Naisbitt Group categorize and analyze the respective articles which become the content of the Trend Report, the production of which is the second major area of endeavor. The Trend Report costs $1,250 per year for the National Report and $875 per year for a regional one. The Report comes in the form of a loose-leaf binder, and it is filled with various pie charts, bar graphs, and with narrative reports as well. The third area is that of conducting seminars for the executives of America's leading businesses including General Motors, ABC, and Sears, Roebuck and Company. For $15,000, a company can receive the Trend Report and the opportunity to send their executives to Washington, D.C. for a full day workshop, or for $3,500, a Naisbitt staffer will come and make a one to two hour presentation locally. The prices may sound steep, but the information is obviously valuable, as some forty of America's leading businesses subscribed to the Trend Report in 1982. If $15,000 is out of the question then Megatrends,

which is a compilation of the research of the Naisbitt Group reduced to ten important areas, is an available resource.

The ten trends as discussed by Naisbitt are reviewed as a body in the following paragraphs. There are several reasons for this. The ten trends provide an outline for the information included in this chapter. The other information is complementary and supplemental. The second reason is that the trends probably should be seen as a body or a loosely fitting unit. Though each trend is not necessarily directly linked to each of the others, leaving out a trend would seemingly diminish the possibility of acquiring an understanding of the evolving society. The third reason is much like the second in that giving a short summary of each of the trends should provide a framework for the discussion of the three trends that are considered for a more detailed treatment and possible application. The final reason is that by providing a look at the entire body of trends, one will more easily understand both what is presented and hopefully what follows. Each trend, then, will be briefly reviewed both in its general thrust and in the support which Naisbitt supplies for it.

Overview of the Ten Trends

The first of Naisbitt's ten trends is that which he characterizes as "the megashift from an industrial to an information society."[1] He bases part of his evidence for discerning this trend on an event that took place in 1956. In that year clerical workers began to outnumber blue-collar

workers. In other words as early as 1956, people who worked with information outnumbered those who produced goods, and the ratio of those two working groups has never been close since then. In addition, Naisbitt sees the advances of technology of transportation, such as the various satellites and space shuttles, as fueling the explosion of information even more than opening the frontiers of space travel. Rather than pushing back the frontiers of the universe, each has contributed to reducing the size of our earth. In the area of jobs, he notes that in nearly every year in the past decade over three-fourths of all new jobs created in this country are directly related to information generation and/or processing. Scientific and technical information is said to be generated at a rate that causes it to double in quantity at least every twenty-four months.

Five supplemental points are offered for this first trend. Though not all of these points are stated as documentation for the trend, Naisbitt obviously sees them as germane. The points are listed here.

> (1) The information society is an economic reality not an intellectual abstraction. (2) Innovations in communications and computer technology will accelerate the pace of change by collapsing the 'information float.' (3) New information technologies will at first be applied to old industrial tasks, then gradually give birth to new activities, processes, and products. (4) In this literacy-intensive society, when we need basic reading and writing skills more than ever before, our education system is turning out an increasingly inferior product. (5) The technology of the new information age is not absolute. It will succeed or fail according to the principle of high tech/high touch.[2]

According to Naisbitt's definition, the "information float" is the amount of time elapsing from the moment a sender sends a piece of information to the moment that the recipient receives same.

In Naisbitt's second trend, he proposes that, "We are moving in the dual directions of high tech/high touch, matching each new technology with a compensatory human response."[3] In other words, the new technology affects us as well as having an effect upon us. We find ourselves seeking new, different and better ways of interacting with one another. We spend more time around the television set and yet hoards of us go camping, when gasoline supplies permit. When gasoline supplies do not permit we rediscover walking, biking, canoeing, jogging, cross-country skiing, and most recently orienteering. This is to say that we find ways of partially escaping the technology and spending extra amounts of time finding ourselves, whether it be in ourselves or in others.

A partial listing of Naisbitt's insight in this second trend might be reflected as follows:

> (1) The introduction of the high technology of word processors into our offices has led to a revival of hand written notes and letters .... (2) The more technology we put in our hospitals, the less we are being born there, dying there-and avoiding them in between... i.e. (3) The high technology of heart transplants and brain scanners (has) led to a new interest in the family doctor and neighborhood clinics... and (4) High-tech robots and high touch quality circles are moving into our factories at the same time - and the more robots, the more circles.[4]

In a final note from this section, Naisbitt once again alludes to education. "As computers begin to take over some of the basics of education, schools will more and more be called upon to take responsibility for teaching values and motivation, if not religion."[5]

The third of the ten trends focuses on the fact that we are moving from a national economy to a world economy. No longer is America the industrial country of the industrialized world. America no longer supplies everyone with steel and automobiles, indeed in many instances, America no longer supplies America with these items. To understand our industrial losses as merely Japan's industrial gains is also to miss the point. The industrial gains in the world are not being made by the likes of Japan, the United States or even West Germany. The fastest industrial growth is occurring in places such as Singapore, South Korea, Mexico and Brazil. A "word to the wise" for America might be that she ought to seek to forge the best of relationships both in business and politics with many of the "up and coming" third world countries.

As support for this third trend, Naisbitt offers the following points. While America's economy, as well as other traditional industrial leaders, grows by less than a couple of percentage points per year, and Japan, the superstar of the lot grows at about four percent a year, many third world countries are at the very least doubling those numbers. Annually over the last decade, Mexico's economy has grown at

a steady eight percent, and the Dominican Republic eight percent. The average annual growth over the past decade of Singapore, Taiwan, Hong Kong, South Korea, Mexico and Brazil has been over nine percent.[6] Americans, however, perceive Japan as having the world's best economy, but Naisbitt offers that, "Japan is number one, but that is like a new world champion in a declining sport...." and for America, "It is too late to recapture our industrial supremacy because we are no longer an industrial economy."[7] Additionally, he notes, "Economists predict gloom because they focus on industrial companies; that's like predicting a family's future by watching only the grandparents."[8] Finally, under this section, Naisbitt says that, "For Americans, it is self-evident that this is the time to learn another language--and learn it well...." and "To be really successful, you will have to be trilingual: fluent in English, Spanish, and computer."[9]

We are restructuring from a society run by short-term considerations and rewards in favor of dealing with things in much longer-term time frames."[10] This fourth trend mirrors a characteristic of the society in general with a particular emphasis on the way that it is applied in business. That characteristic is simply "instant gratifications." In the business world, the "instants" are three months long or quarters. The majority of management personnel in America's businesses are planning from, looking for, pushing for, and bending every effort for an increase

in profits every quarter. The increase can be ever so slight, but it must be an increase nonetheless. That is, America's businesses - the large established ones, not the small entrepreneurial types - make their number one priority an instantly gratifying profit increase. In this way many of America's largest and most important companies have won numerous battles and have either lost the war or are in the process of receiving the terms of surrender. Fortunately, more and more companies are catching hold of the need for longer term planning.

One of Naisbitt's prime examples of surrender is that of America's railroads. "The great business lesson of unrecognized absolescence is not buggy whips, it's the railroads."[11] Railroading men believed in the perpetuity of their beloved railroads, while never really understanding their role in the transportation business. Running down the same instant gratification road is the automobile industry. "As with the railroad industry, it is difficult for us to believe that we are in the process of losing the automobile industry that has served so well and has in fact been the economic underpinning of this society for so long."[12] "Those companies that are looking to the long term successfully are the ones which have taken the time and initiative to conceptualize what their business is or ought to be. Naisbitt's most dramatic example is Sears, Roebuck & Company. Sears reconceptualized their role as remaining the top American retailer and becoming America's top banker.

They pursued their banking interest by making large purchases in the areas of: stock brokering, real estate, and money-market funds. "To banks, stock brokers, and realtors, it will very much feel as though Sears is in their line of work." Thus the example of a more long term outlook. Naisbitt has words for those in education: "In education we are moving from the short-term considerations of completing our training at the end of high school or college to lifelong education and retraining. The whole idea of what education is will be reconceptualized during the next decade."[13]

From centralization to decentralization is Mr. Naisbitt's title for this fifth trend. He describes the trend this way: "In cities and states, in small organizations and subdivisions, we have rediscovered the ability to act innovatively and to achieve results - from the bottom up."[14] America has rediscovered federalism, though probably not to the extent that she is ready to go from fifty states back to fifty self-governing colonies, but certainly to the extent that many are deciding to accept responsibility for governing in their own spheres of influence. Propositional elections, state referenda, recall elections, numerous petition drives and the like are becoming standard local political fare. The business community, too, is receiving its share of petitions and local input, and many businesses have begun to cater to local diversities by at least cosmetically tailoring their products and practices to meet local desires.

There are several contentions that Mr. Naisbitt advances to support this fifth trend. Most notably, he stresses the "where" of the lawmaking process, and "where" is now in the legislative bodies of the fifty states. During the 1981-82 session of the United States Congress (the ninety-seventh), approximately 15,000 bills would be introduced and about 500 of them enacted into law. At the same time the various state legislatures would introduce some 250,000 and enact almost 50,000 of these into law.[15] Many decry the lack of voter participation in national elections. Only fifty-three percent turned out to elect Ronald Reagan in 1980, and approximately thirty-five percent voted in the 1978 Congressional elections. During the same period, participation in excess of seventy percent was noted on a number of local initiatives and referenda.[16] Federalism, states' rights and Naisbitt's term "regionalism" are emerging on the scene, and in the vocabularies of many politicians. Mr. Naisbitt notes Arizona Governor Bruce Babbit's remark as an example. "It is long past time to dust off the Federalist Papers and to renew the debate commenced by Hamilton, Madison, and Jefferson."[17] Many businesses are not bothering with the debates, they are giving their regional offices much greater control. "Even McDonald's, that ubiquitous American institution, no longer builds the exact same restaurant in each new location."[18] Once more, America is changing and growing from the bottom up.

The point of Naisbitt's sixth trend is that, "We are shifting from institutional help to more self-reliance in all aspects of our lives."[19] Whether it was the totality of the disruption of most peoples' lives brought by the depression and World War II, or the intimidation of the scientific and educational discoveries of the World War II era, or simply the lack of desire in taking responsibility for their own lives, Americans seemingly gave themselves away in the 1950's. They turned over their careers to corporations. They turned over their children to the public schools. They turned over their bodies to the miracles of modern medicine. They turned over their religions to the clergy. They turned over their retirements to the Social Security System and released all of the rest of their problems to their elected officials in Washington, D.C.

Now after they have seen the kind of job that each of these institutions has done, they are more than ready to take everything back into their own hands, and Naisbitt offers some poignant examples. In the area of personal fitness, "At least 100 million Americans, almost half the population, are now exercising in some way - up from only about one-quarter of the population in 1960. That is a 100 percent increase in regular exercisers."[20] Concerning the public schools, Naisbitt says, almost tongue in cheek, if you don't like the institution, help yourself and start your own school. "Several years ago, (John) Holt estimated there were at least 10,000 families educating their children at

home. In 1982 the figure was estimated at one million."[21] Americans are taking back their careers also, and there seems to be almost an entrepreneurial explosion. "Dun & Bradstreet estimates there were 533,500 incorporations annually by 1980. By D & B's count, that represents a 63 percent increase over 1975."[22] As has been previously stated, Americans are taking back responsibility from the government through the ballot box and petition drives in numerous states and communities, not to mention the growth in church organizations, particularly those which emphasize little difference between clergy and laity. In all of these areas, Americans have decided to make greater efforts to help themselves.

The seventh trend has considerable kinship with the fifth, which was basically the shift from centralization to decentralization. Of this seventh trend, Naisbitt notes, "We are discovering that the framework of representative democracy has become obsolete in an era of instantaneously shared information."[23] Therefore we are moving from representative democracy to participatory democracy. More specifically, there seems to be three areas where participitory democracy is particularly pronounced, and these are in the areas of politics, the workplace, and the marketplace. For decades Americans let Congressmen do their thinking, checked their rights and due process at the door of their place of employment, and willingly allowed America's corporations to use their life-savings without so

much as a minor proxy struggle. These situations are changing.

Are Americans headed for a renaissance of the pure democracy of ancient Athens? Who is to say NO! Naisbitt offers some interesting insights in all of these previously mentioned areas. As far as the political arena is concerned, he has alluded to surprising voter turnouts for local ballot referenda, sometimes reaching eighty and ninety percent. Initiatives and referenda being the tools of participatory democracy and easily accessible, "It is no wonder, then, that the popularity of initiatives exploded during the 1970's, when we voted on 175 state-level initiatives, twice as many as the 1960's .... yet there are signs the initiative trend is just beginning."[24]

Workers are no longer passively reacting to capriciousness in the workplace as evidenced by the fact that courts in fourteen states including: California, New York, Illinois, and Michigan, "have sided with fired employees when their termination is 'abusive or against public policy'."[25] Smarter corporations have enlisted employee input rather than terminating it. "According to the American Center for the Quality of Work Life, at least 200 American companies have quality circles. Honeywell, for example, has 350 quality circles."[26] Not to be outdone, American stockholders, who for the longest time merely accepted corporate board policies, or voted by selling their holdings, have decided to participate in much greater

numbers. First, they have used their voting strength to elect outsiders to the respective corporate boards. According to the firm of Heidrick & Struggles, "By 1980, 87.6 percent of the major companies studied had a majority of outside directors."[27] Second, stockholders have elected independents to the corporate boards. According to the same Heidrick & Struggles survey, " ...half the companies were said to have a majority of independent outsiders on the board. Independents not only are outside management, they have neither family nor business relationships with the corporation."[28] In light of all of this participation one ought to note Naisbitt's message to those in positions of responsibility: "The new leader is a facilitator, not an order giver."[29]

"We are giving up our dependence on hierarchical structures in favor of informal networks."[30] This is Naisbitt's eighth trend and it is a dynamic one. From the age of the ancient Egyptian Pharoahs to the modern corporation, businesses, governments and whole societies have been organized in a pyramidal structure. That is, the information has been generated from the top and disseminated down the managerial ladder to the bottom. In much the same way that Americans are assuming more responsibility for nearly everything in their lives, they are demanding more in the workplace and elsewhere. Those demands would be fairly insubstantial were it not for the fact that the computer supplies vast quantities of information that, in turn, puts

considerable power in the hands of subordinates. With many people generating information rather than having it come strictly from the top, the hierarchical pyramid is going the way of the dinosaur. The cooperative sharing of information (and power) that is left in place of the pyramid is called networking, and it often extends across the boundaries of both companies and governmental agencies. A simple phone call puts any potential information sender or receiver in touch with his counterpart. As a result of this capability, supervisors everywhere have had to dust off their copies of "Theory Y," and give more than lip-service to the more humanistic styles of management that American theorists exported to Japan in the 1960's.

Several insights concerning networks are offered by Naisbitt. In terms of understanding their significance, he says,

> Networks exist to foster self-help, to exchange information, to change society, to improve productivity and work life, and to share resources. They are structured to transmit information in a way that is quicker, more high touch, and more energy-efficient than any other process we know.[31]

Networking can be surprisingly efficient. "Experienced networkers claim they can reach anyone in the world with only six interactions. It has been my experience, however, that I can reach anyone in the United States with only two - three at the very most - exchanges."[32] Networks can either exist within a given company, as in the 200 plus companies already using quality circles, or across all corporate,

agency, and even individual lines. They can either be formally organized as in the Consumer Education Resource Network, the National Network Inc., or the Chicago Rehabilitation Network, or they can be fluid and open with their members moving in and out at will and forming new networks as the need arises. Naisbitt feels that the notion of networking is not simply a passing fancy in that this generation has been raised in the ways of networking.

> Using networks, the baby boomers brought us the woman's movement, the anti-war movement, and the environmental movement. They don't know how to organize any other way. This is the way they organized and communicated as young adults. It is irrational to think they will quietly blend into the hierarchical structure once they reach the executive suite.[33]

The ninth trend is a surprise to very few. The heading given by Naisbitt is "From North to South," and he describes the trend simply as the fact, "more Americans are living in the South and West, leaving behind the old industrial cities of the North."[34] Regardless of the specific reasons, though the shifts to an emphasis on information processing, a global economy, and decentralization play a part, the fact remains that people are leaving the traditional job arenas and are heading for the newly emerging job arenas. Their mass migration has created an entirely new set of "ghost" towns and their corresponding "boom" towns. Besides the fact that the last decade has witnessed the loss of countless thousands of jobs in the Northeast and Midwest, two-thirds of the over eighteen million newly created jobs are in the South and West.[35]

For the purpose of truly understanding this trend, Naisbitt offers five important points.

> (1) The North-South shift is really a shift to the West, the Southwest and Florida. (2) The North-South shift is really two stories: one about the North's decline and another about the Southwest and West's boom. The two stories have no cause-and-effect relationships. (3) The North-South shift is stronger than first thought, and it is irreversible in our lifetime. (4) The Sunbelt explosion is really the story of three emerging megastates: California, Florida -- both bellwether states -- and Texas. It is also the story of the ten cities of great opportunity, all in the South and West. (5) Finally, the North-South shift is presenting a crisis infrastructure, which will eventually force both North and South to re-examine its economic goals and purposes.[36]

One of the reasons for the lack of a cause-and-effect relationship in the second point is that industrial jobs and heavy industry in general are not only not moving to the South, they are ceasing to exist. With regard to the fifth point concerning infrastructure, one needs to understand that the migration out of the cities of the North erodes the tax base necessary to pay for schools, streets, sewers and the like while at the same time causing the need for all of these in the newly expanding cities of the Southwest. Finally, in reference to the ten cities in point four, they include: Albuquerque, Austin, Denver, Phoenix, Salt Lake City, San Antonio, San Diego, San Jose, Tampa, and Tucson.

The magnitude of the tenth and final trend is surprisingly subtle, and Naisbitt characterizes this trend in the following way. "From a narrow either/or society with a limited range of personal choices, we are exploding into a free-wheeling multiple-option society ...." or as he states

it more simply, "From Either/or to Multiple Option."[37] Possibly gone forever are the days of making a choice among two or maybe three options. Whether it is living arrangements, where, when, and how the workday is handled, choices of entertainment or how, when, and where leisure activities are pursued, the options for nearly any American have increased geometrically. In light of these phenomena, the focus of the production of goods and services is now primarily centered upon the individual. It has become the individual's choice as to how he/she relates to his/her personal living arrangements, his/her livelihood, and his/her free time.

There are numerous portions of information offered by Mr. Naisbitt as support for the present and evolving multi-option society. A small sampling follows. In terms of personal living arrangements he notes that,

> Most of us raised or were raised in a typical nuclear American family: Father was breadwinner, mother took care of house and children, usually two. But today, there is no such thing as a typical family. And only a distinct minority (7 percent) of America's population fits the traditional family profile.[38]

As far as one's livelihood is concerned, whether male or female, "... the employment world is a buffet of multiple options: part-time, flex-time, working at home, working partly at home and partly at the office, (and) job sharing."[39] As far as one's leisure time is concerned, "Cable television is analog for the multiple-option society. Across the nation ABC, CBS, and NBC are being supplemented

by almost 5,000 cable systems ... Cable television will be like the special-interest magazines: you will be able to tune in Runner's World or Beehive Management."[40] One only has to count the number of health spas and running events to realize what is taking place in the physical aspects of leisure time. Naisbitt adds a note of summation when he points out the fact that,

> Ralph Tyler, the well-known U.S. educator, used to say that you can tell you are being educated if your options are increasing, and that the reverse is happening if they are decreasing. Similarly, a society can tell it is growing if the options for its citizens are increasing. It is extraordinary for a society as mature as the United States to be growing - at least by this measure - so vigorously. One has only to think about the Soviet bloc countries in these terms to see how stagnant they are by comparison.[41]

Opposition to Megatrends

The above discussion presents the general parameters of Naisbitt's work as represented in Megatrends. The literature published in response to Megatrends contains two articles which can be classified as opposing or criticizing Naisbitt's work. The first, written by Louis Goldman of Wichita State University, argues against the first trend in particular. He asserts that Naisbitt is a State Theorist in that he views history as a series of stages. According to Goldman, this puts Naisbitt in the league with Gibbon, who wrote The Decline and Fall of the Roman Empire, and Spengler, who wrote The Decline of the West. Goldman disapproves of characterizing the industrial society as being in decline, in addition to disapproving of the dichotomous

nature of Naisbitt's presentations of an industrial society and an information society. Goldman feels that Naisbitt has characterized the two societies as mutually exclusive. Along with this objection, Goldman finds the cyclical notion of birth-development-death as applied to these societies to be simply erroneously conceived. In a slightly different area of criticism, Goldman greatly dislikes the use of jargon, the faulty proof-reading which left spelling errors and percentages that totaled more or less than 100 percent, and unreasonable extrapolations, i.e. Holt estimated during the 70's that 10,000 families were educating their children at home, and by 1982, the figure was one million. Probably the biggest problem that Goldman has with Naisbitt is that he is in the same camp as several other authors which Goldman describes as "trendies." Goldman notes that Naisbitt's views are "... shared by other contemporary 'trendies' such as Jean Jacques Servan-Schrieber in The World Challenge, Alvin Toffler in The Third Wave, and a host of others."[42]

The second article which takes issue with the Naisbitt book is one written by Emily Yoffe for the September, 1983 issue of Harper's. Two of her more prominent complaints follow. The first is that the Naisbitt Group misrepresents their data base in that they claim to scan articles from some 6,000 newspapers per month. Yoffe claims that according to their system, they count an article each time it appears in one of the papers, so the same article appearing

in ten newspapers is the same as the Naisbitt Group having scanned those ten papers. The bottom line for Yoffe is that the Naisbitt Group actually scans approximately 200 newspapers. Her second complaint is with Naisbitt's assumption that the dominant consideration for newspaper editors et.al. is getting the paper out to the subscribers on time and though there are certain choices as to which stories should appear, the choices are limited by time constraints. According to Yoffe, "This happens to be wrong. Yes, the paper must be gotten out on time. Beyond that, anyone who has worked on a newspaper (Naisbitt hasn't) knows that putting out a newspaper is nothing but choices."[43] In effect, then, Yoffe is saying that quantifying what appears in various papers will probably not produce data which will support a national trend.

Three Specially Selected Trends

For purposes of the present study, three trends from among those identified by Naisbitt have been selected for further emphasis, elaboration, and subsequent application. Additional substantive support for these three trends is provided by other futurist and/or educational authors. The three specially selected trends include: the first, which is, "the megashift from an industrial to an information society," the fourth, which deals with the notion that "we are restructuring from a society run by short-term considerations and rewards in favor of dealing with things in much longer-term time frames," and the sixth, which notes that,

"we are shifting from institutional help to more self-reliance in all aspects of our lives." There are other authors whose writings often parallel many of the ten trends, including support for the three selected above.

When discussing "the megashift from an industrial to an information society," it is helpful to view the meaning of "information society" in the same sense that Naisbitt views it. Reiterating his assertion that, "In 1956, for the first time in American history, white-collar workers in technical, managerial, and clerical positions outnumbered blue-collar workers,"[44], and "...in 1979, the number-one occupation in the United States, numerically, became clerk....",[45] one begins to understand his meaning. In addition,

> The second largest classification after clerk is professional.... Professional workers are almost all information workers--lawyers, teachers, engineers, computer programmers, systems analysts, doctors, architects, accountants, librarians, newspaper reporters, social workers, nurses, and clergy. Of course, everyone needs some kind of knowledge to do a job. Industrial workers, machinists, welders, jig makers, for example, are very knowledgeable about the tasks they perform. The difference is that for professional and clerical workers, the creation, processing, and distribution of information <u>is</u> the job.[46]

There are few who are more glowing in their praise of the work of John Naisbitt than Alvin Toffler. In Toffler's book, <u>The Third Wave</u>, he often refers, sometimes indirectly, to this phenomena that Naisbitt identifies as his first trend. Though sometimes couched in the context of a broader story, Toffler leaves little doubt about the notion of an

information society. Early on, he states that, "...information has become perhaps the world's fastest growing and most important business."[47] A little later in the book Toffler notes that, "Third Wave civilization will have at its disposal more information, and more finely organized information, about itself than could have been imagined even a quarter-century ago."[48] Both Toffler and Naisbitt seem to share a common notion of the relative positions of information and computers in the evolving near future. The computer, though an extremely important device, occupies a somewhat subordinate position to the information that it is capable of storing, processing, and recalling. At the same time, one often finds "computer" used in the next "breath" by both. In nearly that next "breath," Toffler, in speaking of the use of the computer, states that, "It makes possible a flood of new theories, ideas, ideologies, artistic insights, technical advances, economic and political innovations that were, in the most literal sense, unthinkable and unimaginable before now."[49] Thus he illuminates the role of the computer in the information society.

In addition to those whose writings parallel Naisbitt's notion of an information society, there are a number of educator/authors who not only agree with the notion, but assume it, and many of these assume the corresponding ideas concerning the need for and uses of computers. Writing for The American School Board Journal, Mike Hickey leaves little

doubt of his support. "Two of the megatrends have especially strong impact for educators. The first is our shift from an industrial-based society to an information-based society."[50] He also assumes the value and applicability of Naisbitt's data and refers to it in this way: "Naisbitt also estimates that by 1985 or so, computers will be involved in 75 percent of all jobs. This fact, he concludes, means Americans soon will need to be trilingual--speaking English, Spanish, and computer languages."[51] The implication is not only clear to Hickey but to the National School Board Association which placed Megatrends on its "required reading" list.

There are very few futurists in the field of education of the stature of Arthur Lewis from the University of Florida. In an article for Educational Leadership, one of his subheadings is entitled, "The information era." Note the surprisingly direct parallels between Lewis' assertions and those presented by Naisbitt in the following excerpt.

> Entrance into the information era is profoundly influencing our image of the future. Already it is producing changes in human values, in trends in thought, and in political and economic structures in society. The information era differs from the industrial era in several significant ways: (1) The core of the industrial age is powered machinery; the core of the information era is the computer. (2) The industrial age replaced manual work and magnified physical strength; the information era enables us to replace mental work and magnify mental capabilities. (3) Goods produced in the industrial age are expended; information, the product of the information era, cannot be depleted. (4) Energy--oil, coal, nuclear power--is the driving force in the industrial age; education is the driving force in the information era.[52]

Once again, Dr. Lewis assumes the validity of the "information society" and further assumes several roles for education within that society.

The second specially selected trend is Naisbitt's fourth. He states it in the following way; "We are restructuring from a society run by short-term considerations and rewards in favor of dealing with things in much longer-term time frames."[53] In explaining this trend, he notes the foundations of a major change in the type of thinking and planning being done by America's largest corporations. This change is not only towards more long range planning, but even the reconceptualization of the corporation itself. The insight provided by the famous management consultant, Mary Parker Follett, is very closely related to this trend. "The Law of the Situation" is the term coined by Follett, and "The Law of the Situation" asks the question, 'What business are you really in?'"[54] Taking this even one step further, Naisbitt offers the supplementary notion that, "If you don't know what business you are in, conceptualize what business it would be useful for you to think you are in."[55] Thus one of the results of long-term planning might be reconceptualization.

Besides the positive reactions of businesses supporting the notion of the long-term over the short-term, some school districts are acknowledging and perpetuating this same trend. The Superintendent of Schools for the Princeton Regional Schools in New Jersey, Paul Houston, has had a

community planning committee functioning for over a year and a half. Under his leadership, the committee has read a considerable amount of literature, has been involved in several workshops, and has spent a day-long seminar with three noted futurists. The report produced by the committee provided several major recommendations. "One of the major recommendations was for continuous long-range planning, with yearly progress reports to the public."[56] The importance of the "long-term" is explained further by Mr. Houston, when he adds, "The challenge of today's educational leaders is to struggle with the ineffable and to see that our actions give chase to our thoughts, words, and best intentions. Our task is to out-race the speeding hands of time. The future of our children depends upon it."[57]

There are many who strongly encourage efforts such as the one in Princeton, New Jersey, and Mike Hickey is a superintendent in this same camp. After having given considerable support to Naisbitt's first megatrend, Hickey then adds:

> A second megatrend important for educators is the shift in society's perspective from short-term, 'quick fix' perspectives to long-term viewpoints. Inherent in his shift is the realization that short-term payoffs frequently are of relatively little importance when compared to either long-term costs or long-term potential. Businesses and public institutions alike, then, must analyze carefully what it is they are doing and how it fits into a long term plan.[58]

He further alludes to Naisbitt's notion of "reconceptualization," and maintains that this has just as much applicability for the public schools.

> Most board members would say that our business is the education of children enrolled in kindergarten through the twelfth grade.... It has become increasingly apparent that learning is a lifelong process. If public schools choose to limit themselves to the K-12 portion of that process, then some other group will assume responsibility for those younger than age five and those older than age 18. If we are able to view ourselves as being in the learning and training business, we already have the skills and the technique to serve us well in an entrepreneurial effort to expand the concept of public education. But we have to end our short-term thinking, or the shift will occur without us, and the opportunity will be gone.[59]

In an interview with Ron Brandt in Educational Leadership noted educational futurist Harold Shane echoes Hickey's points, i.e. the notion of long-term education, and the point that schools should be involved, or other agencies will step into the void.

> With the massive changes in production and the new kinds of jobs opening up in the high-tech field, there already are enormous demands on education agencies for the retrofitting, retreading, and re-educating of people; with learning experiences which can continue right on through life into our senior years. If our schools do not meet these needs, some other kinds of agencies will--the kind of agencies that already have taken over portions of the instructional monopoly that schools enjoyed in the 50's.[60]

Dr. Shane noted television as an example of just such an agency.

Some educators/authors not only assume Naisbitt's fourth trend, but in substance practically insist on its application in public education. One such educator is William Esler who is the Chairman of the Educational Foundations Department at the University of Central Florida.

There seems to be little doubt of the necessity of the longer-term view to Dr. Esler's way of thinking.

> The survival of public schooling as we now know it may depend upon the ability of school leaders to analyze carefully the needs of the coming generations of students, avoid quick-fix fads and overreactions that have too frequently plagued public education, and create viable programs for the new society.[61]

Thus Dr. Esler and others not only support Naisbitt's notion of the switch from short-term to long-term thinking, but also support its application in public education.

The third and final specially selected trend is Naisbitt's sixth, which he denotes by saying that, "We are shifting from institutional help to more self-reliance in all aspects of our lives."[62] This trend includes elements of both the fifth and the seventh trends. The "decentralization" of trend five and the notion of "greater participation in government" of trend seven can in many ways be seen as part and parcel of the trend towards greater self-reliance. Whether Americans take more interest in state and local government by using the initiative and referendum processes or demand that birth and death take place in relatively private surroundings, there is little question that Americans are taking more responsibility for the events of their own lives. Naisbitt puts it this way:

> For decades, institutions such as government, the medical establishment, the corporation, and the school system were America's buffers against life's hard realities--the needs for food, housing, health care, education--as well as its mysteries--birth, illness, death. Slowly we began to wean ourselves off our collective institutional dependence, learning to trust and rely only on ourselves.[63]

Thus, the aspect of traditional self-reliance again pervades many of the events of our lives.

In his book, The Third Wave, Alvin Toffler notes the same kind of shift to a more self-reliant individual, particularly as that individual relates to the new style of worker required by many of America's leading firms.

> What Third Wave employers increasingly need, therefore, are men and women who accept responsibility, who understand how their work dovetails with that of others, who can handle ever larger tasks, who adapt swiftly to changed circumstances, and who are sensitively tuned into the people around them.[64]

Contrasting notions of work style may be seen in older workers who are most satisfied with detailed work plans that leave little room for individual deviations and differences, while newer workers greatly desire such leeway. In describing these newer workers, Toffler says, "Such people are complex, individualistic, proud of the ways in which they differ from other people. They typify the de-massified work force needed by Third Wave industry."[65] In this way, too, they are quietly demonstrating the return to greater self-reliance.

One educational/futurist author, Diane Ravitch from Columbia University, brings the notion of the trend towards greater self-reliance home to the public schools. While echoing Naisbitt's first trend, i.e. the shift to an information society, she not only assumes the trend towards greater self-reliance, but urges schools to nuture such traits as will enhance self-reliance. She puts it this way:

> Because of the growth of professional, semi-professional, and technical occupations and the decline of industrial and manufacturing jobs, schools have an important mission to perform in preparing youngsters to fill these new, more intellectual careers. Job training will be of less importance in the year 2000 because of the rapid pace of technological change. Because most work in the future will require people who can think, plan, adapt to changing conditions, and make decisions, we will look to the schools to nurture in the young such traits as initiative, advanced reasoning skills, judgment, independence, and discipline.[66]

In a different vein than the one described by Ravitch, but yet one that is closely related, Naisbitt brings another area of education into the self-help discussion. In his support for this sixth trend, he devotes a section to parental involvement with school matters under the heading "Self-Help Comes to the Schools." Relating that parents are having less and less regard for educational "experts," he cites two examples, one from each coast, of parents injecting themselves into the business of schools.

> In New Jersey, a group sued the local school board for 'effectively excluding' parents from the educational goal-setting process, and parents in Palo Alto, California, pushed for a role in collective bargaining between teachers and the school board.[67]

While discussing "Curriculum in the year 2000" in an article for Phi Delta Kappan, Michael Apple of the University of Wisconsin, not only sees examples that support this sixth trend, but relates his own example, which is quite within the same context as the two given previously by Naisbitt. Noting the activism of several groups, Apple

gives his example with a slightly negative flavor. In the recent past,

> The activism of conservative and extremist groups has increased measurably. This activism will continue to grow, feeding on past successes that result in increased funding. Mel and Norma Gabler of Longview, Texas, are prime examples; they speak for a larger movement that spends considerable time denouncing textbooks that are 'unpatriotic,' that reject 'absolute values' and 'free enterprise,' that emphasize too strongly the contributions of minority groups, and so on. Armed with the notion that God is on their side, they are likely to scrutinize an ever-broader swath of curricular content, intent on purging it of any taint of 'un-Americanism' and 'secular humanism.' The increase in book banning and the evolution/-creation controversy document the growing willingness of such groups to enter into debates over what should be taught in the schools.[68]

Yet later in this same article, Apple softens his negativism and becomes more optimistic. His impression is that such groups, at least, are becoming more responsible and self-reliant, and he injects this notion into his discussion.

> Even the scrutiny of the curriculum by conservative groups, to which I alluded earlier, should not be seen as merely a threat. The fact that parents--of whatever political persuasion--take a serious interest in their children's education suggests possible avenues for cooperation and fruitful discussion.[69]

In this way, and in many others, Apple, Ravitch and Toffler support the thrust of John Naisbitt's sixth trend.*

*Note: The authors whose work has been cited as support for many of the propositions advocated by Naisbitt, represent a wide diversity of backgrounds and philosophical positions. Yet their views of the currently evolving society in some cases dovetail remarkably with those offered by Naisbitt, possibly giving even greater substance to his positions.

The "information society," the shift from "short-term to long-term thinking," and the trend towards "greater self-help and self-reliance" certainly seem to be important ones, not only in John Naisbitt's perceptions, but in those of other prominent writers. Maybe it really should not come as much of a surprise that so many of these other writers, not only make supplemental contributions to the support for the trend data, and often assume the validity of the stated trend, but also have much to say of the relationship of the proposed trends to the education of the coming generations of America's young people. Hopefully these trends will provide a good and useful backdrop for the discussion of the Whiteheadian educational tenets which are presented a little later in this study.

CHAPTER II FOOTNOTES

[1]John Naisbitt, Megatrends: Ten new directions transforming our lives (New York, 1982), p. 1.

[2]Ibid, p. 19.

[3]Ibid, p. 1.

[4]Ibid, pp. 41-49.

[5]Ibid, p. 47.

[6]Ibid, p. 61.

[7]Ibid, p. 56.

[8]Ibid, p. 72.

[9]Ibid, p. 76.

[10]Ibid, p. 1.

[11]Ibid, p. 85.

[12]Ibid, p. 86.

[13]Ibid, p. 93.

[14]Ibid, pp. 1-2.

[15]Ibid, p. 97.

[16]Ibid, p. 103.

[17]Ibid, p. 107.

[18]Ibid, p. 98.

[19]Ibid, p. 2.

[20]Ibid, p. 134.

[21]Ibid, p. 144.

[22]Ibid, p. 146.

[23]Ibid, p. 2.

[24]Ibid, p. 164.

[25]Ibid, p. 185.

[26]Ibid, p. 182.

[27]Ibid, p. 180.

[28]Ibid, p. 180-181.

[29]Ibid, p. 188.

[30]Ibid, p. 2.

[31]Ibid, pp. 192-193.

[32]Ibid, p. 194.

[33]Ibid, p. 199.

[34]Ibid, p. 2.

[35]Ibid, pp. 208-209.

[36]Ibid, p. 210.

[37]Ibid, p. 2.

[38]Ibid, pp. 232-233.

[39]Ibid, p. 236.

[40]Ibid, pp. 242-243.

[41]Ibid, p. 247.

[42]Louis Goldman, "Megatrends: Megahype, Megabad," Educational Leadership, (September 1983), p. 56.

[43]Emily Yoffe, "John Naisbitt's Clip Joint," Harper's, (September 1983), p. 19.

[44]Naisbitt, p. 12.

[45]Ibid, p. 14.

[46]Ibid, p. 15.

[47]Alvin Toffler, The Third Wave (New York, 1980), p. 172.

[48]Ibid, p. 193.

[49]Ibid, pp. 193-194.

[50]Mike Hickey, "Two Megatrends Will Alter Public Schooling," The American School Board Journal, (April 1983), p. 7.

[51]Ibid, p. 7.

[52]Arthur Lewis, "Education for the 21st Century," Educational Leadership, (September 1983), pp. 9-10.

[53]Naisbitt, p. 1.

[54]Ibid, p. 85.

[55]Ibid, p. 88.

[56]Paul Houston, "Planning for Learning in the World of Tomorrow," Educational Leadership, (September 1983), p. 47.

[57]Ibid, p. 48.

[58]Hickey, p. 7.

[59]Ibid, pp. 7,49.

[60]Ron Brandt, "On Education and the Future: A Conversation With Harold Shane," Educational Leadership, (September 1984), p. 13.

[61]William Esler, "The American School Dilemma: On the Upside of the Third Wave," Clearing House, (October 1983), pp. 54-55.

[62]Naisbitt, p. 2.

[63]Ibid, p. 131.

[64]Toffler, p. 401.

[65]Ibid, p. 401.

[66]Diane Ravitch, "On Thinking About the Future," Phi Delta Kappan, (January 1983), p. 320.

[67]Naisbitt, p. 143.

[68]Michael Apple, "Curriculum in the Year 2000: Tensions and Possibilities," Phi Delta Kappan, (January 1983), p. 322.

[69]Ibid, p. 324.

CHAPTER III

Chapter three establishes the era of Whitehead and treats four areas of British History. In order to provide a base for the understanding of Alfred North Whitehead's educational thought as expressed in the succeeding chapter, some attention should be given to the historical context in which his thoughts are being composed and expressed. This chapter is not intended to be a historical narrative of all of the activities occurring within and without the British Empire in the first quarter of the twentieth century. In addition, it is not intended to be an exhaustive discourse on a particular aspect of British History, but rather a reminder of some of the events that affected most of the people in the United Kingdom at one time or another. This chapter, then, is intended to be a refresher for the understanding of the major events and activities that provided the context in which A. N. Whithead lived, worked, and reasoned.

The narrative that follows is primarily informed by several notable British Historians. Foundational elements are provided by H. A. Clement and textbook author John Ray. Clement is probably more widely known for his three volumes entitled The Story of Britain published over a fourteen year

span. The works of Arthur Marwick and A. J. P. Taylor figure even more prominently. Marwick is becoming increasingly popular as a leading Professor of History in England's Open University, and any discussion would be remiss without including the works of the venerable A. J. P. Taylor, who is now an Honorary Fellow in both Magdalen and Oriel Colleges at Oxford. The chapter owes much to the works of these men.

It is additionally worth noting to the reader that two important themes are at work throughout the discussion of the chapter. The first is that the "war to end all wars" quite naturally becomes the focal point of the era under consideration. The second is that somewhere just below the national consciousness in Great Britain, there is the notion that education will and possibly must play a more prominent role in the evolution of British society.

The following paragraphs discuss four particular areas. These areas include: Britain's role in the relationship to the international community, some of the socio-political developments in British society, the role and developments of some areas of science and technology in Britain, and the developments and roles of some areas of education in Britain. These four areas are in most cases chronologically limited to the years 1900 through 1925, though often the foundations of the events precede 1900. When such foundational events merit, attempts will be made to cite the necessary earlier dates.

Great Britain in the International Community

As Britain entered the twentieth century, there was little doubt that she was in many ways still ruler of the seas. Her navy was the best in the world and possibly overshadowed her sizeable and ambitious fleet of merchant ships. The "island nation" had always been preoccupied with seafaring matters since the days of Hawkins and Drake and no less so at this time. Many of those nations who competed with her for colonial territories during the nineteenth century knew better than to engage her naval squadrons if such an engagement could be avoided. At the same time, most nations realized that Britain's international intentions were motivated more by economics than by notions of world conquest, and more by expanding trade than by military adventures though conquest and military intervention often resulted. The British were capitalists much more than militarists and competed accordingly. Most other reasonably civilized nations accepted and to some extent understood Great Britain in this way. Most established European nations had little to say to Britain, because they were occupied with many of the same kinds of endeavors, and were more or less imitators of the British Colonial system.

When British history textbook author, John Ray, explains to school age youngsters, that the "sun never set on the British Empire,"[1] he is not only describing Britain's role in the world community in the nineteenth and early twentieth century, but he is also preparing those youngsters

to understand a set of attitudes that appear to have been uniquely British. In addition, he is preparing to introduce them to one of the most prevasive figures in British History, Queen Victoria, who was the embodiment of these attitudes.

If one thinks of stereotypical Victorian social graces, Victorian fashions, or Victorian morals, then one might find the Victorian attitude towards colonization and self-government slightly inconsistent. Though the general notion was that most colonies needed strict supervision, this attitude mellowed almost as Victoria mellowed. While most analogies break down somewhere, John Ray's maternal analogy speaks to the point. "The British attitude to her empire was largely expressed in terms of the family. Great Britain was the mother nation. Some of her children had grown up sufficiently to be allowed an amount of freedom."[2] Indeed more than an "amount" was given to Canada with the passage of the British North America Act in 1867. Australia enjoyed considerable self-government which culminated in the passage of the Australian Commonwealth Act in 1900. Though New Zealand could have joined with Australia in 1900, she held out and was rewarded with Dominion status of her own in 1907. Self-government for South Africa proved more difficult because of the lack of internal unity, but the Union of South Africa Act was nevertheless passed by Parliament in 1909. Many more colonies received these same kinds of

freedoms and enjoyed independence. The offspring of Victoria's Britain were allowed to grow up.

While Britain's relationship with the international community and her colonies matured in the late nineteenth and early twentieth centuries, with Germany, it regressed. Despite what several British leaders termed "splendid isolation," Lord Salisbury being chief among them, Britain drifted toward treaties and alliances that would finally put her at odds with Germany. Initially the ascension of William II as ruler of Germany seemed favorable for both countries particularly because he was a grandson of Queen Victoria, and she held a positive outlook towards Germany for this reason. Even her successor Edward VII did his best to improve relations, but William (known to Germans as Wilhelm) was seemingly more interested in a bigger piece of the world trade pie, a bigger, more aggressive navy, and generally supporting those who were opposing Great Britain, the Boers in South Africa being an example. Thus, the unentangled British through some rather reluctantly concluded agreements with France and Russia, became entangled.

Many times in her history Great Britain had gone to war, often fighting prolonged skirmishes throughout the world. Many of these left the average citizen for the most part uninvolved and sometimes almost disinterested. Fighting such a war was the responsibility of the government and the professional soldier. World War I proved to be an entirely different situation. "At the outbreak of the war

the British public optimistically thought it would end in a few months. No-one could have foreseen the immensity of the sacrifice that would be made, not only by Britain, but by all nations concerned, before peace once more returned to a sick world."[3]

The nature of the sacrifice took many forms. Financial concerns were met by raising existing taxes and imposing new ones. This, coupled with increased emphasis on opening and expanding personal savings accounts and purchasing government bonds, helped finance the war from the average citizen's pocketbook. Conscription was generally not a part of British military history, but despite the fact that many young men volunteered, the draft became necessary by 1916. Many union workers saw their contracts, conditions, and privileges reduced or compromised throughout the war, and at the same time experienced a near tripling of the price of consumer goods, which ultimately brought the imposition of price-controls and rationing. Historian H. A. Clement makes the point this way: "For the first time in history the civilian population found itself-albeit in a very small way-in the front line."[4] Such a statement becomes even more poignant when one considers that the civilian population also withstood attacks from both zeppelins and airplanes for the first time in history.

All of this is to say nothing of the sacrifice of lives. William Langer put the World War I casualty figures for Great Britain at 947,000 killed and 2,122,000 wounded.[5]

Figures such as these sometimes have an impersonal ring, but the nature of the sacrifice often included the entire family. The A. N. Whitehead family was no exception, as all of the Whitehead children were committed to the Allied cause. Indeed Whitehead explained their roles in the following way.

> They all served in the First World War: Our eldest son throughout its whole extent, in France, in East Africa, and in England; our daughter in the Foreign Office in England and Paris; our youngest boy served in the Air Force: his plane was shot down in France with fatal results, in March, 1918.[6]

Considering this kind of involvement and these kinds of sacrifices, one should probably not have been too surprised at the initial British responses toward Germany and her allies, when the peace talks finally commenced. Most blamed Germany for the war, and most wanted something akin to revenge. Public outcries including slogans such as, "'Hang the Kaiser' and 'Squeeze Germany till the pips squeak' had been common."[7] Members of Parliament had their turn at this same sentiment when "...over 200 M.P.s sent a telegram to Lloyd George, (the British leader at the peace talks) expostulating against his weakness towards Germany."[8] Several historians, however, including Clement, Taylor, and others have praise for the work and the role played by Lloyd George in the talks. They describe him as the moderate voice between the highly idealistic President Wilson and the truly revenge-minded Clemenceau of France.

The moderate stance taken by Lloyd George probably had as much to do with Great Britain's seemingly quick re-establishment of positive relations with almost everyone in Europe (except Russia) as anything. The major threat from Germany before the war was her challenge to British shipping and British sea-power in general. By the end of the war the Germans had scuttled their navy and thereby lost the ability to protect their foreign possessions, which they had taken from them during the course of the war anyway. Thus, the British really had no territorial claims to make upon the Germans, and by the time the final draft of the peace treaty had been drawn, many Liberal and Labor voices were talking about the notion of reconciliation. According to Taylor, they "...looked both back and forward: forward to the League of Nations, but also back to the happy days of 1914, when Germany was treated as an equal and friendly power."[9]

This second decade of the twentieth century saw not only the beginning and end of the "war to end all wars," but the end of Lord Salisbury's "splendid isolation." Great Britain could no longer remain isolated from the affairs on the continent or even those of the rest of the world for that matter. Going to war to protect Belgium's neutrality to some may have seemed somewhat frivolous in retrospect, but few would have said that Britain's entry into the conflict was unnecessary. Besides the false notion of isolation, many felt an additional consequence of the war. The great optimism of the Victorian era had given way to a

new more pessimistic view of international relationships, especially in the sense that those relationships should not be taken for granted, and also in the sense that Britain should never again take her own preparedness for granted.

Socio-Political Developments

The same quarter century that brought greater interest in colonies, a sudden departure from continental isolation and World War I, also brought ten years of conservative leadership followed by ten of Liberal leadership and five of compromise leadership during and just after the war years. The decade of the Conservatives reflected pre-occupation with external rather than internal affairs and provided some moderate social reforms. The decade of the Liberals provided considerable social and political reforms and the emergence of a new party, known as the Parliamentary Labour Party. The war years brought about a national coalition government and a considerable amount of reflective introspection on the part of a good many professionals and reform leaders.

The year 1895 proved to be one of demise for the Liberal Government. With a large increase in death duties being enacted by parliament and some untimely remarks by Liberal leaders, many found themselves at great odds with their constituents. In the general election that followed, Conservatives and Liberal Unionists became the overwhelming majority. Lord Salisbury led the coalition over the next seven years. During that time international and colonial

affairs dominated the leadership's attention, and domestic affairs took a back seat. There were, however, a couple of noteworthy measures. The Agricultural Rates Act of 1896 cut farmers' taxes in half, and the Workmen's Compensation Act provided assistance for those injured on the job and support for the subsequent lack of wage earning ability. In addition, the Local Government Act empowered suburban boroughs to assist in the government of the nation's capital.

Socialist and Marxist groups made inroads with the populace during this time, while their Liberal cousins were out of power. Two groups gained in popularity. The Fabians, who drew leadership from Sidney Webb and his wife Beatrice and from George Bernard Shaw, and newly established union groups who represented less skilled workers, became popular and progressively bolder as the century turned. It was during this same time that the newly organized Labour Representation Committee returned its first two Members of Parliament.

In 1902 Lord Salisbury decided to step down from his leadership position and handed the reins of government to A. J. Balfour, who happened to be his nephew. Probably the most outstanding legislation enacted during this time dealt with education. Balfour's Education Act addressed three inadequacies including: the disbanding of the outdated school board system, the lack of financial support for voluntary schools, and the lack of provisions for other than elementary education. The Act was generally quite popular

but met with some opposition within Balfour's own Conservative party as it was perceived to be a little "too progressive," especially in light of the fact that it provided some public funding for church schools. If this was not enough, the Unionists led by Balfour's Secretary for Colonial Affairs, Joseph Chamberlain, picked this time to introduce and push for a new protective tariff, which ultimately split the Conservative-Unionist coalition in two. An attempt to patch the differences only made matters worse, and in December of 1905 Balfour resigned. The Liberals under Sir Henry Campbell-Bannerman assumed control and held a general election the next month which solidified them in the seat of power.

The Liberal party took control, particularly gleeful at their good fortune. They, of course, had no way of knowing that the next ten years were to be their only control of Parliament in the next fifty. Speaking as a native Briton, H. A. Clement notes, however, that the Liberal Party's "...period of office ranks as one of the great reforming eras in our history."[10] This statement is particularly true in light of both the breadth and depth of law established by the leadership of the Liberals. Though the focal point of much of the legislation had to do with the working man, the party's successes also included land reform, strides in education, various forms of national insurance, and reform in the law-making process itself.

It is next to impossible and in some cases unnecessary to list all of the legislative accomplishments achieved under the leadership of the Liberals during the ten years ending with the outbreak of World War I, but a brief look at those enactments does provide some insight into both the type of thinking and even some of the great debates of that period. As in the previous decade, two men assumed the position of Prime Minister, Sir Henry Campbell-Bannerman from 1905-08 and Herbert Asquith from 1908 through 1916 which includes the first two years of the coalition government. Unlike the previous decade, Parliament was occupied so far as reforms were concerned with domestic rather than foreign policy decisions, and chief among those who were to benefit was the working man. Several important measures provided benefits to the average man and reform to his world of work. Initially, the Workman's Compensation Act of 1906 brought additional trades under the provisions of the previously mentioned Salisbury Act of 1897. The Trades Boards Act of 1909 created boards composed of equal numbers of employers and employees, and empowered the boards to fix wage-rates in certain industries. In that same year the government created "Labour Exchanges" which brought unemployed workers into contact with those employers needing workmen. The National Insurance Act of 1911 aided some 17,000,000 workers. The two-part act provided a form of health insurance to approximately 15,000,000 workers, while also providing a type of unemployment insurance to roughly

2,000,000 additional workers. Finally, in 1912, Parliament enacted both the Shop Hours Act and the Miners' Minimum Wages Act. The former allowed for a half-day's vacation for shop assistants, and the latter took the unprecedented step of regulating wages in one of the United Kingdom's most important industries.

The House of Commons, Women, Children, and Ireland all benefitted from the decade of the Liberals. In 1909 the House of Lords overwhelmingly rejected the budget that had been approved in the Commons. Such a bold move as this one had not happened at any time in the preceding 250 years, and following the election of 1910, the Commons with the help of King George V, made certain that it would not happen again, with what Clement has called, "...one of the most important constitutional laws in our history."[11] The Parliamentary Act of 1911 assured that the Lords could neither reject nor amend any bill which had been certified as a money bill by the Speaker of the House of Commons. Thus, the elected body, the Commons, received greater law-making authority at the expense of the Lords. Women, thanks to greater emphasis on their educational needs during the last half of the nineteenth century, were certified to be duly elected to both borough and county councils. Children gained in several areas. Free meals were provided to poor children along with other types of medical help, and all of this at their local schools. The Children Act of 1908 provided regulations to prevent cruelty, the employment of children

in dangerous trades, the sale to them of alcohol and tobacco, and their universally being tried as adults in the case of criminal actions. The Irish, after long, heated, and sometimes violent debates, particularly over the problem with Ulster, received the good news of the passage of the Home Rule Bill of 1914. Unfortunately enforcement of the act was not forthcoming, but most Irishmen were not about to make an issue of it as the much more pressing problem of Britain's entry into World War I had to take precedence.

The pace of social and political reform drew to a standstill during and immediately after the war. A coalition of Liberal, Labor, and Conservative Members of Parliament ruled Britain through 1922 and really had little time or desire for social legislation. The most significant political change was that David Lloyd George assumed the coalition's leadership role, succeeding Herbert Asquith in 1916. The most significant social legislation was the 1920 addition to the Unemployment Insurance Act of 1911. The new legislation extended benefits to an additional two million workers. There was considerable talk of new employment opportunities for veterans and "homes fit for heroes," but legislation was not forthcoming. Unemployment grew and heroes went back to the same slums.

Politics and legislative matters were not foreign to the Whiteheads. Both A. N. and Mrs. Whitehead were active in politics. From an autobiographical sketch Whitehead describes a sample of his involvement.

> During our residence at Grantchester, I did a considerable amount of political speaking in Grantchester and the country villages of the district. The meetings were in the parish schoolrooms, during evening. It was exciting work, as the whole village attended and expressed itself vigourously. English villages have no use for regular party agents. They require local residents to address them. I always found that a party agent was a nuisance. Rotten eggs and oranges were effective party weapons, and I have often been covered by them. But they were indications of vigour, rather than of bad feeling. Our worst experience was at a meeting in the Guildhall at Cambridge, addressed by Keir Hardie who was then the leading member of the new Labour Party. My wife and I were on the platform, sitting behind him, and there was a riotous undergraduate audience. The result was that any rotten oranges that missed Keir Hardie had a good chance of hitting one of us.[12]

There is also a good chance that A. N. Whitehead kept a close eye on all of the socio-political developments of the era under discussion in this chapter.

Scientific and Technological Advance

The discoveries and subsequent applications of scientific insight stimulated by the war efforts fostered a dramatic leap in technology both during and after the War. With many of the necessary scientific principles having been established in the two decades prior to World War I, technological application became a necessity of survival during the War. Many industrial leaders and even some educational leaders were not really aware of advances in the manufacture and uses of chemicals, the potential of wireless telegraphy, and the many advances in the internal combustion engine. Arthur Marwick puts it this way, "...the potential of the developments in applied science and technology, which in

fact have revolutionized human life throughout the world, were scarcely appreciated in the Britain of 1941: ...."[13] Germany's march through Belgium brought an urgent interest, and the necessary prod. Marwick states the point.

> What a war will do, however, is to provide a stimulus to the development and application of existing ideas, that is to technology and to applied science; a war will release purse-strings and encourage politicians to found institutions for the practical applications of science: a war, itself the great creator of necessity, will foster an atmosphere favourable to invention.[14]

Two major technological advances directly affected the average Briton as a result of the war. First, wireless telegraphy fairly leaped into the national consciousness as a result of not only its wartime successes but also the special significance that many leaders attached to it.

> In stressing the importance and future possibilities of wireless, the Observer, in January 1919, pointed out that but for this means of communication Germany would have been completely cut off from the outside world in the latter stages of the war."[15] Arthur Burrows, who would become a famous broadcaster and indeed acquired his first experiences monitoring enemy broadcasts during the war, saw its peacetime usefulness. "Burrows saw most clearly the future uses of wireless, for broadcasting of speech and music instead of merely for telegraphic communication: in 1918 he forecast 'the concert reproduction in all private recitals at the lesser rendezvous of the music world.'[16]

With advances in the development of the thermionic valve, from wartime necessity, and a solid push from commercial interests, Burrows' prediction soon became reality.

The other most obvious advance was the immense improvements in the internal combustion engine. These improvements impacted the average Briton first through his

new accessibility to a motor car, and eventually to his opportunity to fly. Prior to World War I ownership of a motorcar was primarily the province of the rich. With the Army's great demand for vehicles and their subsequent mass production, British industries had only to apply the same techniques for the domestic markets. While Britain had some 132,000 registered vehicles in 1914 that figure became more than 330,000 in 1919, and the following years found manufacturers producing smaller family type cars. John Ray notes that, "The first of the small cars was the Austin Seven of 1922. It could cruise easly at 40 m.p.h. and was able to cover 50 miles on one gallon of petrol."[17] Thus reasonably fast personal transportation was soon available. The other means of transportation, air travel, followed just as quickly though not approaching the same numbers. British wartime air advances were spectacular as explained by Marwick.

> The aeroplanes sent out with the B.E.F. (British Expeditionary Force) in 1914 had a maximum speed of 80 miles per hour, a rate of climb from ground level of 300 or 400 feet per minute, and were equipped with engines of 60 to 100 horse-power. In 1918 the fastest machines could reach 140 miles per hour and had a rate of climb from ground level of 2,000 feet per minute.... The maximum flying height had been raised from 5,000 to 25,000 feet.[18]

These advances were soon brought to the commercial arena with the creation of Britain's own Imperial Airways. The company, created as an amalgamation of four smaller companies in 1924, was almost immediately successful. "In

the first year of operation more than 11,000 people used the airline."[19]

As many of the principles of science were established as the result of theoretical inquiry prior to World War I, so the same processes continued with even greater fervor throughout the war, once again receiving considerable support from government leadership. Committees of reputable scientists were formed not only to bring about advances in communication and transportation, but also in such areas as agriculture, energy, (particularly the generation of electric power), and in the use and development of chemicals. The initial meeting of leading scientists in the field of chemistry resulted in a call typical of other groups. They insisted upon, "Government assistance for scientific research for industrial purposes, the establishment of closer relations between the manufacturers and scientific workers and teachers, and the establishment of a National Chemical Advisory Committee for these purposes."[20] The Army and Navy established committees of scientists for their own parochial purposes. Surprisingly, though, according to Marwick, "...the biggest scientific advance of the whole war era, the artificial disintegration of the atom, had nothing whatever to do with the demands of the war."[21] Ernest Rutherford's achievements in this area coupled with those of Einstein and Planck would soon set the scientific and educational communities ablaze. Would the Dean of the Faculty of Science at the University of London be most interested in

all of these developments, especially if the Dean happened to be A. N. Whitehead?

Educational Developments

The interest in educating Britain's young people had been growing for some time. In the last quarter of the nineteenth century, Parliament had opened the way for the establishment of schools for girls. Many of these schools had a larger curriculum, which in a number of cases caused imitation in the boys' schools.

> The new girls' schools, with their emphasis on the 'tone' of the school, the environment in which the pupils worked, and the educational value of semi-recreational activities as extras to the normal curriculum, must indirectly have done much to humanize the boys' schools, which, despite the work of Dr. Arnold of Rugby and Edward Thring of Uppingham, were still in many cases bound by outworn traditions from the past.[22]

Besides the partial inclusion of females and curriculum changes, the Balfour government brought both governance and funding changes. The old school boards were abolished and the counties were given authority over educational matters. Such county councils were also empowered to provide not only technical and secondary schools, but also teacher training institutions if they so desired. In addition voluntary schools received badly needed tax revenues to continue their work, and were encouraged to join all other schools in establishing a uniform school leaving age.

While the Liberal government under Campbell-Bannerman assisted many children through its enactment of laws providing for school-wide medical inspections and free meals

for poor children, no self-respecting Liberal or Conservative would have backed the notion of "education for the masses," at least not prior to the war. A. J. P. Taylor aptly describes the educational setting.

> The children of the masses went to free day schools until the age of 14; the children of the privileged went to expensive boarding schools until 13. The dividing line here was as hard as that between Hindu castes. No child ever crossed it. At the secondary level, the division was almost as complete. Nearly all the children of the privileged proceeded to expensive private schools--public schools as they were perversely called. A minority of children from other classes went to modern day schools, maintained from public funds. The grammar schools straddled in between, mainly and appropriately for the middle class, and with a few poor boys as well. At the highest level, the modern universities in large towns were socially inferior to Oxford and Cambridge, which remained in spirit, and largely in numbers, preserves of the privileged classes. The two systems of education catered for different classes and provided education, different in quality and content, for rulers and ruled.[23]

The Great War, indirectly as well as directly, fostered the beginnings of numerous changes in attitudes and perspectives among both governmental and educational leaders. Many had been encouraged by the large numbers of draftees who had voluntarily taken educational training while in the Army. Many, too, were coming to understand what Marwick has described as the, "new scientific orientation to British society at the end of the war."[24] H. A. L. Fisher incorporated many of the educational community's ideas in the Education Bill which he proposed to Parliament in 1918 as part of Britain's post-war reconstruction program. The proposals were sweeping, and left little doubt as to where

he stood. "The intention was to have a comprehensive system which would give all children and young persons the opportunity to enjoy the advantages of whatever form of education was best suited to their particular capacities."[25] Unfortunately many of the provisions of Fisher's bill could not be funded due to the financial crisis of the immediate post-war period, but interest in these kinds of proposals and in this kind of dialogue continually occupied the spotlight in educational circles throughout the following decade.

This brief review of the first quarter of the twentieth century is a sketch of some of the significant changes in national directions and attitudes as experienced by most Britons, and there is little doubt that many of those changes were the result of the impact of the Great War. The intense interest in acquiring colonies became the more moderate interest in managing and defending those colonies. The fervor for social reform became the necessity of financial responsibility. The gentlemanly notion of scientific inquiry became the necessity of greater inquiry and its subsequent application through technological advance. At the same time, the associated role of education in all of these matters moved from debates among educators and educational leaders to the national scene, with many of the great intellects of the day taking a prominent part in the discussions. It is from these prior debates, discussions and educational meetings that a great many of Alfred North

Whitehead's educational positions and their accompanying thought and rationale emanate. The discussion of these follows in the succeeding chapter.

CHAPTER III FOOTNOTES

[1]John Ray, A History of Britain 1900-1939, (New York, 1967), p. 7.

[2]Ibid, p. 7.

[3]H. A. Clement, British History 1865 - 1965, (London, 1966), p. 93.

[4]Ibid, p. 95.

[5]William L. Langer, An Encyclopedia of World History, (Boston, 1972), p. 976.

[6]A. N. Whitehead, Essays in Science and Philosophy, (New York, 1968), p. 11.

[7]Clement, p. 102.

[8]A. J. P. Taylor, English History 1914 - 1945, (New York, 1965), p. 135.

[9]Ibid, p. 136.

[10]Clement, p. 58.

[11]Clement, p. 14.

[12]A. N. Whitehead, Essays in Science and Philosophy, (New york, 1968) p. 14.

[13]Arthur Marwick, The Deluge, (London, 1965), p. 228.

[14]Ibid, p. 227.

[15]Ibid, p. 234.

[16]Arthur Marwick, The Deluge, (London, 1965), p. 235, from A. Briggs, The Birth of Broadcasting, 1962, p. 38.

[17]John Ray, A History of Britain 1900 - 1939, (New York, 1967), p. 132.

[18]Arthur Marwick, The Deluge, (London, 1965), pp. 233-234, from Report of British Association, 1919, pp. 15, 258.

[19]Ray, p. 138.

[20]Arthur Marwick, The Deluge, (London, 1965), p. 229, from P.P., 1916, VIII, Cd.8336, p. 8.

[21]Marwick, p. 236.

[22]Clement, p. 70.

[23]Taylor, p. 171.

[24]Marwick, p. 236.

[25]Arthur Marwick, The Deluge, (London, 1965), p. 245, from Report of War Cabinet for 1918, Cmd. 325, p. 295 ff.

CHAPTER IV

Similar to the treatment of John Naisbitt in chapter two, the following chapter discusses primary tenents of Alfred North Whitehead's educational thought, as well as discusses Whitehead's background.

Biographical Notes

Born February 15, 1861, at Ramsgate on the Isle of Thanet, Kent, England, Whitehead grew up amid some particularly unique surroundings. He often attributed much of his interest in learning to the fact that his early life was punctuated by the vivid examples of "living history" found in his corner of England. Within ten to fifteen miles or less of the Whitehead home in east Kent, stands Canterbury Cathedral, where Becket fell in 1170; the tomb of Edward, the Black Prince; the remains of the great walls of Richborough Castle, built by the Romans; and within a mile, the Abbey Church of Minster where Augustine preached his first sermon.

In addition to these stimulating surroundings, young Whitehead enjoyed the stimulation of unique personalities, most notably those of his father, his grandfather, and Archbishop Tait, the Archbishop of Canterbury. Alfred's grandfather, Thomas Whitehead, whom he calls a "remarkable

man," served as the Headmaster of the private school in Ramsgate for thirty-seven years, after attaining that position at the young age of twenty-one. Alfred's father, Alfred senior, was grandfather's successor and served ably for fifteen years before being ordained a clergyman in the Anglican Church. His interest in education continued. He made daily visits to the three parochial schools under his jurisdiction, often with young Alfred accompanying him. Throughout his youth, Alfred's grandfather lived with the family. One can imagine the engaging dinner talk discussions to which the young Whitehead was privy.

Most of Alfred's early schooling took place at home. "As he was considered a frail boy, he was privately educated by his father until he was 14, when he was sent to Sherborne, then one of the best although not one of the most prestigious of England's public schools."[1] Once again he found himself surrounded by "living history" as Sherborn's tradition was one of distinction. "It dates from St. Aldhelm, and claims Alfred the Great as a pupil. The school acquired the monastery buildings, and its grounds are bounded by one of the most magnificent Abbeys in existence, with tombs of Saxon princes."[2] Whitehead and others believed that his private study was the Abbot's room, and noted that, "...we worked under the sound of the Abbey bells, brought from the Field of The Cloth of Gold by Henry VIII."[3]

Academically, for Whitehead, as well as for many youngsters of his time, Latin began at age ten and Greek at age twelve. These studies continued throughout his teen years. Prior to attending Sherborne, "...pages of rules of Latin grammar could be repeated, all in Latin, and exemplified by quotations."[4] While at Sherborne, "...he received the usual predominantly classical education but was excused from some of the Latin to devote more time, under a first-rate master, to mathematics."[5] This is not to say that other areas of study were excluded. "Of course such studies included history--namely, Herodotus, Xenophon, Thucydides, Sallust, Livy, and Tacitus."[6] At the same time Whitehead distinguished himself in areas other than mathematics and humanities.

> A good football player, he became both captain of the games and head of the school (that is, the chief of the prefects, boys who had complete charge of discipline outside the classroom). In dedication to duty and in exercise of authority by persuasion Whitehead early became an example of the public school Englishmen at his best."[7]

Upon completion of his schooling at Sherborne, Whitehead made the transition to Cambridge. According to him, "My university life at Trinity College, Cambridge, commenced in the autumn of 1880; and, so far as residence is concerned, continued without interruption until the summer of 1910. But my membership of the College, first as 'scholar' and then as 'fellow' continues unbroken. I cannot exaggerate my obligation to the University of Cambridge, and in particular to Trinity College, for social and intellec-

tual training."[8] On the intellectual side, Whitehead's training was entirely in mathematics for honors, noting that the mathematics lecture hall was the only one in which he took any courses. On the social side, Whitehead received his education in a manner that might well have been unique to Cambridge scholars of the nineteenth century. Whithead explains it in the following way:

> ...the lectures were only one side of the education. The mission portions were supplied by incessant conversation, with our friends, undergraduates, or members of the staff. This started with dinner at about six or seven, and went on till about ten o'clock in the evening, stopping sometimes earlier and sometimes later.... We discussed everything--politics, religion, philosophy, literature--with a bias toward literature. This experience led to a large amount of miscellaneous reading. For example, by the time I had gained my fellowship in 1885 I nearly knew by heart parts of Kant's Critique of Pure Reason.... That was the way by which Cambridge educated her sons. It was a replica of the Platonic method. The 'Apostles' who met on Saturdays in each others' rooms, from 10 p.m. to any time next morning, were the concentration of this experience.... These we discussed with Maitland, the historian, Verrall, Henry Jackson, Sidgwick and casual judges, or scientists, or members of Parliament who had come up to Cambridge for the weekend. It was a wonderful influence.[9]

Thus the Cambridge experience at that particular time was not only an education, but a whole way of life.

Having become a "fellow" and thereafter a "lecturer," Whitehead commenced work on his first book entitled A Treatist on Universal Algebra which was published in 1898. In 1903 he was elected to the Royal Society. As his continued work began to mesh with that of his former pupil, Bertrand Russell, the two decided to collaborate, and

produced the famous Principia Mathematica (1910-1913). Shortly after completing this work, he took a position at the University of London and completed a very widely admired book entitled An Introduction to Mathematics (1911). At that point Whitehead dedicated himself to a slightly different career direction.

At the University of London he became a professor in the Imperial College of Science and Technology and shortly afterward was named the Dean of that college. His attention, however, became clearly focused on education and providing greater opportunities for the masses. During the fourteen years in London, he served and administered numerous educational committees, championed the cause of greater educational access for everyone, and most important of all, delivered the discourses which when collected together became the book entitled The Aims of Education and Other Essays (1929). This book essentially comprised the major portion of Whitehead's writings on education.

At this point in his career, his preeminence as a philosopher of science brought him even greater attention, particularly in the administrative circles at Harvard University, where at the age of 63, he accepted a position in the Philosophy Department. He served Harvard, as always, with distinction and retired at the end of the '36-'37 school year. As Professor Emeritus he remained active in both writing and the affairs of the university community until his death at the age of 86 in 1947.

In Great Britain and particularly England, Whitehead is still held in great esteem both as an educator and educational thinker. There is little doubt that his educational, family, and life experiences prepared him for the significant contributions that he made to education while at the University of London. Certainly his administrative efforts in the borough of London were noteworthy, but the educational perspectives and the poignant insights provided by the several discourses delivered during this particularly tense and yet educationally electric time in Great Britain have almost universal relevance. Many British educators would agree that some of Britain's greatest educational leaps were the result of the endeavors of educational leaders during the two World Wars. The Whitehead philosophical contribution made during the post-World War I era was and is viewed as monumental.

There are several reasons why both Whtehead and his insights into education are held in esteem. One can point to the fact that the tenets of his educational thought easily cross the lines of particular disciplines or particular areas of content, that is, they are monumental in part because they are fundamental. In addition, his general educational tenets are not contrary to any of his other writings whether in the field of science or mathematics. His educational insights are consistent with his philosophical writings and beliefs, and unlike others, his positions do not alter throughout his life, i.e., early John

Dewey or late John Dewey etc. Many appreciate the fact that A. N. Whitehead's educational tenets are especially unique because they have a quality of unchanging timelessness.

The noted Whitehead scholar, Victor Lowe, points to the fact that Whitehead's educational insights are not only consistent and essentially changeless but are also a part of his world view. Lowe states the compatibility of Whitehead's views in the following discussion.

> It would be incredible if his long experience as an educator and his reflections on education were not at work as a fourth source of his world view. The reader of his metaphysics is struck by its harmony with Whitehead's views on education. (Since he had already published his main ideas about education, it would be an anachronism to suppose that the philosophy of organism was their basis. His views on education represent convictions that were aroused by his varied experiences with educational practice in England and can stand on their own feet. In his metaphysical books there are a few brief discussions of education but no references to his educational essays; nor did reprinting of the essays lead him to insert references to his metaphysics.[10]

Therefore the tenets of Whitehead's educational thought are accepted for this study as enduringly viable and valuable. The tenets that have been extracted for use thoughout the remainder of this work are the result of several months of study, which were carried out at the University of Aberdeen, Scotland, and at the University of London. Professors John Darling and Derrick Shanks supervised much of the time spent in research at these British universities. Professor Darling is a well known educational philosopher and editor of the widely read Scottish Educational Review. Professor Shanks is particularly well known as a leading educational

theorist. Much of the time was appropriately used in reading and writing for both professors and participating in especially valuable tutorials, particularly with Professor Darling. Hopefully the tenets that follow will favorably reflect upon their efforts as well.

Whiteheadian Educational Tenets

A complete explication of Whitehead's general educational tenets might well occupy a lifetime. Any compilation would necessarily include at least the following six essential tenets. (1) The teaching of "inert" ideas is deplorable, and, conversely, what is taught must be useful. (2) Education must avoid a disconnection of curriculum. (3) The essence of education can be understood as a rhythm consisting of three cycles; Romance, Precision, Generalization. (4) The curriculum of a formal education should have three main branches; a liberal education branch, a science education branch, and a technological education branch. (5) Formal education should strive to give students the kind of curriculum experiences that would ultimately allow their work to transcend their job. (6) The students retain the responsibility for their own education.

The discussions of these six tenets which follow are intended to bring attention and some understanding to each tenet in its simplist form. Hopefully occasional examples will help facilitate understanding and personal meaning. Attempts will be made to avoid esoteric digressions which

might ultimately lead to the inert ideas and the disconnections that Whitehead so greatly deplored.

In his attack on what he calls "inert ideas," Whitehead is implacable. From one's study of chemistry, the concept of "inert ideas" may form an immediate word picture. Like inert substances, inert ideas are ideas that cannot be combined with any other ideas, and to attempt such combinations leaves both student and teacher with something akin to a beaker of oil and water. The student's response to an inert idea is "so what!" Whitehead, indeed, says that "so what" is the correct response. Such propositions seldom lead anywhere and are quickly forgotten.

By way of further example, Whitehead states that inert ideas are "...ideas that are merely received into the mind without being utilzed, or tested, or thrown into fresh combinations."[11] One perhaps ought to be careful of reading too much into a Whitehead quotation, but one can have considerable confidence in asserting that at least one category of inert ideas are those facts and figures which teachers foist upon students to be memorized out of hand. Whitehead would quickly point the finger of guilt at science and math teachers. Social studies and literature teachers should not be allowed to escape either. Indeed memorizing historical and literary periods for the sake of exercise disguised as educational ends smacks of inertness. Four decades after Whitehead, Benjamin Bloom, et. al. put memorization at the bottom of their educational taxonomy.

Whitehead states: "Every intellectual revolution which has ever stirred humanity into greatness has been a passionate protest against inert ideas. Then, alas with pathetic ignorance of human psychology, it has proceeded by some educational scheme to bind humanity afresh with inert ideas of its own fashioning."[12] With this salvo, Whitehead disposes of those who after disposing of antiquated inert ideas would leap into the vacuum with new "in-things" which so readily become converted again into inert ideas themselves.

The orientation of Whitehead's style is commitment to culture. He returns to what is fundamental, i.e. the question of what is the goal. For Whitehead and many others, the goal is stated in the following way.

> What we should aim at producing is men who possess both culture and expert knowledge in some special direction. Then expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and as high as art. We have to remember that the valuable intellectual development is self-development....[13]

In addition Whitehead offers two important landmarks in planning the curriculum that will enable the attainment of the goal. He prescribes them in this way. "We enunciate two educational commandments, 'Do not teach too many subjects,' and again, 'What you teach, teach thoroughly.'"[14] In expanding upon those commandments he says, "Let the main ideas which are introduced into a child's education be few and important, and let them be thrown into every combination possible. The child should make them his own, and should

understand their application here and now in the circumstances of his actual life."[15]

In the afore-mentioned quote, Whitehead alludes to an idea that might well find its place as a third commandment. In facilitating the child's learning, a great deal of emphasis should be placed on the immediacy of the learning moment, the here and now. The old saying that today is the tomorrow that we thought about yesterday is something like the point, but Whitehead's eloquence brings the idea to greater clarity.

> I would only remark that the understanding which we want is an understanding of an insistent present. The only use of the knowledge of the past is to equip us for the present. No more deadly harm can be done to young minds than by depreciation of the present. The present contains all that there is. It is holy ground; for it is the past, and it is the future.[16]

Such statements should not be taken out of their context or misconstrued in such a way as to imply that Whitehead was somehow not conscious that education is preparation for the future. What he is asserting is that a teaching/learning moment has poignancy, and it should not be lost, particularly by finding new methods of wasting away the hour.

A second tenet in this same general area as presented in the Aims of Education is that education must avoid a disconnection of curriculum.

> There is only one subject-matter for education, and that is life in all its manifestations. Instead of this simple unity, we offer children - Algebra, from which nothing follows; Science, from which nothing follows; History, from which nothing follows; a couple of languages, never mastered; and lastly, most dreary of all, literature,

> represented by plays of Shakespeare, with philological notes and short analysis of plot and character in substance to be committed to memory.[17]

One wonders if, since Whitehead penned these words in 1916, anything has really changed. More courses are now offered, each seemingly more specialized than the one that precedes it. Sometimes connection is not taught even within the subject area. Do biology teachers really help their student make connections with chemistry, or do history teachers lead students to inquire into the connections with geography? Whitehead criticized his own scientist colleagues for being so specialized that they could not relate their own research to other fields, let alone to a greater understanding of the context in which their own scientific investigation was undertaken.

In many instances the educational community has failed to heed Whitehead's advice, and may even have perpetuated and expanded the disconnections. Now realizing that bodies of content have grown to such an extent that only with specialization can one hope to cover the literature in a given field, one can appreciate the access allowed by libraries and micro chips etc. Libraries and micro-chips, however, provide only the access, and Whitehead's greater good is found in "utilization," because utility is the connection between mere facts or the knowledge of content--and life. Thus Whitehead puts the emphasis where it belongs, i.e., on acquiring the art of utilization. He

states his definition simply. "Education is the acquisition of the art of the utilization of knowledge."[18]

Once again, if the subject matter for education is life, then the next step from disconnection within the general subject area in a given field is disconnection between fields and ultimately disconnection in the entire school curriculum. Whitehead attributes much of this type of disconnection to outside interference, especially from external examinations and the influence of "state" departments of education. Whitehead strongly urges the direction that follows.

> I suggest that no system of external tests which aims primarily at examining individual scholars can result in anything but educational waste.... Each school should grant its own leaving certificates, based on its own curriculum. The standards of these schools should be sampled and corrected. But the first requisite for educational reform is the school as a unit, its approved curriculum based on its own needs, and evolved by its own staff. If we fail to secure that, we simply fall from one formalism into another,[19] from one dunghill of inert ideas into another.

A third and especially important tenet is that the essence of education can be understood as a rhythm consisting of three cycles: romance, precision, and generalization. Much time need not be spent explicating Whitehead's propositions as his own words do it best. "The principle is merely this--that different subjects and modes of study should be undertaken by pupils at fitting times when they have reached the proper stage of mental development. You will agree with me that this is a truism, never doubted and known to all."[20] One should take note of the fact that what he is proposing

is nothing like a lock stop concept of "readiness." He continues, "It is not true that the easier subjects should precede the harder. On the contrary, some of the hardest must come first because nature so dictates, and because they are essential to life."[21] Whitehead's words serve as a reminder of what is sometimes forgotten. This is the fact that infants acquire language and communication skills by associating sounds with meanings, and usually without the aid of a classroom. In addition, one of their first tasks in the classroom is to associate those sounds with shapes, which when the students learn to read essentially increases their communication capacity by a quantum leap. Whitehead states the heart of his point this way. "All I ask is that with this example staring us in the face we should cease talking nonsense about postponing the harder subjects."[22]

The stage of romance and its accompanying explanation could almost be considered the foundational thought leading to an understanding that educationists would call "affect." Educational psychologists might talk about the "affective domain" in this same sense. Whitehead's discussion is enlightening in this area.

> The stage of romance is the stage of first apprehension. The subject matter has the vividness of novelty; it holds within itself unexplored connexions with possibilities half-disclosed by glimpses and half concealed by the wealth of material. In this stage knowledge is not dominated by systematic procedure.... Romantic emotion is essentially the excitement consequent on the transition from the bare fact to the first realizations of the import of their unexplored relationships... Education must essentially be setting in order of a ferment already stirring in the mind: you cannot educate mind in vacuo.[23]

A very important point, here, is that the stage of romance is not something to be merely tolerated while on the way to bigger and better endeavors. It is a full one-third of Whitehead's educational pie. To merely gloss over the stage of romance or to merely bow in deference is to warp the whole process of education and deny students their first chance at creativity and imagination. Whitehead says it succinctly. "In our conception of education we tend to confine it (education) to the second stage of the cycle; namely, to the stage of precision. But we cannot so limit our task without misconceiving the whole problem."[24]

If the stage of romance is the stage of affect, then the stage of precision is the stage of cognition. If the stage of romance is the stage of suspecting, then the stage of precision is the stage of knowing. In Whitehead's words:

> It (the stage of precision) proceeds by forcing on the student's acceptance a given way of analyzing the facts bit by bit. New facts are added, but they are facts which fit into the analysis.... I repeat that in this stage we do not merely remain within the circle of facts elicited within the romantic epoch. The facts of romance have disclosed the ideas with possibilities of wide significance, and in the stage of precise progress we acquire other facts in a systematic order, which thereby form both a disclosure and an analysis of the general subject-matter of the romance.[25]

In the stage of precision the facts take formal shape, and become not only known, but if at all possible, second nature to the student.

The final stage is the stage of generalization. It is a syntheses. "It is a return to romanticism with added

advantage of classified ideas and relevant technique. It is the fruition which has been the goal of the precise training. It is the final success."[26] It is here simply stated, but it is by no means simplistic. It is the launching pad back into both the world and the world of ideas. It ends a cycle and spawns several others. It has begotten facts held together by discipline. Inert ideas are not to be found in the rhythm of education. They have nothing to do with it. Indeed the mere acquisition of facts has nothing to do with it. Whitehead says it even more bluntly.

> Your learning is useless to you till you have lost your text-books, burnt your lecture notes, and forgotten the minutiae which you learnt by heart for the examination. What, in the way of detail, you continually require will stick in your memory as obvious facts like the sun and moon; and what you casually require can be looked up in any work of reference.[27]

This, then, is the consummation of the stage of generalization, and the point of departure for new and greater romance.

Bringing considerable personal experience to the area of curriculum, Whitehead asserts, in what is here a fourth tenet, that the curriculum of a formal education should have three main branches. The branches included are represented by the liberal education branch, the science education branch, and the technical education branch. He defines liberal education as: "...An education for thought and for aesthetic appreciation. It proceeds by imparting a knowledge of the masterpieces of thought, of imaginative literature, and of art."[28] He associates this type of

education with Plato, but is quick to point out that it is only representative of a style as opposed to an actual brain child of the great Greek philosopher.

The second branch, that of science education, Whitehead defines in the following way. "A science education is primarily a training in the art of observing natural phenomena, and in the knowledge and deduction of laws concerning the sequence of such phenomena."[29] He does not give a particular person as a founder especially with reference to style, nor does he offer an example of one associated with science education curricula. He does note that science education, like literary education, is a vast field, especially if such areas as philosophy of science and mathematical logic are included.

In the third branch, called technical education, Whitehead offers a somewhat more utilitarian definition. "A technical education is in the main a training in the art of utilizing knowledge for the manufacture of material products. Such training emphasizes manual skill, and the coordinated action of hand and eye, and judgment in control of the process of construction."[30] Given the normal style of British schooling during the time of Whitehead's discussion of this topic (i.e., an either or proposition - either one received a "literary" education or one received a "technical" education), his following statement probably raised eyebrows. "An evil side of the Platonic culture has

been its total neglect of technical education as an ingredient in the complete development of ideal human beings."[31]

This statement summarily embodies the whole Whitehead viewpoint, because it not only assumes the necessity of a marriage between literary education and technical education but inherent within it is the notion that science education could well be a link between the two. He makes his point in this way. "The peculiar merit of a scientific education should be, that it bases thought upon first hand observation; and the corresponding merit of a technical education is, that it follows our deep natural instinct to translate thought into manual skill, and manual activity into thought."[32]

There are numerous individuals who fit the Whitehead ideal, but it would be a little too presumptuous to say that he had them in mind. The formal education of each would not necessarily have reflected the triple branched Whitehead curriculum. Such men as Galileo, DaVinci, or Thomas Jefferson and Benjamin Franklin appear to fit Whitehead's "ideal." All of them were literary to some extent (some more than others). All were scientists. And by Whitehead's definition, all translated their science into forms of manual skills by way of invention. Thus, Whitehead's curriculum proposition, his rationale, and examples of his "ideal" product can readily be seen and understood.

A fifth tenet is that formal education should strive to give the student the kind of curricular experiences that

would ultimately allow his work to transcend his job. The essential point is one that stems from the Bernard Shaw phrase, "It is a commonwealth in which work is play and play is life."[33] The meaning for Whitehead, here, is not clothed in some literary euphemism. It is simply that a student should be encouraged to realize that whatever his job or task, in most cases it will have a greater significance when it is seen as it relates to other areas and/or other people. Whitehead's example is that of Benedictine monks. "The early Benedictine monks rejoiced in their labours because they conceived themselves as thereby made fellow-workers with Christ."[34] In other words they saw their labors in a broader context and therefore had a unique perspective on their work.

Probably no educator was more conscious of this thinking than Whitehead, and he consistently took a broader perspective in his own field of expertise, mathematics. For him mathematics as generally taught to school children was recondite, but it needed not be so. There were always broader applications to be understood.

> For the purposes of education, mathematics consists of the relations of number, the relations of quantity, and the relations of space.... Our courses of instruction should be planned to illustrate simply a succession of ideas of obvious importance. All pretty divagations should be rigorously excluded. The goal to be aimed at is that the pupil should acquire familiarity with abstract thought, should realize how it applies to particular concrete circumstances, and should know how to apply general methods to its logical investigation. With this educational ideal nothing can be worse than the aimless accretions of theorems in our textbooks, which acquire their position

> merely because the children can be made to learn them and examiners can set neat questions on them.[35]

At some point during the continued acquisition of the understanding of the relations of number, quantity and space, Whitehead would have the scope broadened to include some investigation into the history of mathematics to be used "...as an exposition of the general current of thought which occasioned the subjects to be objects of interest at the time of their first elaboration."[36] He elaborates further and presses the scope of mathematics to include its perspective as, "...the chief instrument for discipline in logical method."[37] Thus it interconnects with science, philosophy and other areas.

In seeing this reasoning and these examples from Whitehead's own area of mathematics, one should realize that Whitehead's point has to do with more than mathematics or any other area of the curriculum, and that it has to do with more than learning vignettes. The ultimate aim is still that the work must transcend the job, both in schooling as well as in the world of work, and one should be prepared to understand those connections and be affected by them. Whitehead's point comes back to that same example of the Benedictine monks.

> Stripped of its theological trappings, the essential idea remains, that work should be transfused with intellectual and moral vision and thereby turned into a joy, triumphing over its weariness and its pain. Each of us will re-state this abstract formulation in a more concrete shape in accordance with his private outlook. State it how you like, so long as you do not lose the main

> point in your details. However you phrase it, it remains the sole real hope of toiling humanity; and it is in the hands of technical teachers, and of those who control their spheres of activity, so to mould the nation that daily it may pass to its labours in the spirit of the monks of old.[38]

The sixth and final tenet for this discussion is Whitehead's fundamental notion that the student retains the responsibility for his own education. In his opening paragraph in the essay entitled, "The Aims of Education," he simply states: "We have to remember that the valuable intellectual development is self-development...."[39] This was Whitehead's position.

On a different occasion, he discussed the point and gave a bit of reasoning and an analogy or two. In an address to a number of English schoolboys, Whitehead explains a bit of the process and meaning of education.

> Thus we are talking of the way in which all your faculties and capacities should be encouraged to expand and unfold themselves. Consider how nature generally sets to work to educate the living organisms which teem on this earth. You cannot begin to understand nature's method unless you grasp the fact that the essential spring of all growth is within you. All that you can get from without is some food, material or spiritual, with which to build your own organism, and some stimulus to spur you to activity. What is really essential in your development you must do for yourselves. The regular method of nature is a happy process of genial encouragement. There can be very little satisfactory growth with the exclusion of this method.[40]

A bit later in the same discussion he reiterates the point.

> But, at the end of it all, you who are the pupils must bring your own enjoyment to your tasks.... Remember what I said a minute ago, that in reality you educate yourselves. No one else can do it for

> you. You are not pieces of clay which clever teachers are modeling into educated men. It is your own effort which alone essentially counts. So, finally you have got to provide your own enjoyment by interesting yourselves in things which are worth doing and worth thinking about. Your working lives will either be a drudgery or a pleasure according to the way you take it.[41]

These, then, are the six tenets extrapolated here for the purposes of both the representation of Whitehead's general educational thought and for further analysis in light of Naisbitt's evolving future. Ideally, if they were available, this would be an appropriate time to introduce the works of other authors who have offered support for these tenets. Unfortunately, such support is not forthcoming, primarily because no author can be found who has attempted to render a similar collection of tenets which approximate the ones offered in the preceding paragraphs. However, Whitehead's work has of course received the attention of many commentators. The following authors present ideas which appear to relate in one way or another to the above discussion.

Commentary on Whitehead's Educational Thought

Such authors as Dunkel, Rusk and others allude to why a comprehensive collection may not have been developed yet. Dunkel says,

> The Aims of Education comprises occasional lectures delivered over a period of more than fifteen years. Although each lecture or group of chapters constitutes a unit, obviously this mode of composition makes each volume something less than a coherent whole. Unfortunately this task has been performed primarily for those interested in Whitehead's metaphysics or his philosophy of

> science. Although those parts of his system which are relevant to education must overlap these in many respects, still the difference in interest prescribes a rather different type of treatment than has thus far been available to educators.[42]

Even in Dunkel's effort, the necessary treatment is still not necessarily the one which might best benefit the majority of educators.

As has been previously stated, the treatment which might more nearly benefit educators is one which undertakes to understand Whitehead as he delivers his thoughts directly to educators, in the form of the lectures which comprise The Aims of Education -- not the treatment which presupposes that educators must understand his metaphysics in order to comprehend his educational thought, which is the position that nearly every commentator has assumed so far. Whitehead was never one to talk down to his audiences. Thus he obviously never felt the need to inform them of the appropriate metaphysical positions necessary for the understanding of his educational thought. He and his audiences were educators. That was their common ground, and that was sufficient. The circumstances in the world, as presented in the preceding chapter, were grave enough. No esoteric digressions were needed or wanted. What was wanted was straight talk and common sense, and when Whitehead took the podium, that is just what he intended the audience should receive. It ought to be enough to note that in the decades following his educational lectures, he saw fit to stand by every

previously stated word. He changed neither a jot nor a tittle.

Though nearly every commentator presumes the necessity of an understanding of Whitehead's metaphysical literature, it is somewhat reassuring to know that they often recognize and comment upon many of the same thoughts and ideas that have been used in this study and quoted above to sustain the six tenets of the previous section. It is also reassuring to note that nearly every commentator sees harmony and congruity between Whitehead's metaphysical and educational thinking. The following section will very briefly note some of the thoughts and ideas that are held in common with these commentators as they pertain to the six tenets.

Many commentators hail the importance of Whitehead's attack on inert ideas, which is the point of the first tenet. Axtelle, Holmes, Johnson, Rusk, Stone, Wagner, and Ward all allude to this important part of Whitehead's thinking. Almost all are in agreement with the importance of what Rusk describes as "Whiteheads diatribe against 'inert ideas.'"[43] The disconnection of the curriculum, the second tenet, is in a sense loosely related to the first, but only Ward and Axtelle offer comments which relate to it.

The third and fourth tenets are alike only in the fact that they deal in threes. The third tenet, which addresses Whitehead's Rhythm of Education, receives discussion from a host of authors including: Extelle, Holmes, Johnson, Rusk and Ward. Dunkel calls the notion of the three stages which

Whitehead terms, romance, precision, and generalization, "...the second most fundamental concept in giving structure to Whitehead's education thought...."[44] The fourth tenet, also a triad, proposes the concept that the curriculum includes the liberal, scientific, and technical branches. Axtelle, Johnson, Holmes, and Rusk allude to this proposition. Holmes, for instance, claims that, "Whitehead is absolutely right in asserting that 'the antithesis between a technical and a liberal education is fallacious....'"[45]

The support for tenets five and six is at first not as obvious as for the preceding tenets. The fifth which is essentially that one's work should transcend one's job, is obliquely supported by Axtelle, Belth, Holmes, Rusk and to some extent Dunkel, but the usual Whitehead quote to which these authors allude is the one which Whitehead calls the "insistent present," rather than the seemingly more obvious discussion of the Benedictine monks. The sixth and final tenet is basically supported by Dunkel and Malik. Dunkel, Rusk and others point up the fact that the student's responsibility was so obvious to Whitehead and others that the whole point deserved little elaboration. Obviously, too, times change, as Naisbitt has pointed out. These tenets, then, serve as much of the basis for the discussion in the following chapter which discusses their systematic application.

CHAPTER IV FOOTNOTES

[1]Victor Lowe, "Whitehead, Alfred North," Encyclopedia of Education, 1971, pg. 550.

[2]Paul Arthur Schilpp, The Philosophy of Alfred North Whitehead, The Library of Living Philosophers (Evanston, 1941), p. 5.

[3]Ibid, p. 5.

[4]Ibid, p. 5.

[5]Victor Lowe, "Whitehead, Alfred North," Encyclopedia of Education, 1971, p. 550.

[6]Paul Arthur Schilpp, The Philosophy of Alfred North Whitehead, The Library of Living Philosophers (Evanston, 1941), p. 5.

[7]Victor Lowe, "Whitehead, Alfred North," Encyclopedia of Education, 1971, pg. 550.

[8]Paul Arthur Schilpp, The Philosophy of Alfred North Whitehead, The Library of Living Philosophers (Evanston, 1941), p. 6.

[9]Ibid, pp. 7-8.

[10]Victor Lowe, "Whitehead, Alfred North," Encyclopedia of Education, 1971, pg. 554.

[11]Alfred North Whitehead, The Aims of Education (New York, 1968), p. 1.

[12]Ibid, p. 2.

[13]Ibid, p. 1.

[14]Ibid, p. 2.

[15]Ibid, p. 2.

[16]Ibid, pp. 2-3.

[17]Ibid, pp. 6-7.

[18]Ibid, p. 4.

[19]Ibid, p. 13.

[20]Ibid, p. 20.

[21]Ibid, p. 21.

[22]Ibid, p. 16.

[23]Ibid, pp. 17-18.

[24]Ibid, p. 18.

[25]Ibid, pp. 19-20.

[26]Ibid, p. 19.

[27]Ibid, p. 26.

[28]Ibid, p. 46.

[29]Ibid, p. 49.

[30]Ibid, pp. 49-50.

[31]Ibid, p. 50.

[32]Ibid, p. 51.

[33]Ibid, pp. 43-44.

[34]Ibid, p. 44.

[35]Ibid, pp. 79-80.

[36]Ibid, p. 84.

[37]Ibid, p. 84.

[38]Ibid, p. 44.

[39]Ibid, p. 1.

[40]Alfred North Whitehead, Essays in Science and Philosophy, (New York, 1968), p. 171.

[41]Ibid, p. 173.

[42]Harold B. Dunkel, Whitehead on Education (Ohio State, 1965), pp. 13-14.

[43]Robert R. Rusk, The Doctrines of the Great Educators, (New York, 1969), p. 342.

[44]Harold B. Dunkel, Whitehead on Education, (Ohio State, 1965), p. 107.

[45]Paul Arthur Schilpp, The Philosophy of Alfred North Whitehead, The Library of Living Philosophers (Evanston, 1941), p. 638.

CHAPTER V

Chapter five is a systematic application of Whitehead's tenets as they resonate with the three specially selected Naisbitt trends.

In preparation for this upcoming chapter a brief review of both Whitehead's educational tenets and the three selected megatrends is appropriate. The extrapolated tenets from A. N. Whitehead's general educational thought are: 1) The teaching of inert ideas is deplorable and conversely, what is taught must be useful; 2) Education must avoid a disconnection of curriculum; 3) The essence of education can be understood as a rhythm consisting of the cycles of romance, precision, and generalization; 4) The curriculum of a formal education should include the branches of liberal education, science education, and technological education; 5) Formal education should strive to give the student the kind of curriculum experiences that would ultimately allow his work to transcend his job; 6) The student retains the responsibility for his own education.

These tenets may be viewed in light of the three selected Naisbitt megatrends, which include 1) The megashift from an industrial to an information society; 2) That we are restructuring from a society run by short-term considerations and rewards in favor of dealing with things in much

longer-term timeframes, which includes the whole notion of reconceptualization; 3) That we are shifting from institutional help to more self-reliance in all aspects of our lives. These three trends represent Naisbitt's first, fourth and sixth trends respectively.

Now that the Naisbitt trends have been presented, the historical context of Whitehead's era has been reviewed, and a number of his tenets have been presented, the focus of chapter five is on discussing potential applications. The chapter focuses on three major areas. The second portion of this chapter includes the discussion of those areas where John Naisbitt and A. N. Whitehead seem to be making the same or at least quite similar points with special reference to the selected trends and the body of tenets. The third and final area includes a somewhat broader look at Whiteheadian perspectives as they might find application in more specific areas of schooling and educational endeavors. Emphasis will be placed upon commentary from educator/author, John Goodlad for the third area of concern.

As just mentioned the final area of application represents the educational and schooling perspectives offered by those mentioned in chapter one of this paper, including A Nation at Risk, the Boyer study for the Carnegie Institute, and the expansive study by John Goodlad. Goodlad's work appears likely to be influential, not only as represented by his book entitled A Place Called School, but also by his many other articles and books as well as his published

lectures. For its extensive nature and lack of obvious political leaning, Goodlad's work as represented in A Place Called School is the study of choice for the final section of applications.

A Preparatory Word on Methodology

Some educational writers/researchers have sometimes appeared reluctant to borrow methodologies from other disciplines. They seem particularly reluctant to stray away from the safety of studying populations from which one can produce "real numbers," "percentages," and "hard statistical data." Such methodologies may make for tight studies, but they sometimes lead to sterile, even inert conclusions.

At the same time geologists determine the composition of our earth from past centuries from the study of current rock formations, and archaeologists reconstruct whole societies from artifacts. Very few individuals question such extrapolations. Literary scholars base much of their research upon work of an analytical type, and certain methodologies that deal with forms of criticism are considered quite valuable.

In the opinion of the researcher educationists really ought not be hesitant in borrowing methodology from other disciplines when in search of understanding and insight. Education in general and educators in particular ought to be entitled to the use of these methods, because the consequences of their work merit such use. By borrowing analytical methodology, educator/researchers have the

opportunity to combine bodies of information, hopefully creating new perceptions, and more importantly, making use of the insights offered by great educators from other eras.

Professor John Darling of the University of Aberdeen, Scotland questions collecting the works of great scholars of former times if such works only collect dust on library shelves. Considering the available methodology, the contributions of Whitehead and Naisbitt, and the possibility of garnering insight from combining the two, the following discussion may offer unique, and hopefully helpful perspectives for illuminating some of our most pressing educational problems.

Chapter Five Rationale

The third chapter of this work, which dealt with the historical context of Whitehead's educational writings, proves an even greater value to the use of his tenets. Had Whitehead formulated and espoused his educational thoughts during some other period of history, those thoughts might have yet proved to be of great value. The greater significance, however, is that the historical context in which Whitehead spoke and wrote bears some important similarities to that context which John Naisbitt and the rest of us are currently experiencing. In other words, were the contexts of Whitehead's day and our day radically dissimilar, he might still have had something important to say. The facts seem to indicate, however, that not only are the contexts

not radically dissimilar, but instead show some important likenesses.

Whether facing the aftermath of post World War I Great Britain or the onset of the information society, monumental uncertainties abound. Certainly the question of whether our race can survive to enjoy a future matches the question of how a terrible world war could have been fought especially by countries who were seemingly making such great strides in solving their disputes in an orderly and civilized manner. Though our own society faces the ever present threat of nuclear holocaust, one must confront the fact that the Treaty of Versailles failed dismally to put to rest all of the post war distrust that abounded, not only for the British commoners, but also for French, German, and Russian working people. The thought of poison gas accompanying the English mist was an erie one to be sure. Then as now, though, thoughts of what might be give way to thoughts of the insistent present, and very often the realities of the economically insistent present.

As a matter of brief review from chapters two and three, one should remember that in A. N. Whitehead's world, technological applications from the Great War were revolutionizing many spheres, particularly in the areas of transportation, communication, and the swiftly growing chemical industries. Such radically rapid developments in those areas may actually have been more sudden and more profound than the onset of John Naisbitt's "information

society," though one really has no adequate way of measuring the two. The purposes of this discussion fortunately do not require such a measurement primarily because Whitehead's insight is not competing with Naisbitt's offerings, but rather hopefully illuminating a path into Mr. Naisbitt's semi-predictable future. Maybe not surprisingly, Whitehead and Naisbitt are educational allies when judging on the basis of the few comments that Mr. Naisbitt does make concerning education in general while discussing his ten trends.

As a matter of style and even perspective both Whitehead and Naisbitt share some common ground. Each leaves little doubt that educating people, particularly young people, is or should be one of society's top priorities. Both tend to discuss education in such a way so as to appeal to "common sense" rather than attempting to be lofty and esoteric; Naisbitt because that is the way he approaches problems, and Whitehead because most of his writings reflect his many public speeches given to groups of educators and students alike, tough audiences to be sure. Both, too seem to be opposed to mere rote-learning and much more interested in producing learners who have acquired the art of utilizing their knowledge in Whitehead's terms. Finally, both intend that the overriding purpose of education is to produce life-long learners who are truly functional and productive in any possible societal setting.

Whitehead's Tenets in Light of Naisbitt's Trends

Having noted these important common grounds, the actual discussion of Whitehead's tenets as seen in light of the three specially selected trends is in order. In the following paragraphs each tenet is discussed as it is seen meshing with each of the three specially selected trends. In some cases a specific mesh can be seen, but in many cases only a general point can be stated. There are, as one might expect, certain areas that have little or no relevance, and this being the case, a statement to that effect can and will be made. Once again, the perspective is the reckoning of Whitehead's thought in reference to Naisbitt's evolving future, i.e., the application of Professor Whitehead's thought and educational positions to the circumstances as Naisbitt describes them.

Whitehead's first tenet, that the teaching of inert ideas is deplorable and conversely, that what is taught must be useful, is one the truth of which almost everyone can readily acknowledge. Yet as recognition of the information society becomes greater, the actual practice of the tenet and its meaning as a guidepost for educators seemingly wanes. What is wanted is a greater ability to use the information to generate understanding. If, however, the student has been trained to merely recite ideas rather than "makes them his own," as Whitehead would say, understanding is lacking and so is the necessary progress. The progress being discussed, here, is not just the student's but also

collectively that of the working populace. There is a greater need for practice at combining and utilizing ideas rather than reciting ideas.

The response by many educators to the perception or actuality of the greater educational needs of a student preparing for life in the information society has been a call for greater testing in content areas, a greater emphasis on fundamentals, and longer hours in school, among other notions. In their proper perspective, these may well be valuable suggestions, but Whitehead's words are a valuable caution for those who would quickly rush to those notions as the supposedly newest and best solutions. "Every intellectual revolution which has ever stirred humanity into greatness has been a passionate protest against inert ideas. Then, alas, with pathetic ignorance of human psychology, it has proceeded by some educational scheme to bind humanity afresh with inert ideas of its own fashioning."[1] What is wanted and needed is a perspective that leads to insight, not a rehash of inert ideas, else the demands of the information society will continually go unmet.

This same theme resonates with the fourth trend, i.e., the shift from a short term to a long term frame of reference. In order to avoid "binding humanity afresh," educators ought to borrow the same kind of reasoning that more of America's businesses are using. That is, looking at the long term consequences of today's actions and rethinking those actions if necessary. To assuredly avoid hasty

reactions that lead to the unacceptable results of more dead ends and more inert ideas, a commitment to thinking in terms of longer time frames is especially important.

The actuality of the sixth trend, that which states that Americans are taking back much of the responsibility for their own lives, ought to lead educators to some very fertile ground. Alert educators can and will be able to use this trend in such a way so as to foster the kind of thinking, reasoning and feeling which Whitehead characterizes as the reverse of passively receiving inert ideas into the mind. Ever the proponent of utilizing ideas, Whitehead offers the following description.

> By utilizing an idea, I mean relating it to that stream, compounded of sense perceptions, feelings, hopes, desires, and of mental activities adjusting thought to thought, which forms our life. I can imagine a set of beings which might fortify their souls by passively reviewing disconnected ideas. Humanity is not built that way[2] -- except perhaps some editors of newspapers.

There are some who might even recognize a good number of otherwise intellectually talented public school graduates who unhappily spent their school years "passively reviewing disconnected ideas." Again, the truth of this sixth trend appears to be fertile ground.

The second Whiteheadian tenet, that education must avoid a disconnection of curriculum follows from the first tenet.

> There is only one subject-matter for education, and that is life in all its manifestations. Instead of this simple unity, we offer children -- Algebra, from which nothing follows; Science, from which nothing follows; History, from which nothing

> follows; a couple of languages, never mastered; and lastly, most dreary of all, literature, represented by plays of Shakespeare, with philological notes and short analysis of plot and character in substance to be committed to memory.[3]

For the purposes of the information society, the preceding quotation might be amended to read, "keyboards, monitors, and floppy disks, from which nothing follows."

Reckoned in terms of Naisbitt's information society, Whitehead's tenet, which was appreciated by many but operationalized by less than a handful, is not only valid but necessary. It is necessary particularly in the sense that electronically collecting, recording, combining and storing more data still does not bring about a greater ability in the art of its utilization. Better methods of collection, recording, combination and storage still require the application of understanding, "life in all its manifestation," to ascribe meaning. Information must be intentionally connected, not only between curricula and subjects, but also within the subjects and by both the instructor and learner.

As applied to Naisbitt's fourth trend, a connection of the curriculum in the Whiteheadian sense is almost antithetical to rendering everything in the short term. That is, connecting principles subject to subject and idea to idea almost precipitates the long term view. It fosters thinking over time rather than just to the end of the unit or worse yet, thinking in terms of "what will suffice for the test." There is little wonder that the state and

national pre-occupation with tests and testing has not led us to the promised land, but that is a story for the next chapter. Connecting the curriculum cannot help but lead to the long view as described by Mr. Naisbitt.

With regard to Naisbitt's sixth trend, as it has been previously described in its generic use for the purposes of this discussion, one might really be at a loss to find a comment by Whitehead that would not resonate perfectly with it. Indeed the discussion of what is here Whitehead's sixth tenet in light of Naisbitt's sixth trend is in a sense ironic, as will be seen later in this chapter. Educators ought to be pleased at the prospect of allowing students the responsibility as well as the opportunity to conceive, test, and connect subject matter across the curriculum.

The noted educationist, Harold Dunkel, has called what is here labelled Whitehead's third tenet, "...the second most fundamental concept in giving structure to Whitehead's education thought...."[4] In light of the many educational needs of the information society and the seemingly warring factions of the educational community, Whitehead's discussion of the three stages of learning is an especially valuable perspective. It is not that discussion of the affective and cognitive domains are not important or that behaviorism and humanism are not important, but that in many instances, the discussion of these topics is perspective-less. Education for everyone in the evolving information society or any other cannot afford to be without an

understanding of the whole process or proper perspective, just as it cannot afford the luxury of inertness or disconnection. In the light of Naisbitt's most fundamental trend, Whitehead's "rhythm of education," which consists of the interacting stages of "romance," "precision," and "generalization," is essential.

If one acquires a simple understanding of the "rhythm of education" then one might also note that Whitehead's rhythm not only meshes with a shift to long term thinking (Naisbitt's fourth trend) but in a sense demands it. It demands long term thinking because romance, precision and generalization are cycles intertwined to form a whole continuous process. Whitehead's following quote accents this idea, and amazingly presupposes Naisbitt's point.

> Education should consist in a continual repetition of such cycles; (romance, precision, generalization). Each lesson in its minor way should form an eddy cycle issuing in its own subordinate process. Longer periods should issue in definite attainments, which then form the starting-grounds for fresh cycles.[5]

Though parts of the process provide closure, the process requires a commitment to the long term, which according to Naisbitt, many in the business community and other communities seem increasingly quite willing to do.

This third tenet meshes with the sixth trend only in the sense that the stages of romance and generalization inherently assume that the learners have taken responsibility, at least in some measure, for their own learning. The famous premise that "there is no freedom," attributed to

B. F. Skinner, would have been as foreign to Whitehead as if it had come from another planet. Americans have once again proven the fallaciousness of such a notion and in record numbers, according to Naisbitt. "Several years ago, Holt (John) estimated there were at least 10,000 families educating their children at home. In 1982 the figure was estimated at one million."[6] Americans are increasingly finding ways of taking back the freedoms and responsibilities that Whitehead would have assumed they possessed in the first place.

The curriculum of a formal education has three branches. Whitehead's fourth tenet cites the liberal, scientific, and technical branches as those which should be considered. He has defined each branch and those definitions were included in the previous chapter, but they bear repeating for the purposes here. A liberal education is, "...An education for thought and for aesthetic appreciation. It proceeds by imparting the masterpieces of thought, of imaginative literature, and of art."[7] "A science education is primarily a training in the art of observing natural phenomena, in the knowledge and deduction of laws concerning the sequence of such phenomena."[8] "A technical education is in the main a training in the art of utilizing knowledge for the manufacture of material products."[9] Whitehead goes on in his discourse to show the common root of these three branches, but their harmonization with the information society is now the point.

There is no clearly direct connection between Whitehead's tenet and Naisbitt's first trend, as such, but Whitehead's insight is intended to cover all of the possibilities. From the most aesthetic interest in the liberal branch to the most practical in the technical branch, the Whitehead spectrum includes all. The essential subject matter is "life and all its manifestations." If one argues that the information society is predicated upon the computer, and Whitehead has said nothing of the computer, then the point has been missed. If one has been prepared according to the Whitehead curriculum, then one is prepared for the information society or for any other society, because the computer has its place in life. As typewriters, slide rules, and calculators have come on the scene, they have found inclusion in the schooling of young people, and the computer should offer no great obstacle in the like manner.

The fourth tenet meshes with the fourth trend indirectly in two ways. There is a mesh first in the sense that the essence of the liberal branch is and must be seen as the development of a number of appreciations, and appreciation is generally something that happens over time. In fact time generally impacts appreciation in a directly proportional relationship. Unfortunately and unhappily, instructors have demanded appreciation in something less than a term. Extensive testing and memorization have invariably proved barely sufficient in the short term and grossly inadequate in the

long term. Seemingly nothing has changed since Whitehead's time. (See his quote above on pages 103-104 concerning the typical British school treatment of the plays of Shakespeare or the memorization of the Kings of England.) The second indirect mesh is Whitehead's inherent insistence on reconceptualization which is Naisbitt's theme in his fourth trend and the reason that he includes the Mary Parker Follett quote. Much more of the reconceptualization discussion is included later in this chapter and in chapter six as it has a special place in the sections that deal with general recommendations.

The fourth tenet applies in reference to the sixth trend in a way that should impel educators in all branches of the curriculum to encourage greater freedom and responsibility in their learners. In a way, educators may have a greater opportunity to encourage the joy of learning in all areas of the curriculum without the considerable pressure to constantly be testing everything. There may yet be a chance for educators and learners to teach and learn just for the great adventure of it.

A formal education should strive to give students the kind of curricular experiences that would ultimately allow their work to transcend their job. Whitehead's meaning in this fifth tenet is simply that students should be encouraged to realize that whatever their job or task, in most cases it will have a greater significance when it is seen as it relates to other areas and/or other people. The

converse of this fifth tenet has come to be known in education circles as "busy work," which sounds not unlike the beginning of a renewed discussion of inert ideas. This tenet, then, is particularly applicable in the information society. With the greater abstractions brought about by greater amounts of information, both real and "artificial," persons handling that information will necessarily need to see a greater good or greater purpose in their work else a new type of boredom beyond "assembly line boredom" is a very real possibility.

Interestingly enough, in the same sense in which Whitehead sees that a person's work needs to be related to others, Naisbitt echoes the sentiment exactly. In the discussion of his first trend, Naisbitt devotes a section to what he calls, "The Human Side of Technology." In this section, he discusses what many have called the "electronic cottage." This simply means that the workers have a computer terminal in their home, and have no need to go to the office as they can accomplish their work in their own den. Naisbitt's comments on this set-up are interesting. "My own sense of it is that not very many of us will be willing to work at home. People want to be with people; people want to go to the office."[10] He continues the discussion of this idea by devoting his second chapter to it. Whitehead's point is applicable again. People want very much to see a greater good than their individual job

even if they see this greater good in their socialization and interactions with their fellow workers.

The fifth tenet has little or no direct applicability with the major premise of the fourth trend, that of the shift from short term to long term thinking. There may, however, be some room for application with the second part of that trend which deals with reconceptualization. In the sense that in many instances most people have not always sought the "big picture" in either their school work or their jobs. Maybe meshing these two ideas will lead to a little greater satisfaction in both areas.

The sixth trend, too, poses difficulty for a direct application with this fifth tenet. In fact, the converse of the sixth trend, letting others have the responsibility for the conduct and meanings of our lives, might be somewhat advantageous in this sense, if in fact those "others' provide the necessary understandings for the broader views that make the work transcend the job. At the same time, should educators follow the principle of Whitehead's tenet and encourage their learners to explore for themselves the broader significance and relationships inherent in their work, then those additional obstacles to the fulfillment of Naisbitt's trend may disappear. Most importantly, those same learners would then have formed a positive style and set of work habits which they could repeat and continually apply for themselves throughout the remainder of their lives.

The student retains the responsibility for his/her own education. This is a truism known and believed by Whitehead and never really questioned by him. It is here considered the sixth and final tenet, and he expresses it pointedly where he says, "We have to remember that the valuable intellectual development is self-development...."[11] Again he reiterates, "...Remember what I said a minute ago, that in reality you educate yourselves. No one else can do it for you. You are not pieces of clay which clever teachers are modeling into educated men. It is your effort alone which essentially counts."[12] In addition to the responsibility inherent in undertaking the acquisition of an education, Whitehead is also discussing a perspective or an ultimate approach to education. It is the development of this approach in Whitehead's perspective which would prepare students for meeting any eventuality with confidence. Their own self development would empower them in any situation, and it is this point of this sixth tenet which resonates so well with Naisbitt's first trend. Being educated under the principle of this tenet reduces many of a person's barriers which would inhibit his ability to shift from an industrial society to an information society to an intergalactic society to a telekinetic society or any other society. All of this because Whitehead's learners ultimately take hold of the reins of their own education and can confidently prepare themselves for change.

In a very real sense this sixth tenet meshes beautifully with Naisbitt's fourth trend. The trend reflects the shift from short term to long term thinking. Whitehead's tenet is long term thinking, something to which our society is finally aspiring. The tenet is long term thinking, because it presupposes the day when the student must educate or re-educate himself. It is long term thinking, because it presupposes that time when the "teacher won't be there" for the student, and it is long term, because it presupposes that this same view must be fostered within the student while educating that student during his/her own "insistent present."

If ever a tenet resonated with a trend, it is the resonation of Whitehead's sixth tenet and Naisbitt's sixth trend. Whitehead has stated that learners must essentially be responsible for their own learning. In view of Naisbitt's sixth trend, someone might suspect that Americans have been reading Whitehead and following his advice. The thought, of course, is far-fetched, but probably not as far-fetched as the suspicion that America's educators have been reading Whitehead. One quick look at the schools would substantiate the farfetchedness of that notion. The application of the sixth tenet in light of the sixth trend lies somewhere in the converse of the preceeding lines. Americans are becoming more willing to assume many of the responsibilities that are inherently their own. Whitehead would simply encourage educators to move forward under such an assumption. Indeed

the first five tenets are inseparable from this sixth one, and in the end, depend upon it.

When looking back at these six tenets that have been extrapolated from Whitehead's educational writings, one should not be surprised that there exists a type of internal unity among them. Thread-like though it is at times, there is nonetheless a "connexion" between avoiding inert ideas or a disconnected curriculum; and understanding that there is a type of natural "rhythm" to learning, and that both liberal arts and technical training are a part; along with understanding that there is a necessary mental approach to work and that the learner is ultimately responsible for it and any other accompanying insight that he can discover. One should not be surprised by this unity, because Whitehead modeled the kind of complete thinking that he advocated. It is for this reason that a distinctly different approach to schooling emerges, when a more general application of his tenets is seen in the selected areas that follow. These applied areas include: an approach to school-wide curricula; an approach to content within a curriculum; an approach to instruction; and an approach to research in the aforementioned areas.

Four Areas of General Application

If there is a traditional approach to school wide curricula, it is well represented in John Goodlad's very industrious work entitled A Place Called School. This work received special attention as representative of a highly

popular approach at the outset of this chapter. As a first step, he notes the need for educational goals and accompanying goal statements. "The time has come, past come, for the 50 states to articulate as basic policy a commitment to a broad array of educational goals in the four areas that have emerged in this country over more than three hundred years."[13] Goodlad attributes the foundation of this statement to Ralph Tyler's proposition, of some forty years earlier, that school administrators and teachers ought to have available to them a set of about a dozen goals which would give guidance to school program development. With seemingly unusual reasoning, (if a few goals are good, then a lot is tremendous), Goodlad offers sixty-two goal statements. That's one goal for every three school days with two goals left over, and a discussion of behavioral objectives has not even been initiated. A good discussion of reconceptualization is in order, but that is reserved for chapter six.

An example of the converse of the Goodlad, et.al., approach can be seen in what Madison, Hamilton, and the rest of our country's founding fathers did give to our fledgling country in the broad-brush form of our Constitution. That same contrast is also what A. N. Whitehead has given to the educational community, which might closely approximate Tyler's statement, or rather, Tyler's statement might resemble Whitehead's approach. In any event one should be reminded that Whitehead's homeland doesn't even possess a

constitution, yet is one of the world's finest examples of freedom and democracy. The question remains, is excessive detail what is wanted?

Whitehead's approach is not delineated in school wide goal statements, though they are not unimportant. His approach directs the impetus of education away from the institution and towards the client. What we should aim at producing is men who possess both culture and expert knowledge in some special direction. Their expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and as high as art."[14] Hear again his approach to school curricula. "There is only one subject-matter for education, and that is Life in all its manifestations."[15] In this same sense and more specifically he states,

> We enunciate two educational commandments, 'do not teach too many subjects,' and again, 'what you teach, teach thoroughly..... The result of teaching small parts of a large number of subjects is the passive reception of disconnected ideas, not illumined with any spark of vitality. Let the main ideas which are introduced into a child's education be few and important, and let them be thrown into every combination possible.[16]

Once again in the same essay, Whitehead alludes to this goal:

> You may not divide the seamless coat of learning. What education has to impart is an intimate sense for the power of ideas, for the beauty of ideas, and for the structure of ideas, together with a particular body of knowledge which has peculiar reference to the <u>life</u> of the being possessing it.[17]

It appears that the majority of responses by the "clients" in Goodlad's survey lean towards an educational goal or an educational approach which is as simple and straight forward as this one, that is, until they are "prompted" and "forced" to choose more.

When the discussion shifts to the actual content of the school curriculum, not surprisingly, Goodlad is distressed with his findings.

> Two major deficiencies stand out in all aspects of the curricula we studied, from state and district guides to the most important learnings perceived by students. The first is a failure to differentiate and see the relationships between facts and the more important concepts which facts help us to understand. The second, closely related to the first, is a general failure to view subjects and subject matter as turf on which to experience the struggles and satisfactions of personal development.[18]

One should not wonder at such a phenomenon, in light of the goal statements and undoubtedly the accompanying "behavioral" objectives. Might not these shortcomings be expected.

Such a phenomenon is not new and was not new to Whitehead. He consistently railed against educators who were preoccupied with "pumping" the child's head with mere facts or "scraps of information" as Whitehead put it.

> Culture is activity of thought, and receptiveness to beauty and humane feeling. Scraps of information have nothing to do with it.... In training a child to activity of thought, above all things we must beware of what I call 'inert ideas'--that is to say, ideas that are merely received into the mind without being utilized, or tested, or thrown into fresh combinations.... In the history of education, the most striking phenomenon is that schools of learning, which at one epoch are alive

> with a ferment of genius, in a succeeding generation exhibit merely pedantry and routine. The reason is, that they are overladen with inert ideas. Education with inert ideas is not only useless: it is, above all things, harmful--'Corruptio optimi, pessima.' Except at rare intervals of intellectual ferment, education in the past has been radically infected with inert ideas.[19]

Had the educational researchers under Goodlad, et. al., remembered in these earlier years more of Whitehead than the brief quote in the back of their study it is seemingly plausible that A Place Called School might well have become quite a different book.

The Whitehead approach to the subject's curriculum is not unlike his approach to setting the school curriculum. Teach a few ideas thoroughly. This provides unity and a greater possibility for "generalization." At the same time, the corollary to teaching a few ideas thoroughly is to encourage the student towards special study.

> The appreciation of the structure of ideas is that side of a cultured mind which can only grow under the influence of a special study. I mean that eye for the whole chess-board, for the bearing of one set of ideas on another. Nothing but a special study can give any appreciation for the exact formulation of general ideas, for their relations when formulated, for their service in the comprehension of life.[20]

The combination of teaching a few ideas thoroughly and encouraging the students toward special study is essentially the Whitehead approach toward the individual subject. This in turn leads to the cultivation of that sense for style to which Goodlad makes reference.

When one applies Whiteheadian tenets to the area of instruction, current educational psychology which centers around behavioral psychology, in many instances stands directly in the way. Whitehead attempted and succeeded at manipulating curricula, factual content, ideas, and a host of areas, but only under the strictest circumstances did he attempt to manipulate learners. This is fairly congruous with the six tenets that have been presented, and seemingly quite incongruous with the educational portraits which emerge from the data of A Place Called School.

Now before the war breaks out again between behaviorists, humanists and cognitive developmentalists, all should be reminded of the fact that well over a half century ago, Whitehead offered the marriage of all three. This marriage has already appeared earlier as the third of the six tenets, i.e., that the essence of education can be understood as a rhythm consisting of three cycles: Romance, Precision, and Generalization. Humanists might find many of their own precepts embodied in the affectively oriented approaches inherent in the stage of Romance. The same would be true for behaviorists in the stage of Precision, and in a sort of generic sense, cognitive developmentalists in the state of Generalization. The implication for application to instruction is that all three stages must be understood by the instructor, and hopefully in a small sense understood by the learner, so that the most can be made of whichever cycle is in progress at any time. The mindfulness of this rhythm

embodies in a large part the application of the Whitehead approach to instruction. Everything the teacher does, then, emanates from this understanding.

At this point, some applications in the area of research perspectives emerge. If education is a cyclic process then isolation and study of those cycles might prove valuable for both instruction, and the training necessary to deliver that instruction. (Though Whitehead on occasion uses the word instruction, seemingly for him it does not carry the overtones of a drill sergeant as it does in some educational quarters today). Might it not be better to begin to free ourselves from the "people as higher level animals" mentality that surrounds both research and practice. "Life as the subject matter of education" creates some interesting curriculum possibilities. Further, there are certainly possibilities for research perspectives that assume that the student is responsible for his/her own learning. These then, are just a few possible perspectives for areas of research application. The discussion of these perspectives is expanded with the inclusion of an illustration in chapter six.

CHAPTER V FOOTNOTES

[1]A. N. Whitehead, The Aims of Education (New York, 1968), p. 2.

[2]Ibid, p. 3.

[3]Ibid, pp. 6-7.

[4]Harold B. Dunkel, Whitehead on Education, (Ohio State, 1965), p. 107.

[5]A. N. Whitehead, The Aims of Education, (New York, 1968), p. 19.

[6]John Naisbitt, Megatrends: ten new directions transforming our lives (New York, 1982), p. 144.

[7]A. N. Whitehead, The Aims of Education, (New York, 1968), p. 46.

[8]Ibid, p. 49.

[9]Ibid, pp. 49-50.

[10]John Naisbitt, Megatrends: ten new directions transforming our lives (New York, 1982), p. 36.

[11]A. N. Whitehead, The Aims of Education, (New York, 1968), p. 1.

[12]A. N. Whitehead, Essays in Science and Philosophy, (New York, 1968), p. 173.

[13]John I. Goodlad, A Place Called School, (New York, 1984), p. 50.

[14]A. N. Whitehead, The Aims of Education, (New York, 1968), p. 1.

[15]Ibid, pp. 6-7.

[16]Ibid, p. 2.

[17]Ibid, pp. 11-12.

[18]John I. Goodlad, A Place Called School, (New York, 1984), p. 237.

[19]A. N. Whitehead, The Aim of Education, (New York, 1968), pp. 1-2.

[20]Ibid, p. 12.

CHAPTER VI

The final chapter of this work is a presentation of implications and/or recommendations drawn from the application of Whitehead's tenets to the selected Naisbitt trends.

Four areas of discussion are included. The first area deals with the notion of reconceptualization both as it was presented by John Naisbitt and as it was implied by Alfred North Whitehead, and as they might relate it towards our approach to people in general. The second area is somewhat like the first with the exception that the emphasis is on reconceptualizing our approach to working with people. The third area presents implications and recommendations which reflect the previously discussed approaches. Finally the fourth section carries a brief discussion regarding the second part of the major problem as stated in the opening chapter, that being the need for methodology which allows for study of this kind. This section concludes with a brief illustration.

Implications for Personal Interactions

As a preface to the discussion of our general approach towards interacting with our fellow human beings, it might prove beneficial to shed some light once again on Naisbitt's fourth trend. That fourth trend reflects the awakening of

many leaders in the business world who are putting aside their natural urge to react to the moment (the short term), and thinking and reasoning from a much longer perspective, much as the Japanese have recently adopted as a regular practice. The twin corollary of this shift is what Mary Parker Follett termed "the law of the situation." The law of the situation is an important concept because, "The Law of the Situation asks the question 'What business are you really in?'"[1] Naisbitt then adds the supplemental idea which is reconceptualization. "When the business environment changes, a company or organization must reconceptualize its purpose in light of the changing world."[2]

Just to digress for a moment, educators have seemingly either (a) never reconceptualized or (b) reconceptualized often but just as often failed to discern the true situation. This is partly why Whitehead and his approach represent such a valuable path. When he conceptualized his approach, he took into account the fact that educators might never know the specifics of learners' present or future situations. Thus what was needed was an approach that would serve learners in any circumstance even if the learners themselves could not know their present or future situations. The emphasis under Whitehead's approach was and is on the methods, means and processes of education. The outcomes and ends are secondary and will take care of themselves. The "end" for Whitehead was an adaptable, method-rich learner, who could process his/her way through

nearly any of life's situations to achieve cultural appreciations as well as general understandings, larger questions, and challenges to further inquiry.

Returning to Follett's principle of the law of the situation, educators should find that the nature of our world is such that the law of the situation is that specific learner needs will most likely change and continually change throughout the learner's lifetime. Thus the law of the situation for education is change. This sounds like an impossible situation for education in America, but the positive aspect is that educators can always predict that there will be change and not always be right, but never be wrong. That is, if learners have been prepared for adapting to change, and do not experience or need to adapt to change, their ability to learn will have still met their need for their situation.

The second highly positive aspect for education in America in this regard is our response to Naisbitt's reconceptualization corollary to Follett's law. Unlike business which often must concern itself with continually reconceptualizing in order to provide the needed product, education may now need to reconceptualize only once. When education becomes primarily focused on method and process, there may not be a need to continually reconceptualize as business must.

Probably the most real and dynamic of all of Naisbitt's trends is the shift to an information society. It is a

highly supported trend by both experts and authors across numerous disciplines. It has shaken the foundations of both business and education. It has left educational leaders groping for a response, and it has encouraged administrative leaders to fill their classrooms with computers and software. Whether such a response is appropriate, no one seems to be really sure. Their lack of assurance, of course, is part of the reason for this paper. This trend, however, has provided something very special for educators. It has provided an opportunity. Educators need only view it as such. It has provided the opportunity for a pause in "business as usual." It has universally given educators a reason (or excuse) to buy time from the public, just as Whitehead had the same opportunity in his World War I circumstances. If educators will bend their efforts toward reconceptualizing the underpinnings of educational thought in this country and state it as such, perhaps the public will cooperate.

If chapter five has demonstrated anything, it has demonstrated the hand-in-glove mesh of Whitehead's sixth tenet, which states that the student retains the responsibility for his/her own learning, and Naisbitt's somewhat generic sixth trend which states that Americans are switching from institutional reliance to much more self-reliance and responsibility. This is a good example of an area of great opportunity. Educators ought to take the "high road" and wholeheartedly back such a shift to greater individual

reliance. Backing such a shift might be a really good way of shifting our own perspective from state codes, school buildings, and classrooms to clients, i.e., individual learners, where it more properly belongs. Is not such a perspective already an often unrealized given in both gifted and exceptional education programs? Such a shift ought to afford educators the opportunity to build and support all people as learners, especially the 80 percent who are not supposedly specially gifted or exceptional.

Implications for Interactions With Fellow Educators

Supporting such a shift ought to present another great opportunity, and that is the opportunity to take the "high road" as it relates to fellow educators. It is amazing and not a little disturbing how often teachers encounter so-called educational leaders who view all levels of school personnel as the older counterparts of the supposedly unreliable and irresponsible students of yesteryear. To no one's surprise, school personnel are capable of accommodating that errant viewpoint. Thus state education departments need elaborate "accountability" measures and a punitive system, rather than using those same resources to facilitate growth and support services. Brophy and Good's excellent discussion of the Pygmalion Effect probably has more implications and applications for school personnel than one might initially expect.[3] Educators have a great opportunity to start believing and acting like the people who are put into schools are capable, much as A. N. Whitehead did over a half century ago.

Implications for a More Productive Educational Perspective

Educators have another great opportunity, and that is the opportunity to dispel what seems at this time to be a rather unproductive viewpoint. This viewpoint is a tenet of a number of determinists and/or reductionists, and the viewpoint is that there is no freedom.* That premise does not work, however, for a number of Americans. Their will to educate their youngsters in some rather non-traditional ways, as Naisbitt has shown, might well serve as the proof.

In a recent newspaper article, B. F. Skinner bemoans what he sees as the great problems of Western Society. At the top of his list, he includes such problems as the use of too much punishment, too much boredom, and the lack of joy in the living of life. He attributes the problem to "tyrannical governments and religions."[4] He does not attribute any of the problem to a system of learning that is preoccupied with "right" answers, and instantaneously rewarding those right answers. What is inherently taught in such a system? Skinner continues: "What is needed is to give satisfaction back to people. It's the difference," he says, "between a craftsman who makes a complete chair and a person on an assembly line who makes only the legs. The

* Though the researcher is aware of some of the subtle differences in the following terms, for the specific purposes of this discussion, the terms determinism, behaviorism, and reductionism are interchangeable and used collectively as an example of an educational, and to some extent, philosophical perspective. Notable educational researchers associated with these terms include such men as Thorndyke, Watson, Pavlov, Taylor, and Skinner.

craftsman's work," Skinner says, "is constantly reinforced by the process of seeing the chair take form, and finally of producing the finished chair. But the assembly-line worker sees only chair leg after chair leg - never the completed product."[5] One might question whether a reductionist viewpoint such as Skinner's serves to solve the problem or does the behaviorally modified, programmed learner see anything different? Might not the behaviorally modified learner see algebra - from which nothing follows; biology - from which nothing follows; or history - from which nothing follows? From a slightly different approach would the behaviorally modified chair-maker know enough to start making something else when the chair market is saturated, or does he/she continue to receive that "instant gratification" of crafting a whole chair even though people are demanding tables. At the same time there is a sense in which Skinner's reductionist ideas may be quite valuable, as will be seen shortly.

There is another seemingly unproductive assumption at work in the reductionist/determinist perspective. It is manifested in the notion that manipulating human beings is something like training animals. Education is something that is done to students rather than with them or for them. Such a belief precludes any self-initiatives or reasonings or self-evaluations. The pupil is only a receiver not an emitter; a responder rather than an expressor of perception. Such an assumption really implies more. Inherent within

this perspective, either intentionally understood or otherwise, is the notion that learners are not responsible, and maybe can never be considered responsible. Of course someone has to be responsible, so the most likely candidate is the teacher, but if teachers organize, they can get the responsibility shifted to the principal, and if all school personnel organize, they can get the responsibility shifted to state and national governments. Governments, however, know how to be responsible about nearly everything. Governments can really take charge. They can pass laws requiring all kinds of mandatory testing not only for students but for teachers as well. They can add more time to the school day or more days to the school year or threaten to cut off the funds. They can even promise to keep all test scores confidential.

John Goodlad provides a further example of this point.

> ...just a few years ago, any serious discussion of how to improve schools as the social systems they are was aborted frequently by the explanation that 'everything depends on the teacher.' The conventional wisdom today in many quarters is that 'everything depends on the principal.'[6]

What seemingly unproductive assumptions these are, especially when compared to Whitehead's contrary point of over seventy years ago. "...In reality you (students) educate yourselves. No one else can do it for you. You are not pieces of clay which clever teachers are modeling into educated men. It is your effort alone which essentially counts."[7] What is more, Whitehead's assumption was not liberal idealism. It was the rational, logical approach of

the day. The fact that anyone could even presume the responsibility for the processes of another person's mind was incredible, and maybe even a little eerie. Whitehead's sensible approach needs a larger claque in these times.

Digressing slightly further with the thought that human beings are something more than animals, what one believes about human beings really makes all of the difference in how one approaches their education. Unfortunately many of the philosophical foundations that undergird fundamental thinking within the various disciplines come from both philosophies and philosophers whom we generally ignore as being so obtuse that they do not rate a second thought. Unfortunate, too, is the fact that at the crux of their pronouncements is a hopeless view of humanity. Discussing such a view at this point is beyond the scope of this paper. As a point of reference, though, the great and long time Cambridge University lecturer, Francis Schaeffer, has spoken eloquently to that predominant view in his books, Back to Freedom and Dignity[8] and He Is There and He Is Not Silent.[9] Schaeffer not only roundly refutes the "doom and gloom" view, but logically and rationally replaces it with just the opposite one.

Returning to the commentary regarding reductionists and/or behaviorists, what is wrong is not necessarily their methods or the lack of success of their methods, but the context in which they are used. A better context will be discussed momentarily. In the mid to late 1950's, there

were some notable educators in America who attempted to put reductionism/determinism or more specifically behaviorism in a much more meaningful perspective. The youthful ASCD devoted their third research institute to the discussion of that perspective. Among the contributors were Arthur Combs and Robert Bills. Whether their writings were ignored or their discussions evolved into something eventually unrecognizable, their views remain insightful. It should be helpful to follow the ensuring discussion both as it relates to behavior specifically and reconceptualization in general, and as it will ultimately relate to Whitehead.

If human beings are like animals, then human problems ought to be successfully resolved by simply manipulating the forces that are exerted upon them. Like many of our experiences from the farm (Comb's experience too), cattle can be successfully driven from the pasture to the barn simply by closing and opening the appropriate gates, or manipulating the forces that are exerted upon them.

> The 'fencing in' technique works fine with cattle and sheep. Unfortunately, it often breaks down in working with people because people, being smarter than cattle or sheep, are always finding gates which we forgot to lock or climbing over the fences we have so carefully erected.[10]

In order to use the "fencing in" method correctly it is presumed that someone or a few people know where all of the people <u>should</u> go.

> The concept of leadership which grows out of this conception of the nature of behavior, moreover, calls for a leader who is a kind of superman skilled in the manipulation of forces to get people to behave in the ways desired by the

> knowing few. Stated in this way, such a view of dealing with people seems highly distasteful to those of us who are deeply concerned with democratic practices. Nevertheless, this is the method of dealing with people to be found most commonly everywhere in our society. In spite of ourselves, whenever we find ourselves saying, 'How can I make him behave? How can I get him to--' or 'I told him what to do!' we are illustrating this point of view about people.[11]

In the continuation of Combs' discussion note the context in which behaviorism/reductionism fits.

> Now the difficulty with this idea is not that it is wrong. The problem, rather, is that it is partly right. It is partly true that people do behave in terms of the forces which are exerted upon them. The idea is not wrong, it is partly right! Unfortunately, partly right ideas give partly right answers and partly right answers, in return, encourage us in the vain hope that if we could but try a little harder, put forth a little more effort, or find a little better angle we would be able to solve the problem completely.[12]

Those in the behaviorist camp certainly seem to be partly right! There is one more aspect to be considered, however, before proceding to Whitehead and the needed context.

The necessary aspect is that of perception. Robert Bills provides insight into the meaning of perception as it applies to learning. His definition is compatible with that of Combs and others. Simply stated Bills discusses "...perception in the sense of how a person 'sees' or perceives things and how his perceptions affect his learning.... The primary assumption of the perceptionist is that behavior is a function of perception."[13] Much of what is learned by the learner is tied to his/her personal perception of the information or whether he/she is affected by the information. Combs follows the principle closely when he notes that, "Any

piece of information will have its effect upon behavior in the degree to which an individual discovers its personal meaning."[14]

If one has understood Whitehead, such premises as those just stated are not necessarily new. Looking at the sixth tenet, that of student responsibility, Whitehead would see no need of manipulating students to get them to learn, because it is already their responsibility. At the same time, tenet five, that of providing the opportunity to discover a broader meaning for the information that a teacher must dispense, provides a needed check upon the teacher's role. These two tenets undergird all of the others, but the real heart of this discussion, and its attending implications proceed from the third tenet. When the third tenet is understood, all of the pieces of the learning puzzle fit remarkably well. When learners are affected positively by an idea (the stage of romance), they perceive its importance and willingly submits to whatever behavior modification necessarily helps them acquire the needed content (the stage of precision). In this context, then, the reductionist system has great usefulness. It is highly efficient. Learners are not interested in "jumping any fences." They are interested in acquiring the much needed content. At that point, they can proceed to make connections. The ideas are not inert, because the learners can use them, combine them, find whatever unity there is among them, and make both new "generalizations" and begin a

new cycle of romance, and this rhythm is applicable across curricula whether liberal, scientific or technical. This makes for a considerably more optimistic and useful approach to educating human beings.

One still might wonder what Whitehead has to do with Combs, Bills, and others who look at learning from this more perceptual viewpoint. Some may even think that Whitehead was just lucky or made lucky guesses about the nature of all of these things, but Whitehead was a practitioner. He grew up with practitioners, he reflected upon his own practice, and he spoke to, with, and for practitioners from this viewpoint. All the while, he was considered an outstanding researcher and theorist. Combs aptly discusses this process which was most likely Whitehead's process.

> ...practice often precedes our theoretical understanding of the problem. However, when we eventually arrive at new theoretical understandings, we have acquired a yardstick in terms of which we can measure old practices and can push forward to even newer practices.[15]

Whitehead's practices have everything to do with education today, and have very little to do with luck. Thus, Whitehead has already assumed much of the perceptual theory nearly a half century ahead of Combs, Bills and the rest.

Bearing in mind this whole discussion, it becomes especially valuable to interject Whitehead's views with regard to individual schools and various systems of external examination, an idea with which the entire nation is currently preoccupied. To say that Whitehead had little use for external examinations as directed by "state" departments

of education is putting his view mildly. He attributed much of the inertness in education to a preoccupation with external testing programs. These programs were unsuitable primarily because they ignored those qualities that are special to each school, classroom, and teacher.

> It is for this reason that the uniform external examination is so deadly. We do not denounce it because we are cranks, and like denouncing established things. We are not so childish. Also, of course, such examinations have their use in testing slackness. Our reason of dislike is very definite and very practical. It kills the best part of culture. When you analyze in the light of experience the central task of education, you find that its successful accomplishment depends on a delicate adjustment of many variable factors. The reason is that we are dealing with human minds, and not with dead matter. The evocation of curiosity, of judgment, of the power of mastering a complicated tangle of circumstances, the use of theory in giving foresight in special cases--all these powers are not to be imparted by a set rule embodied in one schedule of examination subjects.[16]

Such a perspective does not eliminate examinations, but those examinations originate from a different source, and for Whitehead that source is the school itself.

> Each school should grant its own leaving certificates, based on its own curriculum. The standards of these schools should be sampled and corrected. But the first requisite for educational reform is the school as a unit, with its approved curriculum based on its own needs, and evolved by its own staff. If we fail to secure that, we simply fall from one formalism to another, from one dung-hill of inert ideas into another.[17]

Whitehead reiterates the point again:

> When I say that the school is the educational unit, I mean exactly what I say, no larger unit, no smaller unit. Each school must have the claim to be considered in relation to its special circumstances. The classifying of schools for some purposes is necessary. But no absolutely

> rigid curriculum, not modified by its own staff, should be permissable. Exactly the same principles apply, with proper modifications, to universities and to technical colleges.[18]

In addition, Whitehead is quite clear regarding who it is that examines the learners:

> And I may say in passing that no educational system is possible unless every question directly asked of a pupil at any examination is either framed or modified by the actual teacher of that pupil in that subject. The external assessor may report on the curriculum or on the performance of the pupils, but never should be allowed to ask the pupil a question which has not been strictly supervised by the actual teacher, or at least inspired by a long conference with him. There are a few exceptions to this rule, but they are exceptions, and may easily be allowed for under the general rule.[19]

In higher education many talk as though their students are capable of handling a system like the one just described. Maybe it is about time they got the chance.

Hopefully the discussion to this point has clearly implied and even recommended what is <u>not</u> wanted in our conceptions of education. The mechanistic and manipulative approaches that we have taken for granted have often led us away from what is needed and wanted. The misapplications and impossibility of application of much of the quantitative research in education have probably too often left school personnel ineffective and frustrated, and have left many of our students in the position of learning in spite of us rather than because of us. Unfortunately, we cannot quickly point to worthwhile alternatives for teacher preparation, or supervision or a proven alternative approach to research. Larry Lezotte, of Michigan State University, has been known

to remark to his students that, "Education is very mushy science but especially disciplined art."

Implications for Methodology

Art is not a foreign work to all leading educators, particularly to a leader such as Elliot Eisner. If there is a spokesman for a different approach, it is certainly Dr. Eisner. In an article appearing in Educational Leadership, Eisner details the history of the misconceived role of behavior modification in American education, and the misapplication of Francis Taylor's scientific management, both perpetuated by the use of research methods from the sciences, and all designed to produce a prescriptive science of educational practice. Such an endeavor, according to Eisner, is hopeless.

Eisner, instead, places hope in what he calls the art of teaching. What he means by the art of teaching is grounded in four basic points.

> First it means that no science of teaching exists, or can exist, that will be so prescriptive as to make teaching routine.... Second, because the classroom, when not hog-tied or mechanically regimented, is a dynamic enterprise, teachers must be able to read the dynamic structures of signification that occur in such settings. Such reading requires attention to pattern and expressive nuance created by the students and the teacher's own activities. Third, appreciation is not enough. The teacher must be able to call on or invent a set of moves that create an educationally productive tempo within a class.... Fourth, it means that we acknowledge that artistry in teaching represents the apotheosis of educational performance and rather than try to diminish or replace it with rule-governed prescriptions, we ought to offer it a seat of honor. Artistry in teaching is always likely to be rare but it is

> even rarer when one works in an educational climate that is so concerned about academic achievement that it often stifles intellectual risk-taking on the part of both students and teachers.[20]

Eisner's whole perspective is promising, and the type of research that attends it is reflected in the second part of the problem addressed by this dissertation.

If action does in fact speak louder than words, then hopefully this paper reflects the positive side of that axiom. In a major way, the style of this paper is traceable to Eisner's research perspectives which call for more artistic approaches to educational research which, in turn, complement his other more artistic approaches to educational matters. His research perspectives have been discussed in various publications, but probably no more succinctly than in an article that appeared in the April, 1981 Educational Researcher. The article, entitled, "On the Differences Between Scientific and Artistic Approaches to Qualitative Research" is valuable for our purposes, here, because several of Eisner's propositions are attempted and hopefully reflected in the method and style of this present work. In the article Eisner outlined ten areas of contrast, and while space does not allow for a full discussion, some of his more pertinent points follow.

Under the heading "criteria for appraisal" Eisner notes that,

> Scientific approaches to research ask whether or not the conclusions are supported by the evidence, and further, whether the methods that were used to collect the evidence did not bias the conclusions.

> In other words, scientific research is always concerned with questions of validity.... Validity in the arts is the product of persuasiveness of a personal vision; its utility is determined by the extent to which it informs. There is no test of statistical significance, no measure of construct validity in artistically rendered research. What one seeks is illumination and penetration. The proof of the pudding is the way in which it shapes our conception of the world or some aspect of it.[22]

In the scientific approach to qualitative research, one is interested in working from the particular to the general, and one has interest in the particulars only as they represent general tendencies.

> The artistically oriented researcher is interested in making the particular vivid so that its qualities can be experienced and because he believes that the particular has a contribution to make to the comprehension of what is general. The ability to generalize from particulars is one of the ways whereby humans cope with the world. I know of no one who forms the generalizations that guide his or her actions through a technically rigorous process of random selection.[23]

A very important difference between scientific and artistic approaches is the matter of form. Ideally in scientific research form is rigorously prescribed and followed to the letter. The personality of the researcher is not to be found in the work as it might negatively impact content.

> What artistic approaches seek is to exploit the power of form to inform.... In artistic approaches the particular words chosen, the location of specific ideas within a report, the tone and tempo of the writing, the sense of voice which it possesses have no literal equivalent. The potential of form is not regarded as a liability but as an essential vehicle constituting a significant part of the content of the communication.[24]

These are only three examples from Eisner's discussion but hopefully they establish the point.

Though some may not normally think of A. N. Whitehead and Elliot Eisner as bedfellows in their approaches to education and learning situations, there seems to be some very strong agreement. One might find the areas of: the value of discussion, the choice of language, the sense of style (as Whitehead speaks of it), and the autonomy of classrooms and schools as points of agreement to name a few.

Along these same lines, there are some who might be inquisitive as to a curriculum example or illustration of an application of a Whitehead tenet. The tenet of choice could easily be that of education as a rhythm consisting of the cycles of romance, precision and generalization. The researcher believes that there may be and possibly should be a host of applications of this tenet, each with its own style. A possible illustration in the field of history might proceed to encourage the young learner to investigate some of the history of his/her own family. The learner could discuss the family background with parents, grandparents, great grandparents and others. The learner might ultimately find this quite stimulating (romance). Other eddies within the cycle might include what father or great-grandfather did during wartime or the Great Depression and branching into a number of directions from there.

The stage of precision might include both sampling and acquiring skill at using both primary and secondary sources

and gaining understanding of how to collect and report data. All the while, topics for gaining precision could find their origin in those uncovered in the earlier stage of romance (which might still form an eddy within the stage of precision). Commonality among learners' experiences and understanding universally accepted means of reporting findings would have a strong place in the stage of precision.

The stage of generalization, then, is the stage of new romance, along with individual study and reporting, but with the skills of precision acquired in that previous stage. The learner might initiate a study of the W.P.A. stemming from the fact that grandfather received employment in that way during the Depression. Such a study could stem from first romance and include the elements of the stage of precision, and find ultimate fruition in the stage of generalization.

To summarize, this paper has covered a considerable amount of territory. Naisbitt's ten trends have been discussed, and a representative group of three have been selected and supported by at least three other educator/ futurist authors. The three trends are still quite viable as of this writing. They have provided a current and evolving context with which to reckon educational undertakings. Various significant opportunities have been presented and discussed. Whitehead's general educational thought has been presented and six tenets extrapolated.

Systematic applications of the tenets have been completed in the context of the trends, and trial understandings from contemporary thought have been examined. Supported implications have been discussed and additional contemporary support for the use of Whitehead's thought has been established. A differing method and style of presentation has been tried and found to be useful. It is hoped that others can use all or parts of the content, methodology and style presented hereby using other authors, scholars and/or futurists or the same ones for that matter. In addition, it is hoped that others will be encouraged to develop and attempt other styles of research and be heartened by the efforts of this work, if not the results.

CHAPTER VI FOOTNOTES

[1]John Naisbitt, Megatrends: Ten new directions transforming our lives (New York, 1982), p. 85.

[2]Ibid, p. 85.

[3]Jere Brophy and Thomas Good, Looking in Classrooms (New York, 1978), pp. 67-73.

[4]Sally Squires, "Disciple of Enjoyment," Detroit News, December 28, 1985, p. 6A.

[5]Ibid, p. 6A.

[6]John Goodlad, A Place Called School (New York, 1984), p. XVI.

[7]A.N. Whitehead, Essays in Science and Philosophy, (New York, 1968), p. 173.

[8]Francis Schaeffer, Back to Freedom and Dignity, (Downers Grove, 1972).

[9]Francis Schaeffer, He Is There and He Is Not Silent, (Wheaton, 1972).

[10]Arthur W. Combs, "Personality Theory and Its Implications for Curriculum Development," in Learning More About Learning, ASCD Washington, D.C., 1959) p. 6.

[11]Ibid, pp. 6-7.

[12]Ibid, p. 7.

[13]Robert E. Bills, "Believing and Behaving: Perception and Learning," in Learning More About Learning, ASCD (Washington D.C., 1959), p. 55.

[14]Arthur W. Combs, "Personality Theory and Its Implications for Curriculum Development," in Learning More About Learning, ASCD Washington, D.C., 1959), p. 10.

[15]Ibid, p. 7.

[16]A.N. Whitehead, The Aims of Education, (New York, 1968), p. 5.

[17]Ibid, p. 13.

[18]Ibid, p. 14.

[19]Ibid, p. 5.

[20]Elliot Eisner, "The Art and Craft of Teaching," Educational Leadership, (January, 1983), p. 9.

[21]Ibid, p. 11.

[22]Elliot Eisner, "On The Differences Between Scientific and Artistic Approaches to Qualitative Research," Educational Researcher, 10, No. 4 (1981), p. 6.

[23]Ibid, p. 7.

[24]Ibid, p. 8.

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