THE UNIVERSITY OF CALGARY

AN EVALUATION OF THE CITY OF AIRDRIE'S INFORMATION CENTRE PROGRAM

by

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ABSTRACT

The author used the history and philosophy of science as the backdrop for the development of a multidimensional process oriented program evaluation. This evaluation was performed with the cooperation of persons associated with the Airdrie Information Centre. With the assistance of a Steering Committee, recommendations for the future development of the program were proposed and implemented. A one-year follow-up was done to determine how the recommendations were utilized.

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I would like to thank the city of Airdrie, and most specifically Mark Nicoll, for allowing me the chance to test out my theory. Without this chance, the vision may have been nothing more than a delusion.

In addition, I would like to thank Mike McIntyre, who would not push me but would not let me quit. He kept me off blanace like a good teacher should and would not let me forget my vision, forcing me to make it a reality.

Finally, I would like to thank my family, both of origin and of present make-up, for their support throughout.

DEDICATION

This thesis is dedicated to the inspiration, both present and past, which got me through this task.

Thanks, Alfred and Sharada.

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(1925)

CHAPTER ONE

INTRODUCTION

The content of this thesis is defined by the author's personal, professional and academic struggles to reconcile the dilemmas associated with studies of the real and the ideal, the philosophical and the scientific; the macrocosmic and the microcosmic; and the stasis (or state of equilibrium or inactivity) associated with the known and the homeostasis (balanced activity and change) of the knowable. The struggle, as the dilemmas, are constantly evolving, changing and, most importantly, in process.

Throughout this work, there will be switching back and forth between a macrocosmic philosophical viewpoint and a microcosmic concrete one. The gaps are purposeful. They are an attempt to create a sense of the interwoven tapestry which is the interconnection of the ideal and the real.

The author's personal purpose in choosing this particular topic was to incorporate the concepts of struggle and process into the format of a program evaluation. In so doing, the rewards were thought to be an increased sharpening of evaluative skills, something enigmatic which could possibly be useful and functional in future endeavours. Secondly, the author felt that a process model of program evaluation would result in a thesis with potential efficacy or impact. Finally, within the context of this thesis, the author hopes to promote harmony through the redirection of dogmatic belief, at the same time reducing his personal orientation to idealism, in other words, to show the efficacy associated through a greater orientation to process.

The focus of this thesis is upon program evaluation. The specific program to be evaluated is the Airdrie Information Centre program. A service designed to provide advice, information and direction to the citizens of Airdrie and to outside visitors.

The author became interested in program evaluation during the course of his studies at The University of Calgary, Faculty of Social Work during the period 1985 through 1987. Of

particular note was the analytic approach used. This was of particular interest since having come from an engineering background the author was captured by the ability to use logic, flowcharts and data analysis to evaluate social programs. In addition, the author's research into and knowledge of the history of science and its new emerging paradigms spurred ideas of how these may be incorporated to enhance the efficiency of program evaluations.

The city of Airdrie Information Centre became the subject of this thesis in a somewhat complex way. Originally, while doing some course work at The University of Calgary, the author assisted Paula Gubbels in her data analysis for her thesis entitled *Airdrie's Need Assessment (1987)*.

Later that year, the Social Planning Director of the Airdrie Information Centre, Mark Nicoll, commissioned the author for a secondary analysis using Paula's data base entitled "Supplemental Analysis" Skakum (1987). This work eventually led to the author being asked to conduct an evaluation of the Airdrie Information Centre.

The thesis is organized in this way; the introduction is followed by a literature review which attempts, through a review of the history of science, to set the groundwork for a new scientific and philosophical approach to program evaluation. Chapter Three is the Methodology section. This chapter will contain the various strategies employed in the gathering of data. Chapter Four will be entitled the Data Collection and Analysis Phase. During this section, the author will describe the process by which data was presented to the committee, and analyzed by them. Chapter Five, Implementation Phase, contains the scenario for change developed by the Steering Committee along with recommendations and timelines developed to achieve this. In addition, this section contains a one-year follow-up which assesses the progress towards the established recommendations.

The final chapter contains the conclusions drawn at this point in the process. It deals with the limitations of the study as well as the learning and personal growth achieved.

CHAPTER TWO

LITERATURE REVIEW

The author's struggle with the literature review which follows involved several considerations. First, what is the objective of a thesis? Is it to tell a truth? Is there a truth? Is it to contribute to collective practice wisdom? To add to the body of professional knowledge? Or again, is it to contribute to human well-being through the promotion of planned change efforts?

The second dilemma involves the author's concerns about the state of the art of program evaluations. The literature abounds with contradictions and controversies. Can a study be "scientific" only if it conforms to the "designs" of Cambell and Stanly (1963), or is utilization the key, as outlined by Patton (1978)? Should we use Shulman's evaluative criteria or Posavac and Carey's (1980)? Is there a need for goals and objectives to be stated before evaluation can occur? How about the use of bivariate or multivariate statistical techniques? The literature abounds with those claiming the right way to do program evaluation.

The author feels that this right way versus wrong way viewpoint is symptomatic of the North American viewpoint which is mired in the Newtonian concepts of cause and effect. It is the author's intention in this chapter to show how science and philosophy have progressed passed this Newtonian concept of a "clockwork universe" towards more modern paradigms filled with the power and spontaneity of the universe. To a universe based on process, not on rights or wrongs. It is the author's intentions to adapt this new "scientific" view to the process of program evaluation and to utilize a multidimensional evaluation strategy based on efficacy and implementation.

The author feels compelled to deal with the constellation of dilemmas presented earlier by establishing the roots from which they came. In order to determine how they came about, the author has undertaken a serious examination of the history of science, the purpose being to answer, or to ask, further questions regarding the meaning of scientific and philosophical truth.

THE HISTORY OF SCIENCE

Since the beginnings of recorded history, a debate has raged as to the meaning of reality. This debate began, according to Julian Jaynes (1976) as a direct result of the birth of consciousness. This breakdown caused people to see themselves as separate entities as well as a part of the greater natural whole. In other words, Greek scholars began to separate the "in here" experience from the "out there" observation.

The Greeks attempted to solve this debate by insisting that only one of these views was correct and that the other was illusory and, therefore, not real.

On the one hand, some Greeks believed that only the "I" or "in here" experience was real. This was the philosophy which holds that all objects, both animate and inanimate, seek a position or goal. That is to say all matter has consciousness, a pantheistic philosophy.

On the other hand, some held the view that the "I" experience was illusory. They concluded that, through "out there" observation, nature was found to behave in a patterned fashion. The investigation of these patterns led some to believe that matter was given an original impetus and then let loose. This infers that matter, people included, behave in a pre-determined mechanistic way.

Before philosophy was split from science and religion, these questions fell under the rubric of "natural philosophy." The common roots make it, in the beginning, impossible to separate philosopher from scientist. As Barfield (1981) states;

> For . . . (we) know that philosophy and later on science, have always performed a dual role. They have operated both as effect and as cause: as effect inasmuch as they start from and are limited by a mode of perception common at the time of their origin, as cause inasmuch as, in the future course of time they themselves help bring the formation and fixation of habits of thought divergent from those that prevailed before them. (p.31)

A proper historical development should begin from this basis.

Early Western philosophers were not concerned so much with the nature of God as they were with the structure of the universe. Their search was for the structural unity underlying the world of eternal beauty. Weber (1907) explains;

> The moral consciousness, which among the Greeks is identical with the sense of the beautiful, finds a powerful ally in reason and its natural tendency to unity. (p.1)

This history begins with these Greek philosophers.

Thales (600 BC) was occupied with the search for the substance of God's world. He believed according to Weber (1907) that there was life in all things, and that this life was based on the element, water.

> Water is the first principle, the universal substratum, of which the other bodies are merely modifications, water envelopes the earth on all sides; the earth floats upon this infinite ocean and constantly derives from it the nourishment it needs. (p.21)

According to Thales, water was the element out of which both heaven and earth had been created. He believed that when water evaporated it became air and fire. When it congealed, it became ice and rock.

Aniximander (575 BC) had a similar view to Thales, but disagreed with him as to the basic element. Aniximander's substance was the "infinite." He stated in Thomas (1962) that, "Out of the infinite, forever alive and forever in motion came the heavens overhead and the oceans underneath." (p.76)

Anaximenes, in 475 BC, was another of the "elemental philosophers." It was his belief that the stuff of the universe was air. Which in Weber (1907) he calls, "the generative principle of things air or breath." (p.23) Heraclitus, also in 475 BC, believed that the essential element was "fire." He claimed that we are nothing but eternal change, and that this was the role played in nature. He saw things as separated by strife.

Even in the beginnings of Western philosophy, within the Miletus school, we see the seeds of debate. Some essential elements claim stability or permanence; others claim change or constant flux; the debate goes on.

Empedocles (445 BC) according to Thomas (1962) agreed with Heraclitus that things are separated by strife, but he added that animals were united by love as well as separated by strife. "Matter is immutable in its essence, but bodies are in a state of constant change; their constituent elements are combined and separated in different proportions." (p.5) Material was ever-living, and constantly arranged in a new order, Edman (1938) "for something cannot be created out of nothing, and something cannot be decomposed into nothing." (p.5) Objects which we perceive are derived out of our selection or attention process. This was the beginning of an analytical separation between scientists and philosophers. It was the scientist's task to take things apart and analyze them, while it was the philosophers' job to unite things, to synthesize. As will be shown, different tasks, however, often yield similar results.

Lecretius, a Roman, moved the focus from elemental theory to atomic theory. He, in Weber (1907) "enunciated the theme of a universe in which all things were combinations of atoms, combinations which behaved according to discoverable mechanical laws." (p.25) An atom was, by definition, so small that it could not be cut. It was the atom that was the stuff of the universe.

Democritus (430 BC) was a disciple of Lecretius, who claimed that the atom had a soul which guides its motion. A further niche was being cut for philosophy as the intermediary between theology and science, theology being the speculation about God and science being the examination of nature. This, then, was the birth of the "atomists."

One of the monotheists according to Sumpf (1982) was Xenophanes (500 BC), "There is one God, . . ., only one God, comparable to the gods of Homer or mortals neither in form nor

in thought." (p.11) It was his claim that God was one without beginning or end. God is in everything because He is everything. He is in all.

Pythogoras was also around in 500 BC and he also believed in the invisible unity of God. We can only see a part of this harmony due to the imperfection of our senses. He believed that the world was based on harmonies of opposites. The interrelationship which exists between members is the answer to the mysterious order and beauty of the universe. This idea of relationship will re-occur later and is the foundation of the "synergy" concept.

Greek philosophy took a turn towards psychology with the emergence of Socrates in about 470 BC. Socrates was not concerned with the mystery of God, but with the mind of man. He was a confrontationist, and forced people into thinking by questioning almost every statement which they made.

The following statement is attributed to him in Duvall (1937). "One thing only I know, and that is that I know nothing." (p.75) His concerns were for men and the state and how this relationship could be enhanced. He did this by posing questions, not by supplying answers, and constantly questioning certainty. He was convinced that a society must be led by its wisest citizens, and was part of the aristocratic party of that time. When the democratic party won the elections, Socrates was accused of not worshipping the gods of the time and of corrupting the young. Even though his defense was eloquent, he was found guilty and sentenced to death – poisoning through hemlock ingestion.

Plato (430 BC) was a disciple of Socrates and carried on many of his master's traditions. Socrates was the seeker of truth. Plato was the seer. He founded the first universities, claiming as did Socrates, that a state's leaders should be its best educated. In "The Republic," Plato proposes an utopian society based on caste. These castes would be farmers and business persons, soldiers, rulers and philosophers and the separations would be based on intellectual ability and denial of material pursuits. This was based on Plato's perception that utopias are not

arrived at due to human greed and the luxuries it invites. He claimed that only the philosophers, would learn the difference between the world of ideas and the world of things, the world of sense and the world of the senses. This knowledge would only be available to the philosophers due to Plato's belief that behaviour flows hierarchically, firstly from desire, including appetite, impulse and instinct; secondly, from emotion, including spirit, ambition and courage; and finally, from knowledge, including thought, intellect and reason. He reasoned that only philosophers, who had transcended Earthly desires, could acquire the ultimate – knowledge. It seems clear that Plato's philosophy, although highly rational, is based on the emotional regret he experienced at the loss of his master, Socrates, at the hands of the ignorant masses. According to Stumpf (1982) "What Plato lacks above all, perhaps is (the) . . . sense of flux and change; he is too anxious to have the moving picture of this world become a fixed and still tableau." (p.81)

Aristotle (384-322 BC) was a disciple of Plato and therefore held many similar views. His teleological philosophy held that all matter was alive and goal-oriented. For example, the reason for gravity was that all objects were attempting to reach stability. Their goal was the centre of the Earth. His theory spoke of a world alive with meaning and purpose. He, however, was far less dogmatic and more realistic than his teacher. Stumpf (1982) continues;

> He came to believe (that) idealism does not give a complete and detailed picture of reality. He believed that his own point of view commanded a wider range of the facts of life and of the world than the idealist point of view of Plato, and, consequently, yielded a more objective and balanced conception of truth and reality. (p.79)

His belief was that to hold yourself in check was the best protection against the violence of the world. This he also learned from the early experiences of his life. As mentioned in Duval (1937) "His chief interest was with the forms of proof, and for this reason he was particularly concerned with what we can state in precise language about reality, about what things exist and why they are as they are." (p.91) His was the same truth as Plato's, but was approached from a different angle.

It is important to the thesis of this paper to look at contrasts between the two classic Greek thinkers upon which most of present society is based. The differences fit mainly into three categories: the role of ideas, the view of God and the duties of man.

Plato believed that ideas were generated from outside the person. Certain laws would lead to harmony if followed. This belief was conceptualized in the "just" man.

According to Aristotle, ideas were indeed form. This form was an internal stimulus which men must follow. To Aristotle the form was changing and it was conceptualized in the "happy" man. The differences are compared and contrasted thusly by Duvall (1937)

> The direction Aristotle took did eventually cause him to depart from some of Plato's doctrines, though the degree of difference between Plato and Aristotle is still a matter of careful interpretation. But even when they were together at the Academy, certain temperamental differences must have been apparent. Aristotle, for example, was less interested in mathematics than Plato and more interested in empirical data. Moreover, as time went on, Aristotle's gaze seemed to be more firmly fixed upon the concrete processes of nature, so that he considered his abstract scientific notions to have their real habitat in this living nature. By contrast, Plato separated the world of thought from the world of flux and things, ascribing true reality to the Ideas and Forms, which, he thought, had a existence separate from the things in nature. It could be said, therefore, that Aristotle oriented his thought to the dynamic realm of becoming, whereas Plato's thought was fixed more upon the static realm of timeless Being. Whatever differences there were between these two great minds, the fact is that Aristotle did not break with Plato personally, as he remained at the Academy until Plato's death. Moreover, throughout Aristotle's later major treatises, unmistakable influences of Plato's thoughts are to be found in spite of Aristotle's unique interpretations and style. But his distinctly "Platonist" period came to an end upon Plato's death, when the direction of the Academy passed into the hands of Plato's nephew, Speusippos, whose excessive emphasis upon mathematics was uncongenial to Aristotle, for which reason, among others, Aristotle withdrew from the Academy and left Athens. (p.94)

Plato viewed God as the designer or creator of world patterns. These patterns were not achievable to the narrow sense perceptions of the individual, and only clues could be gleaned through the interactions of men within society.

To Aristotle, on the other hand, God was the mover of world actions. God produced the motions and transformations in us, and a study of the individuals could determine the nature of an impersonal God.

Finally, Plato and Aristotle differed on the duties of man. According to Plato, man has an angel nature and is corrupted by greed and luxury. This is an idealist or utopian view. Aristotle took an opposite position. He believed that man had a beast nature. If wealth were to be shared amongst all, the responsibility of each man would be weakened. Also, a sense of community would rob privacy. He was a realist who believed in the "Golden Mean" of moderation. From the two main premises espoused by Plato and Aristotle, a number of splinter philosophies based on personal psychological perspective began to emerge.

Diogenes (412-323 BC) was a cynical philosopher. He felt strongly that there could be found no valid reason for an existence with plunder as its procedure and death as its ultimate goal. Life was forfeited from birth, and life was a process of dying. The beginning of knowledge for Diogenes is self-knowledge. Happiness is the fulfilment of desires. He had no property and, therefore, no cares, since freedom to him was the fruit of self-sufficiency. He found what peace he could in a war-torn world by casting away the shackles of ambition and fear.

Epicurus' (342 BC) position was one of scepticism. Our senses are inaccurate. Therefore, we must question all our beliefs, including ones about the future. Why worry about the future when it may not come? He was the founder of the Hedonistic school. It was the believers of this school who devoted themselves to pleasure. "Live for today" was their motto. We are not children of a benevolent God, Epicurus claimed, but the stepchildren of an indifferent nature. Life is an accident in a mechanical universe. We come together out of chaos and return to it. There is no God, therefore we must overcome our fear of death by living the present to the utmost.

The Stoics, on the other hand, believed that the wise are happy and the brave are wise. These believers were indifferent to pleasure or pain, they simply accepted their fate. There was, in their belief, many ways to view the world and therefore, many ways to act in it, but there was only one correct path which was inaccessible to them. Since they could not figure out the plan, they simply went about their business and accepted the consequences.

AGE OF REASON

As has been shown in the previous section, during early human-recorded history, there were many schools which claimed to explain human perception. The variety and diversity of these perspectives diminished, however, as science, philosophy and religion began to separate. This evoluation took place during the Age of Reason.

Science began to claim its niche as that of being the "objective observer." Science "is ideally a search for knowledge and enlightenment carried out with an objective and pragmatically defined attitude. The spirit of science is that of open, unbiased inquiry into whatever interests the investigation." This, then, placed it, in its beginnings, as strictly fulfilling the observer role. Its purpose was to study the "out there."

The first scientific revolution began in earnest with the discoveries of Nicolas Copernicus (1473-1543). It was he who discovered that the earth was not at the centre of the universe but that the Earth actually orbited the sun. This was a blasphemous assumption at the time, for church doctrine had placed the Earth firmly at the centre. In fact, in 1600, Giordano Bruno as quoted in Wolfe (1981) was "burned at the stake as a heretic" (p.29) for espousing the doctrine of solar centredness.

New paradigms, as Kuhn (1962) explains, have a way of building up credibility over time while old ones are slow to die. This news, however, was of no help to Bruno. Eventually, the solar-centred view became the popular perspective of the time. It effectively altered the power-

base, from church doctrine to scientific doctrine, and set the stage for man to "observe" a rational and predictable universe in a rational and systematic fashion.

Johannes Kepler, born in 1571, calculated formulae to measure the elliptical orbits of the planets about the sun. Galileo, the inventor of the telescope, actually was able to see the planets where Kepler's theory predicted them to be. Zukav (1979) claims, "It was Galileo Galilei who, following the Middle Ages, first quantified the physical world. He measured the motion, frequency, velocity and duration of everything from falling stones to swinging pendulums (like the chandelier in his cathedral)." (p.24) Systematic investigation had its beginnings and what it was uncovering was a rational and consistent universe.

This was the time of Thomas Hobbes (1588-1679) who believed that "changes were changes in motion, and saw the possibility of constructing a systematic philosophy on this basis."

Rene Descartes, born in 1613, was the father of this idealism in its subjective form. In Briggs & Peat's (1984) words, he "believed the universe to be composed of two classes of substance: res cogitans (the observer) and res extensa (the thing in nature to be observed). (p.20) This thinking according to Zukav (1977) "replaced the hierarchically structured, divinely governed universe of Antiquity and the Middle Ages." (p.43) "Give me matter and motion and," said Descartes, in Eckstein (1980) "I will make a world." (p.24) Descartes prefered theories which could be deduced from the fewest axioms. The reasoning was, the more simple - the more accurate, in a rational, predictable, dualistic universe.

Sir Issac Newton (1642-1727) followed the philosophy of Descartes and built, by induction, on the observation of Copernicus and Kepler. What he came up with was a theory which contained only three laws of motion and an assumption about gravity. Zukav (1979) explains, "Newton's thesis was that the same force which pulls apples downward also keeps the moon in orbit around the earth and the planets in orbit around the sun." (p.23) With these,

Newton was able to describe the entire motion of the universe. Following Descarte's view of axiomatic science, Newton discovered principles in nature unifying large areas of experience. These Newtonian principles are still, today, the basis for analyzing and predicting the movements of matter observable to the eye including how we build bridges and how we can tell where our missiles will land.

Francis Bacon, a 17th century philosopher, is the man who gives us our present notions on what science means. According to Bacon, in Jones (1982);

> Any collection of mathematical and geometrical statements capable of saying all the appearances of the phenomena, have been given the status of physical law, accurate statements about reality, and not mere hypothesis. (p.62)

He believed we should make observation of concrete things the starting point for inquiry. Bacon believed the true guide to knowledge was experience.

There is a hitch to this line of thinking. The problem is, can one generalize from a few isolated cases? Briggs & Peat (1984) explain;

> To overcome the defect, Bacon proposed that science should use a systematic approach he called induction to uncover the regularities and order of nature – nature's laws. By first gathering data, formulating a limited hypothesis and then using the new knowledge to gather more data, the investigator could proceed in a careful and orderly way to uncover natural laws. (p.19)

This is the classical description of the scientist as objective observer and reasoner, the understander of the movement of matter. A further extension of this scientific method was the creation of the "controlled experiment."

In a controlled experiment the scientist isolates situations. As an observer, he has no effect on the outcome, therefore, a situation can be isolated and observation of change in variables recorded with no significant effect attributable to the observer. In effect you could take apart the clockworks and observe it without actually hampering the function. Man was now the scientific manipulator of matter.

It was this vision of a clockwork universe that dominated science up to the late 1800s. It remains today the most used scientific paradigm. It is the basis upon which is built the modern industrial state and was the fuel which ignited the technological revolution. So powerful was Newton's axiomatic science that it led the nineteenth century mathematician, Pierre de Laplace, to conclude that with application of this knowledge everything about the universe, past, present and future, could be uncovered. Laplace, in Zucker's (1977) words, had reduced "time to a mere illusory appearance." (p.53) The map had been drawn by Newton, all that was left for scientists was to fill in the various unexplored regions and work the terrain using Newton's theory as the pen. This attitude remains strong within the scientific community today, although the mapmakers have changed.

Natural philosophy, as a discipline, no longer existed. The process by which Aristotelian natural philosophy was replaced by mechanistic science took place gradually. As a result of this mechanistic world view, science and religion were effectively divorced. According to Rupert Sheldrake, a British plant physiologist, who appeared on the CBC radio program IDEAS taped October 28 and November 4, 1985:

> Incompatibility between science and religion arose . . . in the 17th Century by the extreme dualistic split between the realms of spirit and the realms of matter, replacing the three-fold division that existed before in terms of body, soul and spirit. What was eliminated in the 17th Century was the level of soul.

Descartes had effectively eliminated the level of soul. He had eliminated Plato's form of the body, by simply defining matter as extension. The religious argument thus became a philosophical debate centred around two famous "actors", Leibnitz, who believed that God had been successful in organizing the world of matter correctly, and Clarke, a friend of Newton's, who agreed that God was constantly involved in the mechanical manipulations. The implication of this was that any religious angle could be argued intellectually and therefore, religious knowledge was somehow distinct from scientific knowledge. This was the beginnings of the

theory of two books, both written by God. One, the Book of Revelations, was the spiritual text and the other, the Book of Nature, was the scientific test. Scientists were to deal with the physical world only. Theirs was the Book of Nature.

This mechanistic world view was accepted also due to the failings of the Aristotelian view to maintain order. This "new science" was a response to the social chaos which followed the disintegration of the medieval world system. It was an attempt to stall the endless killings over matters of religious belief.

Not only that, but through testing by its technological arm, it was found to work. At that time there was already a rise in technologies involving mining, textiles and steam, made more successful through adaptation of mechanistic philosophy.

To be in tune with mechanism was to be in tune with God's plan for a consistent, harmonious universe. The job of science then was to understand how these mechanics unrolled and how they work, and then to manipulate according to those rules and limits. The ability to apply this knowledge successfully was considered virtuous.

In summary then, mechanical philosophy was supported both in the political and scientific intellectual communities. Its principals were: (1) mind and matter are essentially unrelated, (2) matter is ultimately composed of hard particles, (3) nature obeys absolute and eternal laws, and (4) the scientist can give a complete objective and universal account of nature. Based on these premises, a scientific explanation of nature appeared to be on the horizon. There were, however, some clouds in this picture, clouds which could not be analyzed away and which continued to grow. Some believed that all this prediction was inconsequential, that people should live only in the present moment of experience. These thinkers became the future existentialists. Others believed that life moves from a position constantly based on the present. This grew into the process philosophy of Alfred North Whitehead. There also remained the

hermetic philosophy which clung to the ancient belief that objects were capable of internal transformations.

One of the major contributors to this philosophy was Sir Issac Newton, the founder of the mechanistic world view. Although Newton believed matter to be inert, he felt that it changed due to divine intervention. It is a fact that Newton wrote more words on the subject of alchemy than he did on the mechanical universe, but these writings were felt to be unsuitable for publication due to conflicts with religious doctrine. The Sectonions who believed that each particle was the actual centre of agency were forced to go underground with their theories due to their political unacceptability.

The field of science too was not without its problems in accepting this mechanistic view. Newton's perspective was unable to explain; (1) the spontaneity of events which occur in nature, and (2) the human experience of irreversible change. These two problems formed the basis for a split between the sciences and the humanities. Science had abandoned the search for meaning and value in nature, while religion and the humanities abandoned the question of what the physical world means.

Beginnings of a new perspective

The opposition between disciplines, combined with the internal problems of science, laid the groundwork for the adoption of a new perspective. This perspective holds the dream of a unified culture, a unity of disciplines which explains our nature in holistic terms. The beginning of this new perspective is found within the field of physics. The field which originally conceived the mechanistic view, became its most scholarly critic.

Quantum theory began as a discrepancy with Newtonian mechanics in regards to the behaviour of atoms. Early in the twentieth century, physicists had discovered that previously indivisible atoms were made up of two parts, a proton and an electron. In 1911, Ernest

Rutherford envisioned this atom to look like a tiny solar system. It would have, he reasoned, a massive central core surrounded by lighter orbiting electrons. According to Rutherford in Zukav (1979), "the space occupied by an atom is so huge, compared with the mass of its particles (almost all of which is in the nucleus), that the electrons orbiting the nucleus are "like a few flies in a cathedral." (p.12) He proposed this hypothesis based on experiments in which particles would appear to go right through an atom unless they hit the core, in which case they would deflect off at an angle.

Niels Bohr (1885-1962) realized that something must be wrong with this model. If, in fact, the atom was shaped like a miniature solar system, then Newtonian law would predict that the electron should give off energy and spiral down into the heavier nucleus, thus annihilating the atom. Since all things are composed of atoms and we can observe concrete matter, this obviously was not the case.

In 1913 Bohr proposed a new model to resolve the problem based on two clues. The first clue was the "emission" and "absorption" spectrums of hydrogen. The emission spectrum is the specific pattern of bright lights obtained from each element when its burning is observed through a prism. The absorption spectrum is formed when light is taken in by elements. Briggs & Peat (1984) state it thusly "The absorption spectrum consists of (various widths) dark lines in a bright background and is a negative image of the emission spectrum." (p.37)

These lines represented, according to Bohr, the energy levels of electrons as they moved about the nucleus. Certain questions remained however, two of which were; why such discrete levels, and why did they not spin down and annihilate the atom?

In order to solve this dilemma, Bohr turned to the 1900 discovery of Max Planck. Zuckav (1979) explains, "Planck had discovered that the basic structure of nature is granular or, as physicists like to say, discontinuous." (p.48) This theory, which Planck used to solve the "black-box" radiation problem, was in direct contrast to two other sources of data. Thomas Young, in

1803, had shown light to have wave-like properties in his double-slit experiment, and James Clerk Maxwell's field equations had shown light to be a continuous wave in the electro-magnetic field. Planck claimed that light was emitted in discreet parts called "quanta."

The picture was further confused by Albert Einstein (1905), who first coined the term "quanta." He won a Nobel prize for demonstrating the photo-electric effect. Capra (1975) explains, "When ultra-violet light is shone on the surface of some metals it can 'kick out' electrons from the surface of the metal and, therefore, it must consist of moving particles." (p.49) This effect can be seen in the supermarket doors which open automatically when a particle beam is interrupted.

It now becomes apparent that light, and other energy forms, were behaving as either particles or waves depending on the situation. This dual personality was anything but a nice fit with the classical Newtonian view.

Bohr, using both the spectral lines of hydrogen and the "quanta" of Einstein and Planck, constructed a hybrid picture of the atom. This atom resembled the planetary description of Rutherford but had the added difference of quantified discrete orbits. How did this energy move? No one could tell. If the atom took in energy, the electron was found at a higher level; if it gave off energy, it was found at a lower level; but how it got between levels remained a mystery. The solution for the time being, however, had satisfied the scientific community for it had solved the mystery of why atoms did not disintegrate from electrons falling in on their nuclei. There were stable electron energy "ground states" in which electrons were neither going off nor being attracted. The "table of elements" in chemistry is based on the configuration of the atoms which give the elements their various properties, and is still the view taught in most high schools.

Unhappy with Bohr's combination of classical planets and orbits in concert with the modern idea of the quanta, Werner Heisinberg, in 1925, set out to improve upon Bohr's atom. Using only observables, a technique borrowed from Einstein, he based his theory on the spectral

lines and their thicknesses. Briggs & Peat (1984) state that, "He discovered a simple rule so he could manipulate these number patterns like a single symbol in algebra." (p.45) Heisinberg constructed a mathematical interpretation, quantum (matrix) mechanics. The theory based on the discrete movement of "quantum or energy packets."

Louis Victor de Broglie (1924) took this idea of duality one step further by introducing "wave mechanics." de Broglie merged the wave-particle paradox which came to light (his) through the genius of Thomas Young (double-slit experiment) and Albert Einstein (proton theory). In other words, Zukav (1979), he connected the two most revolutionary phenomena of physics, the quantum nature of energy and wave particle duality.

The theory had the electron being at times like a particle and at times like a wave. Briggs & Peat (1984) explain, "If waves of energy can possess a particle personality then can particles of matter possess a wave personality?" The idea of "matter waves" was of interest to Albert Einstein, and he passed a copy of de Broglie's thesis on to Erwin Schrodinger, a home-town colleague.

In 1926, according to Wolf (1981) Schrodinger proposed that the electron path was "analogous to the vibrating violin string. The movement of the electron from one orbit to another was a simple change of notes." (p.94) By using the principle of a "standing wave," Schrodinger's calculations resulted in agreement with the frequencies of Bohr's discrete orbits and energies equivalent to those calculated by Heisenberg.

The elegance of Schrodinger's atom was that it could be pictured. That was, of course, as long as there was only one electron. For each additional electron which entered the picture, another three dimensions of space were required, and the picture became no longer visible. Just as Heisenberg's theory had called forth a mathematical solution, Schrodinger's theory was expressed in abstract mathematical space.

Max Born helped to clear the picture somewhat by stating that the Schrodinger's wave theory was not of an actual material wave, but instead, a probability wave. Born in Hayward (1984), "suggested that we should suppose that electrons remain particle-like but that they have associated with them a wave whose amplitude at a particular point determines the probability of finding an electron at that point." (p.164) That is to say that where the wave picture was concentrated, the probability was higher of finding an electron.

When an electron was actually detected, the wave function collapsed and an actual particle, an electron, was observed. As Zukav (1979) states;

> Before we interfere with the development in isolation of an observed system, it merely continues to generate possibilities in accordance with the Schrodinger's wave equation. As soon as we make a measurement, however – look to see what is happening – the probability of all the possibilities, except one, becomes zero, and the probability of that possibility becomes one, which means that it happens. (p.74)

Still, the path for quantum physics was unclear. Should quantum mechanics or wave mechanics become the dominant mathematics of solution? How could there be two different theories, one of probability waves and one of a mechanics of observables which could yield similar results? The debate within the debate continues. Confounded by this additional duality, Heisenberg (1927) came up with his famous "uncertainty principle."

Capra (1982) states that "whenever we use classical terms – particle, wave, position, velocity – to describe atomic phenomena, we find that there are pairs of concepts or aspects, which are interrelated and cannot be defined simultaneously in a precise way. The more we emphasize one aspect in our description the more the other aspect becomes uncertain, and the precise relation between the two is given by the uncertainly principle." (p.79) This same conclusion about axiomatic science was arrived at by Kurt Godel in 1931 and entitled Godel's Theorem. Simply stated, Heisenberg proved that due to the small size of an electron it is impossible to measure both its position and velocity at the same time. What he was, in effect, saying

was that the act of observation affects the observed. So much for the cold, value-free scientist. The observer was now an active participant. As Kuhn (1962) states, even data changes as a paradigm shifts.

This was exactly the push needed for the beginnings of a paradigm shift. The Newtonian world-view, which had sounded the end to theoretical physics at its outset, had now given way to the small paradoxical world of quantum physics. The curtain had been raised on the boundary between matter and mind. de Broglie and Schrodinger dematerialized matter like the stage magician who makes the lady vanish from the box, while Heisenberg (1969) eased him out of the straight jacket of determinism and proclaimed that the principle of complementarity agreed very nicely with the mind-body dualism; the implication being that the particle aspect of the electron was analogous to the body, its wave aspect to the mind.

The quantum world is one of strangeness and paradox. It is full of experiments which cannot determine if an electron is behaving like a particle or a wave. It can, however, predict with great accuracy how a large number of electrons will behave. As Zukav (1979) explains;

> The Copenhagen Interpretation of Quantum Mechanics began a monumental reunion which was all but unnoticed at the time. The rational part of our psyche, typified by science, began to merge again with that part of us which we had ignored since the 1700s, our irrational side. (p.37)

Those involved began to pull back as they moved too close to its solution. "Bohr and Heisenberg agreed that any property is to some extent a result of the act of measurement." What we see depends on how we look, and it also depends on us to see it. We have journeyed a long way from the neutral observer of early science. The world, at the quantum level, becomes one indissoluble whole. Bohr claimed that the complementary principle was an end result. Briggs & Peat (1984) state that;

> According to the tenets of the complimentary principle, there is no reality until that reality is perceived. Our perceptions of reality will consequently appear somewhat contradictory, dualistic and paradoxical. The instantaneous experience of the reality of Now will not appear paradoxical at all. It is only when we observers

> attempt to construct a history of our perceptions that reality seems paradoxical. (p.54)

Quantum theory is a complete theory because it works. According to Bohr, there is no way to penetrate or investigate the whole, it just is. Bohr's conclusion is that we cannot explore any further because "all is one."

Relativity Theory

Albert Einstein is to relativity theory what Bohr was to quantum theory. Both approached the whole from opposite perspectives, both observed it and pulled back. What follows is a summary of how Einstein arrived at his perspective.

In 1905, having been a pioneer of the quantum concept by discovering the photo-electric effect, Einstein turned away from the ambiguities of quantum physics. He set his sights toward the very large, and once again, to another assault on the classical Newtonian world-view.

In 1905, Einstein also published the "Special Theory of Relativity." The idea for special relativity began as Einstein's concerns grew about the concept of absolute motion as espoused by Newton. Absolute motion is the claim that space and time are absolute and therefore, motion can be plotted on a grid, and one motion can be directly compared to another.

Since this claim cannot be substantiated by experiment, Ernst Mach claimed it to be unscientific and thus falling within the realm of metaphysics. Einstein agreed, as evidenced in Wolf (1981);

> Why should we make one particular frame of reference "privileged" in respect to all others by saying that it alone absolutely is not moving? It may be desirable theoretically, but since such a frame of reference does not constitute a part of our experience it should be disregarded. It is "intolerable" to place in a theoretical structure a characteristic which has no corresponding characteristic in our system of experience. (p.127)

At that time, physicists also believed that light and other substances must move through a substance. This substance was called the "ether." According to Zukav (1979), this ether,

although never detected, had been assumed to permeate the whole universe, like a kind of extremely rarefied transparent fluid, to explain how light could travel through space like a wave.

The Michelson-Morley experiment in 1887 was an attempt to prove that the ether did, in fact, exist. They reasoned that the speed of light should differ depending on the direction in which the reading was taken, the idea being that the earth moved in one constant direction through the ether as it rotated. Contrary to the beliefs of the time, there was no difference detected in the speed of light. The speed was identical regardless of whether the readings were taken with the spin of the earth or against it.

Einstein, seeing the inability of science to prove the existence of either absolute motion or the ether took a bold step. In looking at the situation in a new child-like way, he chose to disregard both. He chose to accept the Michelson-Morley experiment at face value and considered the speed of light "c" as an absolute value. In his universe, everything became relative. Jones (1982) explains, "Whether we are moving or not depends on what frame of reference we use."(p.138) Each of us is moved not on an absolute grid, but in our self-contained space-time bubble. What you experience can be different to what I experience and is dependant on how our perspectives interrelate. Einstein, however, believed that the universe was not strictly relative. He believed that there were absolute laws which allowed translation from one perspective to another as in his famous relation between energy and matter, $E = mc^2$. He believed in a real, objective universe that existed independent of any observer. The act of observation (although relative) in no way affected Einstein's universe.

The Newtonian paradigm was rejected because of its inability to prove absolute motion. It was also rejected because there no longer appeared to be any distinction between energy and matter other than the motion at which it moved ($E = mc^2$). According to Einstein, matter and energy were equivalent depending on the frame of reference used.

Einstein remained aware, however, of the incompleteness of his theory. If all that is observed is relative, and if the laws of nature do not change, then how is acceleration, the change in rate of motion, explained? It appears to us that absolute motion does exist, for we notice the differences when acceleration occurs. For example, when a car accelerates in front of you, you notice the passengers go back in their seats, and the gap between you increases, even though you maintain the same speed. While constant speed appears relative, acceleration or change in speed appears absolute.

The solution to this problem appears as an adjunct to the special theory called the General Theory of Relativity (1915). Einstein speculated that acceleration is exactly the same phenomenon as gravity. It is impossible to tell whether you are accelerating at 32 feet per second each second or if the gravity of the earth, which is equivalent, is pulling you at that rate. It was this line of thinking which led Einstein to see these two concepts as somehow linked. Acceleration is the rate of change of velocity or speed. In order to notice a change in speed, a "thing" must be involved, it must be associated with a particle, with particle movement. It is, therefore, geometrical in nature. "Einstein believed that gravity too must be geometrical in nature."

In order to accommodate this principle, Einstein reasoned that what appeared to be gravity was simply a curve or bump in the space-time grid. The term "geodesics" was coined by him for these curves. It is no coincidence that Buckminster Fuller's (1969) domed building creations are entitled the same. These living spaces resemble from the outside a picture of what the curve in the space-time grid would look like when affected by a spherical planet such as the Earth. In Zukav's (1979) words;

> The nature of the space-time continuum is like that of a hilly countryside. The hills are caused by pieces of matter (objects). The larger the piece of matter, the more it curves the space-time continuum. In remote regions of space far from any matter of significant size, the space-time continuum resembles a flat plain. A piece of matter the size of the earth causes quite a bump in the

> space-time continuum, and a piece of matter the size of a star causes a relative mountain. (p.123)

Space ships will follow the curves of space-time, and will accelerate where the slope of the curve gets greater.

The theory of relativities concepts have been shown to be accurate through experimentation. In 1972, the Special Theory of Relativity which had postulated a difference in time depending on the speed was proven. Two atomic clocks were set, one in a plane and the other on the ground. When the plane returned, the differences in the two time pieces caused by the changing frame of reference were those anticipated by the theory. The General Theory's assumption of light being bent by matter was tested by Arthur Eddington. During a solar eclipse he was able to calculate the degree to which light was bent to be within the parameters of that predicted by Einstein's theory.

For Einstein there were no unchanging things. Energy dissolved into matter and visa-versa, depending on your frame of reference. Zukav (1979) states, "Everything is fluid and elastic." (p.168) To him, then, contrary to Bohr, all was change. Although Einstein and Bohr met several times in an attempt to bridge the gap, these efforts were in vain. In fact, Einstein said of Bohr, that he had never felt closer to anyone than to him.

Attempt at Theoretical Unity

As we have attempted to show in the preceding section, science, philosophy and religion as systems of knowledge had each gone their separate ways. What is more, science having declared its territory as the material world, and using the empirical analytic method with its consistent and measurable results, began to receive popular support for its precedence over the other forms of knowing. Philosophy and religion with their phenomenological hermeneutic, i.e., descriptive, and paradoxical mandelic, i.e., ritualistic, methods respectively, were forced to take a back seat.

Each system, however, developed both internal as well as external dualistic conflicts. As was mentioned earlier, these dualistic tensions turned science on its head in addition to being source of ideological differences.

In recent times, a number of scientists, philosophers and theologians who have realized the commonality of their struggles, have begun working towards a new theory. The aims of this approach are to decrease the separations between modes of knowing through knowledge acquisition and to right the balance among these modes, an imbalance which is so clearly evident in modern Western perception. In Barfield's (1981) words, this separation, "is at the bottom of the chief cause of modern alienation." (p.7)

This theory attempts to resolve dualisms by examining their origins and their purposes. It attempts to establish the relationships between unconscious desires and conscious attempts, and, therefore, mesh them harmoniously. It is with the insight of numerous scientists, philosophers, and theologians that an interpretation of this theory is presented here.

This holistic theory begins by more closely examining the seemingly obvious statement that the existence of dualisms is necessary, and a logical certainty. Given our present world view, one would have great difficulty refuting such a statement. Based on the preceding work, however, certain questions do arise. Questions about existence, logic and certainty.

The purpose of the first section of this paper was to impress upon the reader the notion that reality is not nearly as concrete and mechanical as we generally perceive it to be. Perhaps, then, logic is simply an outgrowth of this "misplaced concreteness." This is the starting point for Karl Pribram, neurophysiologist and co-founder of holographic theory. His work with Dr. Lashley in searching for the brain "engram" as well as his own research has led him to hypothesize that man is a rational animal, and not the often claimed logical one. The solution, therefore, to a problem of logical certainty could be a rational one. One involving the concept of "ratio," harmony; rather than logic, "logos," words.

Words, by their very nature, separate and fragment. Once something is defined, then, by its definition, all else becomes its negation. The sentence is just the system to carry on this fragmentation separating subject and object. Words, then, by their nature, separate the "in here" from the "out there."

A simple solution to the problem of dualisms, is to eliminate language, the source of the problem. According to Chogyam Trangpa (1984) to, "possess the confidence beyond words." There is a claim that words and actions foil our striving for wholeness. This view has permeated the field of transpersonal psychology where psychologists attempt to transcend the sensual.

The retort to this position is a strong one as well. How can we deny verbal communication and behaviour, the very roots of objectivity? It is this, people like Skinner and Watson claim, which provides us with our sensual commonalities, that which allows us to make common sense of the world. It allows us to anticipate, to plan and to, therefore, better prepare for the future. They agree that wholeness, a fuller understanding, is the goal but prefer to work at it functionally, understanding the function of ourselves as separate entities, both for each other and nature. How could one argue with the fact that the world has become a seemingly easier and more comfortable place to live based on this approach?

Once again we appear trapped within the logic of objectivity, but what if the universe is rational by nature, if it behaves globally, through harmonies? What if order were a given rather than something which was needed to be understood and worked towards? Perhaps it is our continued striving for techniques to provide unity that is the root cause of our sense of alienation. Could it be ourselves and our creations with the goals of unity which have disrupted the natural harmony due to an over-dependence on logic and objectivity? Could it be that we have attached too much importance to the idea of mechanical universe?

Many modern scientists have attempted to explore these questions through their research, and the outcomes have been encouraging: James Lovelock, a British scientist and

author of *Gaia, A New Look at Life on Earth*, has been exploring the theory that the entire planet constitutes a "single self-regulating system which is maintained by and for life, that the Earth, in other words, is a single, living being."

This is quite a statement to make about what appears to be such an obviously inanimate object, the Earth. But it is Lovelock's contention that things change so slowly on this level that the illusion of stability is maintained. He uses the make-up of the atmosphere to make his point. To keep such unstable gasses at a perfect steady state requires a lot of organization. He claims on the CBC IDEAS program, that "we are looking at things the wrong way around. The atmosphere isn't an environment for life, it is something that life has made as an environment for itself."[1] In other words, according to the Gaia hypothesis, the plants and animals of earth cooperate in the creation of a suitable environment for itself.

Another supporter of this holistic hypothesis is Dr. Rupert Sheldrake, a plant physiologist and author of *A New Science of Life*. Morphogenesis depends on a kind of collective memory which links organisms across both space and time. This, as we can see, is very close to Jung's theory of the collective unconscious. Marilyn Ferguson, in the *Aquarium Conspiracy*, also provides examples of the behaviours of seals which are most easily explained in this context.

Ilya Prigogine, Nobel laureate in physical chemistry and author of *Order out of Chaos*, is also one of the new breed of scientists whose goal is unity rather than fragmentation. Prigogine has rejected Newtonian mechanics on the basis that its laws were time reversible and deterministic. In other words, Newton believed that there is no difference between present and past, and that if one knew the present state, you could predict the past as well as the future. Prigogine claims that our vision of human activities are time-directed and not predictable to that degree.

Prigogine sees order arising out of chaos and uses for his example boiling water. At first glance, boiling water appears to exemplify chaos with its turbulent and random movements. On closer examination, however, the water, as it boils, forms a distinct and observable pattern.

What all these scientists seem to be saying is that something exists beyond our perceived reality. Something which binds together the events which we, in retrospect, view as united. What all these scientists strive for is the dream of a more unified, rather than fragmented, culture.

Two of the chief proponents of this viewpoint are Karl Pribram, a neurophysiologist and author of two significant books, *Plans and the Structure of Behaviours* and *Languages of the Brain*, and David Bohm, nuclear physicist and author of several books including *Wholeness and the Implicate Order*.

It is these two scholars' perspective that the mind functions as a hologram. A hologram is produced by a technique in which waves from a whole object are enfolded in each part of a photographic plate and recorded there, if this plate is then re-illuminated those waves will unfold to produce a three-dimensional image of the object. What is important about this perspective is that information about the whole object is enfolded in each part. This is characteristic of the movement of waves. This process of enfolding-unfolding happens continuously. Bohm *Wholeness and the Implicate Order* best describes this enfoldment-unfoldment process.

Bohm claims that as in holographic production there is an enfolded order. Classical or mechanistic reality has focused on secondary manifestations, the unfolded aspect of entities and not their source. These appearances which he calls events are abstracted from an intangible invisible flux that is not comprised of parts; it is an inseparable connectedness, the implicate order.

In this theory, sensory reality, the explicate, is a "special case" constructed by the brain's mathematics but drawn from a domain beyond space and time where only frequencies exist. It claims that all phenomena that contravene existing scientific law are themselves products of our conceptual constructs. What appears to be a stable, tangible, visible, audible world is an illusion. An example of what Whitehead (1978) called "misplaced concreteness."

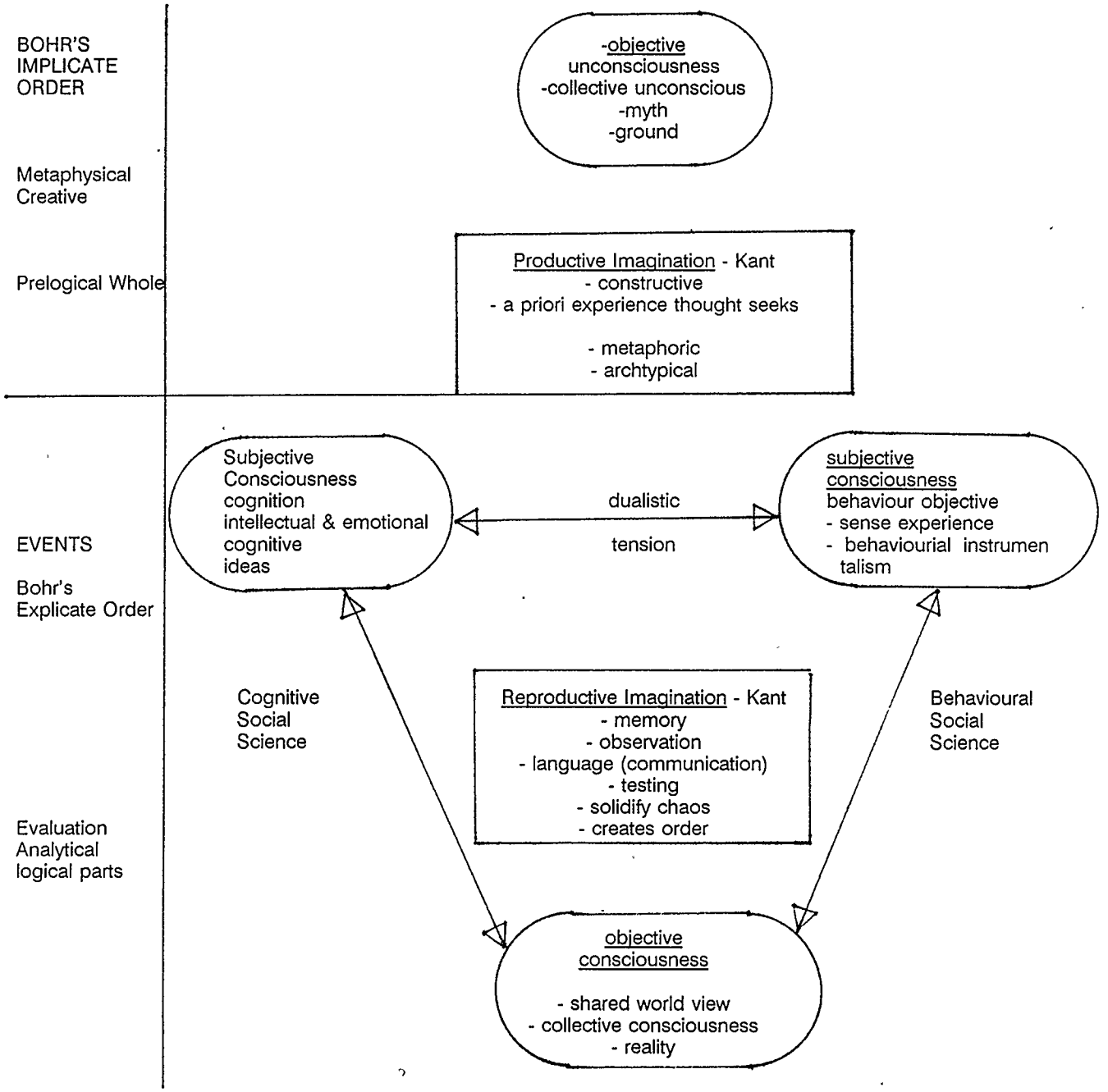
It is merely dynamic and kaleidoscopic. What we normally see is the explicit unfolded order of the thing, somewhat like watching a movie. The more primary order of the universe Bohr calls the implicate or enfolded order, and the emergence into explicate order is termed the phenomena of the holomovement.

Bohm stated that mathematics had been successful in physics by being able to describe all phenomena. Where the physicists fell short was in conceptualization. They had, since the time of Galileo, used lenses, and lenses are not impartial for they have objectives. Bohr claims that the objective of a lens is to bring things into focus, to find its edges, to make it still for a moment, to tune in. The blur is, however, a more accurate representation of the basic reality.

When we focus, we cause separation into entity fragmentation; we cause particles to be observed, we form dualisms. Pribram took this one step further. Through his research, he found that the eyes, the ears and the skin all perform a similar type of focusing function, the same as has been described for the use of language, words.

By focusing, we create events, we create the separation of the "in here" from the "out there," we create reality. The problem with these creations, as well as their benefit, is their resistance to further change. Once this scene becomes "real," changing it becomes difficult. This difficulty, this stagnation, causes us to deflect our energies, to attempt to come up with another alternative view rather than concentrate on the process of change. Therefore, in physics, we have conflicts between a deterministic perspective and a complimentary perspective, between a particle vs. a wave view. In philosophy we have phenomenology vs. structuralism

and in social work, we have cognitivism vs. behaviourism, community work vs. individual psychotherapy (case work) and classical vs. process-oriented evaluation. The question, then, becomes how do we consolidate process of change with the previously entrenched concept that a new theory evolves from thesis, antithesis and synthesis. The author's own synthesis of the materials presented previously appear graphically below;



The author's conclusion from this material is that we must become more open to new ideas than less. In effect, explore the upper region of the chart in order to experience unity rather than the fragmentation which ocurs through its ommission. That the world is far more susceptible to spontaneous change than we have been led to believe. Not all is understandable through cause and effect. The mystical, undefinable as well, plays a significant role in our life dramas.

IMPLICATIONS FOR SOCIAL WORK

The author has taken great pains to show how recent developments in the history, philosophy, psychology and sociology of science have raised questions as to the traditional notions of a Newtonian "clockwork universe."

The calling into question of the strictly defined predictability given a cause-effect linkage seriously challenges in Mitoff & Bonoma's (1978) opinion, the "decisive power of experiments in the development of scientific knowledge." (p.235). The ramifications of this viewpoint have a profound effect on the area of program evaluation, or applied social science. This is not, in any way, an attempt to devalue the contributions of scientific rigor as applied to experimental design proposed in the works of Cambell and Stanley (1963). It is an attempt, however, to build upon this strong foundation.

Classical research designs, with the use of control and experimental groups, the random assignment to these groups and the concepts of validity and reliability are responsible, in part, for the evolution of social science experimentation and social analysis. They have formed, as did Newtonian science, the basis for a new approach.

The advantage of the classical experimental design is the ability to communicate a specific cause-effect linkage. In effect, it gives a specific <u>reason</u> as to why some phenomenon

has occurred. Its strength is in its generalizability; it can communicate a "truth" across boundaries.

The neo-scientific paradigm, on the other hand, calls into question the concept of "essential truth." It questions the ability of the experimenter to capture a clear "snapshot" in the constantly evolving flux of the universe and, therefore, questions the absoluteness of the cause-effect linkage, preferring to consider it more of a probability than a certainty. While the snapshot is ideal, the neo-scientific paradigm focuses more on the real. To quote Edwards, Guttentag and Snapper (1975):

> Researchers who have been trained to believe that they must make inferences, that inferences are statistical and that good statistical inferences grow from experiments therefore find themselves in dilemmas resulting from intractable, insistently flexible density of the real world and programs embedded in it. (p.143)

In effect, according to Stufflebeam & Shinkfield (1985), what this approach has done is to introduce context back into the field of program evaluation.

> The primary orientation of a context evaluation is to identify the strengths and weaknesses of a program. . . . The major objective is to assess the objects overall status . . . to diagnose problems . . . in general, to characterize the program environment. (p.169)

In doing so, program evaluation becomes a process as well as a product.

The implications arising from this viewpoint are numerous. The evaluator must be able to use program evaluation techniques as well as science. Weiss and Rein in Rossi and Williams (1972) come closest with their suggestion that "the researcher becomes virtually a project historian feeding information to project administrators in an effort to help them maximize the efforts of their program." (p.42)

The evaluator then should use both qualitative and quantitative methods, in Kidder and Fine's (1987) words, become bi-cultural. The evaluator must be able to adapt to the requirements of the specific project and be flexible enough to change as the situation requires. She/he

must become both artist and detached, logic-oriented scientist in order to answer Guttentag's (1975) the questions, "What's at stake?" and "What are the odds?" (p.67)

Firstly, Perkins (1977) Mark & Shotland (1983), this requires that the evaluator have a number of methodological techniques or strategies at his/her disposal in order to paint a mosaic of the program's functioning. "Each analytic technique should be tailored to a specific facet of the assessment effort." (p.345)

Secondly, as focused on by Weiss (1972) (1973), the evaluator must become aware of the political context within which he/she is doing the evaluation, for the political context will be directly tied to the evaluation's utilization.

Thirdly, in Mowbray (1972), the evaluator must become aware of the personalities of personnel, both at the managerial level and at the front-line worker level. According to Lauffer (1978), the ability to, first, put both groups at ease and second, be able to retrieve data in a desired but non-threatening manner is essential to the evaluator's successful implementation.

Fourthly, the evaluator should acquire an action system as defined by Pincus & Minahan (1973), from within the organization. This action system, made up of those who will be directly affected by the evaluation outcomes must take ownership of the evaluation for it to be successful.

Fifthly, the work should be done rather quickly in order that the results remain relevant in the constantly fluctuating and on-going reality of the environment.

In conclusion, program evaluation done within the context of the neo-scientific paradigm becomes as much an art as a science; in fact, it is both a process and a product. The goal is to paint as true a picture using as many resources as time permits. Most of all, the goal is utilization and the promotion of harmony through a planned change effort.

To recapitulate, Rossi & Freeman (1985) conclude that; in order to maximize conceptual utilization the evaluator must remember:

1. Evaluation must understand the cognitive stage of decision makers;
2. Evaluation results must be timely and available when needed;
3. Evaluation must respect stockholders program commitment;
4. Utilization and dissemination should be part of the evaluation design; and
5. Evaluation should include an assessment of utilization. (p.392)

CHAPTER THREE

METHODOLOGY

PROGRAM OVERVIEW

The Airdrie Information Centre is an information and referral program which has been in operation since 1979. It is funded through the Family and Community Support Services (F.C.S.S.). An information and referral program is designed to give advice, information and direction to those in the public who ask for assistance, in effect, to lessen the information gap between the informed and the uninformed. In other words, its goal is an even disseminate of information rather than selective distribution.

Information and Referral (I&R) services grew out of the increasing need for a formalized information distribution network. This network became necessary due to the breakdown of the previously established inter-intrafamilial system, plus an ever increasing societal complexity. As society becomes increasingly more complex, the ability to access a wide variety of sources becomes more difficult. Typically, one becomes somewhat of an expert in one area, but gets little, if any, information from other areas. The worst case scenario of this is someone who is not an expert in any area, in other words, a person who becomes isolated from all formalized sources of information flow.

The role of I&R service, therefore, becomes one of listening to the community to determine their information needs, and then to facilitate the dissemination of this information. For example, if a number of community residences voiced concerns about suicide, it would be the role of I&R services to bring in literature and guest speakers on this topic. In addition, they could organize a Suicide Prevention workshop. It is the job of this service to provide information on a wide variety of topics.

In order to be effective, it must be easily accessible. By increasing the amount of information available, the gap between the informed and uninformed is theoretically reduced.

In addition, an I&R service should take an interest in the individual, group and community needs reflected in the types of information sought.

The Airdrie Information Centre developed out of a Master's Thesis written by Grant (1980) entitled, "Airdrie Information Centre: A Demonstration Project." He sifted through a number of models in I&R services and found Kahn's model to be most applicable.

Specifically, according to Kahn, an Information and Referral service should increasingly expand its service while maintaining a solid community supported base. The functions of I&R service can include:

1. providing simple information;
2. providing information about more complex matters, such as provisions of a law or an agency's function;
3. clarifying the significance of a statute or a provision for a specific person;
4. giving advice on how to solve a certain problem;
5. steering to an agency or service able to help;
6. referring to the right agency;
7. providing a supportive, friendly relationship for those who need to have some contact with someone who will listen to them;
8. helping the enquirer with the contact or to make it for them;
9. going beyond the presenting problem in helping people;
10. carrying out formal diagnostic study;
11. carrying out continuing counselling and treatment, a responsibility which would be restricted to areas in which there are no counselling services;
12. following through until the enquirer has his needs or his rights recognized;
13. seeking program and policy changes in agencies;
14. conducting general community education in areas in which information is needed;
15. recruiting potential clients;
16. monitoring and reporting one's experiences with human needs and public

provision; and

17. facilitating the self organization of people with common problems.

Although each of these functions is important, Kahn realized that not all could be undertaken immediately. He realized that some form of natural progression must take place. In addition, there are certain trade-offs to be made among the above functions, in order to increase the accessability of all segments of the population to the service.

There is, however, no compromising in the quality under which these functions are to be delivered. In order to succeed, there must be:

1. an open door atmosphere;
2. expertise;
3. range;
4. flexibility;
5. ability to attract and serve all social classes;
6. confidentiality;
7. non-partisan and non-sectarian;
8. unbiased in case counselling;
9. comprehensiveness; and
10. accountability.

Airdrie Specific

The Airdrie Information Centre grew out of the needs mentioned above. In 1979, the Airdrie Preventive Social Services (P.S.S.) Director, now known as the Social Planning (Family and Community Support Services) Director, responded to citizen requests to minimize the alienation created by the boom-like growth of Airdrie. The Director took the matter before the Citizens' Committee, the P.S.S. Board of Directors. In response to this identified need, the Board approved a feasibility study, which took the form of a demonstration project to run through the summer months of 1979 and ending on August 31.

Funding was secured through the town of Airdrie Preventative Social Services. The unused post office was chosen as the basis for operations. The Preventative Social Services' Board was mandated to:

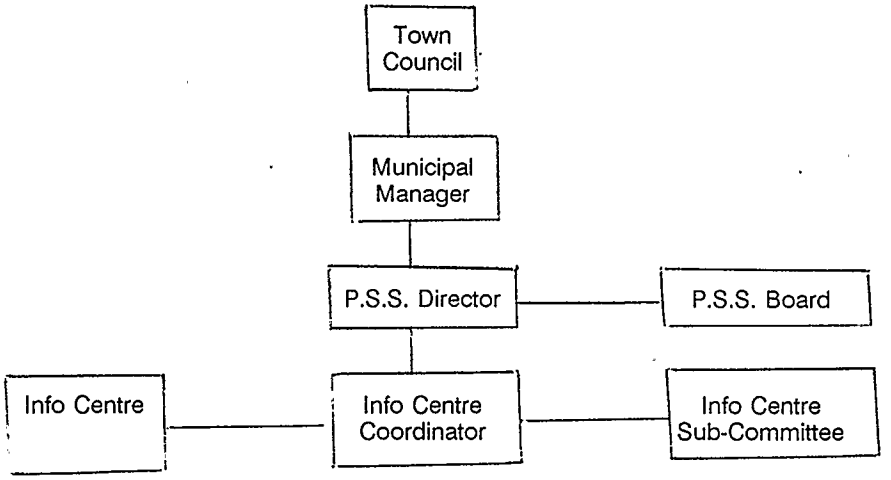
1. define the parameters of the program;

2. formulate policy and procedures; and

3. advise if the project should be continued.

These duties were turned over to a P.S.S. Sub-Committee. Below is an administrative chart. As can be seen, chain of command had not been suitably established at this time.

Figure 1



Due to the fact that the Information Centre was in its beginning stages, it was decided to start with the basics as suggested by Kahn. The primary function was to dispense information, and much of the pre-opening period was spent gathering the information to be dispensed. Printed information was requested, coded, and catalogued. The interior of the former post office was re-constructed; brochures were prepared; a rapport was established with local businesses; a column was obtained in the Airdrie Echo; staff were hired and trained in the basics; a recording and evaluation system was established; and on May 22, 1979 the Airdrie Information Centre opened for business.

The Sub-committee reviewed statistics through the month of July, and recommended a further six months of operation. They felt that not enough time was given, nor enough information collected to make a valid judgement about the program's usefulness.

Over those next six months, steps were taken to expand the program. In keeping with Kahn's warning about the trade-offs associated with expansion, the program increased slowly, so as not to jeopardize what had already been established. They began by attempting to increase community awareness. Bulletin boards were set up in the front reception area, a large mobile sign was assigned to the centre for booking events and a large boardroom was made available for community use. In addition, the Centre was used as a drop-off point for registration and other forms. The Centre also did tasks for the town of Airdrie, such as assisting in the conducting of surveys.

After careful consideration, the Info Centre Sub-committee approved the program and recommended its continuation once the six-month period was completed. As residents became more aware of the services offered by the Information Centre, the demand increased rapidly. In 1980, an increase in client contacts of 165 percent was noted. The additional time needed to accommodate this increase limited program development initiatives within the Information Centre program, specifically in the area of long-range program planning. The additional strain of increased client contact, however, did not become immediately evident.

The combination of a highly motivated staff, energized by the newness of the program, continued to develop and expand in accordance with Kahn's community development philosophy. Also, in 1980, the town hall switchboard was placed in the Information Centre and some sharing of the job of information dispersal took place. This move would lead to a blurring of the role of Information Officer.

In 1981, the use of the information service portion of the Information Centre program again increased dramatically, this time by 187 percent. The Information Centre was handling, at that time, 2,506 contacts per month. Increased staffing, however, allowed the program to continue with its philosophy of program development and change. The focus in 1981 appeared to be increased promotion and exposure through the addition of workshops, more

community signs, a trade fair and a tourist bureau. There was also some evidence of ongoing internal evaluation as well since one service was eliminated and one other transferred to another department.

An additional increase in the use of the information service in 1982 (from 2,506 to 2,915 contacts/month), in combination with a program already taxed to its limits, finally began to have some visible effects on program development. For the first time, the year-end reports lacked the enthusiasm associated with previous years and very little new programming was indicated. There was mention of both lack of preparation time for new projects and projects being put on hold. In addition, there were requests for increased staffing in order to combat the overload. This marks the beginning of a loss of program direction. The steady, meteoric expansion of one area of the Information Centre program, that is, the area of information service, was finally beginning to drain energy from the other services.

The year of 1983 marked a period of substantial bureaucratic change. First, General Services and Community Services were combined under one person, then later, disbanded altogether. The Information Centre program ended up being supervised by the Assistant Town Manager. As a result, little change was made to a program which, by most accounts, was perceived to be meeting town needs.

A 1984 philosophy statement reflects the program stagnation which was caused by the overload of one service. It is nothing more than a procedures manual developed to deal most effectively and efficiently with the workload. There is no mention of improvements or expansion into other areas, only more systematic ways of maintaining the status quo.

The purpose of the program, according to this statement, was one of direct service provision. Moves were made to standardize existing services so as to decrease the workload. No new and innovative projects or services were in evidence. As well, there was

no indication of the elimination of redundant services nor the transfer of unsuitable services. Simply put, the only change was towards doing the existing job more efficiently through standardization of activities. Once again, the burden from this one service increased program workload with workers handing 3,404 contacts per month, *Annual Report* (1984).

According to available reports and personal interviews this pattern had continued up to the time of the evaluation. There had been few new Information Centre projects. Increased time pressures, associated with the increase in incoming calls as well as additional projects from city departments and local businesses, had led to a program which could no longer expand, but on meet present requirements.

THE EVALUATION

Due to this stagnation, the Information Centre had come under fire from some key community members and city officials who believed the Centre was little more than a glorified telephone information-directory assistance service. This perception of the Centre as static and failing to evolve led to the distinct possibility that funding would be cut in the near future.

Concerned with this perception, the Social Planning Board Director, Mark Nicoll, requested an evaluation of the program. The general purpose of the evaluation was to examine the validity of the above perception, as well as suggest possible program enhancements. In addition, other reasons were cited for the evaluation:

1. Insufficient information specific to the program in question;
2. Recent budget cuts and the concern about further reductions;
3. A desire to examine program efficiency in light of the above;
4. New data on the Information Centre which had recently become available through the Airdrie Needs Assessment Survey (1987);
5. A desire to compare the program's functioning with similar operations throughout the province; and
6. A concern about whether or not the program, as it is presently operated, fell within

Family and Community Support Services funding guidelines, they being the principal funding agency.

This author was requested, in part due to a prior knowledge of the Information Centre obtained from some computer-assisted data analysis done on the previously mentioned *Airdrie Needs Assessment Survey (1987)* (Gubbels, 1987). In addition, the author was requested to extrapolate from existing data base, specifically with regards to people's perceptions of the Information Centre.

The results, available in *A Supplementary Analysis of the Airdrie Information Centre (1987)* (Skakum, 1987), as well as in *A Needs Assessment Survey (1987)* (Gubbels, 1987), indicated that although the population felt that the Airdrie Information Centre could offer more, about 90 percent used the Centre and knew of the present service. This information made the concept of formative evaluation, an evaluation aimed at program improvement the only choice. With this much public knowledge and support, the only feasible alternative would be the continued use and improvement of this social service. To terminate the service based on its present functioning would have been, in the authors opinion, a terrible mistake.

Upon closer examination, the task became of considerable interest. The program was community based. This fell within my chosen field of specialization. As well, there was the practical reasons. Having worked for about one-and-one-half years for the Family and Community Support Services, the author had an inside understanding of the philosophy.

Secondly, the state of the program accordng to management, called for some fairly significant and rapid changes. The management wanted the Centre to be more than a "telephone answering service" or funds would be cut. The staff also were feeling tied down in a monotonous role.

Thirdly, there was the appeal of the freedom to try something new and innovative. The project was most interesting due to the perception of the program as static, unchanging and unchangeable. This ties in directly with the perception of science as static and dogmatic.

In other words, this program evaluation, on a microcosmic level, corresponded to the macrocosmic conflict which had been outlined earlier between static dogma and the dynamic possibilities inherent in process.

Based on the situation as well as the author's personal biases, it would be impractical to conduct an evaluation in the classical manner prescribed by the evaluation and research experts such as, Atkinsson, Hargreaves, Horowitz & Sorenson (1978). According to these theorists, in order to conduct a proper evaluation, one must design instruments which measure how closely a program is reaching its previously set goals and objects. Much of statistics is based on these initial conditions and accurate measurements. A corollary of this is that the previously set goals and objectives of the program are, in fact, measurable.

This prerequisite to successful, classical evaluation posed considerable problems, since the program to be evaluated had no pre-set, established, measurable goals and objectives. A review of present literature, however, served as encouragement. Other researchers, Wholey (1979), Nay (1982), Wholey, Nay, Scanlon & Schmidt (1972), ran into similar problems. They suggested an approach entitled the "rapid feedback" technique. This technique was used when a program was not ready for a formal evaluation. In this approach, the researcher bases the evaluation on existing and easily accessible data as quickly, and from as many sources as possible, in order to meet current management needs. By doing so, the researcher's goal is to prepare the program for future classical evaluation.

This multidimensional approach to program evaluation outlined in the Literature Review, appeared to be made for this project. All that remained was to choose the specific methodologies which would most probably result in the successful utilization of the study results.

METHODOLOGICAL STRATEGIES

The first strategy employed was that of the use of an existing data base. This method is both cost and time efficient (Chelimsky, 1985). Previous data existed from the previously mentioned *Needs Assessment (1987)* and *Supplementary Analysis (1987)*. In addition, previous data had been collected, since 1986, on the source, frequency and ratio of calls received by the Information Centre. In essence, it would give an insight into how the respondents felt about the program.

The second strategy employed was based on the partnership model, Perkins (1977). The author took time to cultivate a postiive working relationship between the FCSS members and city staff. This was done purposefully in order to both assist in the ease of data collection as well as help in the dissemination of results.

The third strategy employed was based on Guttentag (1975), the Stakeholder-based evalution method. It is the claim of this method that the probability of utilization is increased if those who work in the environment take ownership of the results!

In order to achieve these objectives, it was decided that an advisory steering committee should be established. This steering committee was made up of city staff, politicians, F.C.S.S. personnel and board members who had the responsibility of dissecting the data presented, and of making recommendations for the directional change. In other words, the evaluation was outcome oriented.

A fourth strategy employed was a time-motion study. According to Pappas (1967), "By estimating with satisfactory accuracy the way people allocate their time as among . . . frequency of performance of activities in comparison with values and norms in mind to be attained, allocation of time can be planned." It was the perception of the staff as related to their tasks and the time it took to do them which was related here. In order to graphically represent this, the author gathered data from the supervisor on tasks done in the Information

Centre as well as the estimated time spent on these tasks.

The fifth strategy employed was that of comparative analysis. This strategy was taken from evaluation research literature. In Ragin's (1987) words, "comparative method does not work with samples or populations but with all relevant instances of the phenomenon of interest." Three other Information and Referral programs were compared and contrasted, using a semi-structured interview format, in order to view the Airdrie Information Centre within the above noted wider perspective.

The author, during the data collection phase, simply gathered and tabulated data on each of the above views. After completion of each part, the data was brought back to the steering committee for its interpretation. Once all the data had been accumulated, the committee established a common view of where the Information Centre was and in what direction it would attempt to go. This was in keeping with the theory on utilization cited previously in Patton (1978).

Finally, the process model Whitehead (1978) was adhered to throughout. Through each of the methods, a view toward harmony was maintained. Whether the author was meeting with city executives, the steering committee, the Information Centre staff or those in other Information Centers, an attempt was made to envision the successful operation of the Airdrie Information Centre from all perspectives.

CHAPTER FOUR

DATA ANALYSIS

FINDINGS

Introduction

The observations in this area were collected and tabulated by the researcher from information kept at the Information Centre and from data collected from other I&R services as well as the Needs Assessment (1987) Supplemental Evaluation. They were tabulated in this manner so as to give the members of the Steering Committee a concise and capsulated view of the present condition of the Airdrie Information Centre. Percentages and cumulative percentages were used to reflect the top-heavy nature of the contacts. This meant that much of the contacts appeared in the top 3 or 4 categories.

The observations in this area contain a number of tables which show a breakdown of the type and number of contacts received by the Information Centre. A contact is defined as a drop-in visit, a phone call or a letter which initiates some action on the part of Information Centre staff. These statistics are for the year 1987.

Contacts

Table 1

CONTENTS

	1987	1987	Total No.	1986	1986	Total No.
Categories by Usage	% of Heading	Cumm. Total		% of Heading	Cumm. Total	
Phone	79.6			84.5		
Drop-in	20.3	99.9		15.3	99.9	
Mail	0.1	100.0		0.1	100.0	
			42,341			43,254

Table 2

BREAKDOWN OF CONTACTS BY AGE

	1987	1987	1986	1986
Categories by Usage	% of Heading	Cumm. Total	% of Heading	Cumm. Total
21/39	77.0		79.5	
40/59	11.1	88.1	8.2	87.7
Teen	7.2	95.3	8.6	96.3
Child	4.8	100.1	4.4	100.7
60 and over	2.6	102.7	1.8	102.5

The Information Centre staff attempted to determine through the course of conversation, the source of contact. Percentages were used to show the top heavy sources of contact.

Table 3

SOURCE OF CONTACT

	1986		1987	
	Percentage of calls	Cumulative Total	Percentage of calls	Cumulative Total
General Public	83.9		83.2	
Business	10.9	94.8	13.7	96.9
Government Agencies	3.0	97.8	1.7	98.6
Community Organizations	1.9	99.7	1.1	99.7
School	0.3	100.0	0.1	99.8
Church	0.1	100.1	0.1	99.9
Other	---	---	---	---

Table 4

INFORMATION SOUGHT 1987

Cat. by Usage	# of Contacts	Cum. Total of Contacts	% of Total	Cum. % of Total	# Ans. by SB	Cum. Total Answered by SB	% Answered by SB
Business	11,031		26.0		7.965		72.2
General City Information	6,194	17,225	14.6	40.6	5,525	13,490	84.4
City Services	4,453	21,678	10.5	51.1	2,817	16,307	63.3
Recreation Services	2,806	24,484	6.6	57.7	2,485	18,792	88.6
Government Services	2,261	26,745	5.3	63.0	1,273	20,065	56.3
Airdrie Transportation	1,815	28,560	4.2	67.2	571	20,636	31.5
Health	1,726	30,286	4.1	71.1	1,725	22,362	84.6
Employment*	1,647	31,933	3.9	75.0	---	---	---
Clubs/Organizations	1,610	33,543	3.8	78.8	---	---	---
Special Events	1,483	35,026	3.5	82.3	---	---	---
Direction	1,304	36,330	3.1	85.4	---	---	---
Transportation	1,009	37,339	2.4	87.8	---	---	---
Education	997	38,336	2.4	87.8	---	---	---
Other	877	39,213	2.1	92.3	---	---	---
Tourist Information	739	39,951	1.7	94.0	---	---	---
Personal	529	40,480	1.2	95.2	---	---	---
Brochures	464	40,944	1.1	96.3	---	---	---
Land, Housing	431	41,375	1.0	97.3	---	---	---
Ch. Services	339	41,714	0.8	98.1	---	---	---
Srs. Services	256	41,970	0.6	98.7	---	---	---
Postings	139	42,109	0.3	99.3	---	---	---
Social Services	112	42,221	0.3	99.3	---	---	---
Just Looking	78	42,299	0.2	99.5	---	---	---
Crisis	42	42,341	0.1	99.6	---	---	---

* Employment statistics inflated due to requests for employment information regarding the new Bethany Care Centre.

Table 5

RESOURCES USED

	1986		1987	
	Percent	Cumulative Percent	Percent	Cumulative Percent
Personal Knowledge	32.8		31.2	
Strip File	21.4	54.2	24.5	55.7
Other*	20.0	74.2	18.8	74.5
Rolodex	12.6	86.8	9.6	84.1
Pamphlets	7.6	94.4	6.8	90.9
ACRB/Own Publications	6.1	100.5	8.4	99.3
Media Information	0.6	101.1	0.8	100.1
Government Directories	0.5	101.6	0.3	100.4
Telephone Book	---	---	0.2	100.6

*Two or more different questions answered or only information taken.

Table 6

ACTION TAKEN

	1986		1987	
	Percent	Cumulative Percent	Percent	Cumulative Percent
Information	93.0		97.4	
Courtesy	1.6	94.6	0.3	97.7
Information Search	1.5	96.1	0.4	98.1
Registration/Sales	1.3	97.4	1.2	99.3
Directions	0.8	98.2	0.1	99.4
Own Publications	0.6	98.8	0.4	99.8
Eligibility/Clarification	0.3	99.1	0.04	---
Appointments	0.3	99.4	0.02	---
Follow-up	0.3	99.7	0.06	---
Update	0.2	99.9	0.01	---
Liaison	0.1	100.0	0.1	---
Listening	0.1	100.1	0.03	---
Emergency Intervention	0.01	---	0.01	---
Medication	0.01	---	0.01	---
Interpreting	0.01	---	0.004	---

Table 7

INFORMATION SOUGHT 1986

	1986			
	Percent of Contacts	Cumulative Total of Contacts	Percent of Total	Cumulative Percent of Total
Business	12,224		28.3	
General City Information	8,456	20,680	19.5	47.8
City Services	3,568	24.249	8.2	56.0
Recreational Services	2,803	27,051	6.5	62.5
Airdrie Transit	2,799	29,850	6.5	68.0
Clubs/Organizations	1,990	31,840	4.6	72.6
Government Services	1,877	33,717	4.3	76.9
Directions	1,551	35,268	3.6	80.5
Special Events	1,529	36,797	3.5	84.0
Health	1,307	38,104	3.0	87.0
Education	1,165	39,269	2.7	89.7
Transportation	1,043	40,312	2.4	92.1
Other	501	40,813	1.2	93.3
Tourist Information	462	41,275	1.1	94.4
Lend H.R.	388	41,663	0.9	95.3
Personal	353	42,016	0.8	96.1
Employment	334	42,350	0.8	96.9
Brochures	302	42,652	0.7	97.6
Children's Services	272	42,924	0.6	98.2
Postings	163	43,087	0.4	98.6
Just Looking	78	43,165	0.2	98.8
Social Services	77	43,242	0.2	99.0
Crisis	12	43,254	0.02	---

Another source of previous data was the 1987 Supplemental Analysis of Data from Airdrie Needs Assessment (1987). The following is the outcome of that suggested change which was also presented to the Steering Committee.

Airdrie Supplemental Analysis

Purpose

The purpose of this supplemental analysis is three-fold. Firstly, demographics were analyzed to determine a profile of the average Airdrie resident. Secondly, additional analysis was done to determine how the residents felt about the Centre. Finally, the data was examined to shed some light on utilization and effectiveness of the Centre programs.

Analysis

Profile of Airdrie Resident

The following is a resident profile based on the demographic data compiled from the Airdrie Needs Assessment (1987).

The 350 respondents were almost equally divided by gender, with males comprising 53.6 percent of the survey. The vast majority were married (95%) and fully employed (68%). Only 3.2 percent of those surveyed stated they were unemployed.

The population was fairly affluent, with 45 percent of the respondents claiming a salary of $40,000.00 or more per year. Only 13.3 percent of the sample population made under $20,000.00.

The average respondent had lived in Airdrie for a relatively short time and 10 percent had been in Airdrie for 10 years or more, while fully 1/3 (33.6%) had resided there for between 5 and 6 years. Summerhill, Meadowbrook and Big Springs appear to be the largest population areas in the city, comprising 55 percent of the respondent population.

In conclusion, based on the data, the average resident is married with at least 1 family member working full-time. The family income is in the $40,000.00 range, and they have lived in the city for about 5 or 6 years.

The following statistics were analyzed using the mainframe computer in order to carry out a secondary analysis using an existing data base. The data had already been inputed by

question number, this is the notation appearing at the upper right. The variable label given to the answers to a particular question is found in the center. The variable number appears on the left hand side. The analysis that follows is the qualitative interpretation of frequency distributions for each of the following questions. The questions were selected for here specific relevance to the Aidrie Information Center program.

Resident Satisfaction

Variable 67 Adequacy of Service Question 4:13

The service appears to be adequate, with 62.8 percent of those surveyed answering 4 (adequate) or 5 (very adequate) to this question. This is further reinforced by the fact that only 9.2 percent felt it very inadequate or inadequate. Some cause for concern, however, is that 24.6 percent of the population answered ambiguously, answers 3 or 9.

Variable 88 Importance of Service Question 5.13

The importance of the service is unquestioned. 83.9 percent felt it either important or very important, whereas only 3.6 percent felt it unimportant or very unimportant.

Variable 107 Know Someone Who Needed Service Question 6.12

60.9 percent knew someone who needed the service. 36.5 percent did not. This is somewhat contradictory with later evidence which indicates a larger percentage use the service than "need" it.

Variable 134 Aware of Service Question 8.1

Once again there is no question as to how the service is publicized. 95.4 percent of the population surveyed were aware of its existence.

Variable 135 Contact the Service Question 8.2

92.4 percent know how to contact the service. Once again, publicity is more than adequate.

Variable 136 Use of Service Question 8.3(1)

85 percent of those surveyed use the service. This constitutes a large percentage of the population and speaks to the need for this service.

Variable 137 How Often Used Question 8.3(2)

47.7% of the people used the service less than once per month. 69.5 percent use it once a month or less. These statistics make one feel that additional services may be provided to increase usage.

Variable 138 Provides Kind of Service Needed Question 8.4

84.9 percent said that the service provided was the kind needed.

Variable 139 Additional Services Question 8.5

55.9 percent said no additional services were required. Although few (7.2%) expressed a need for additional services, a large number (36.9%) answered ambiguously. This could be interpreted as saying that although they thought additional services were required, they could not think of what they might be.

Variables 140-144 Resource Booklet Question 8.6

The majority (79%) felt that the Resource Booklet was of value, and over 70 percent (70.7%) felt that it was fine in its present form. The general feeling, however, was mixed as to whether it should be paid for (35.2% to 33.2%) and/or pick up (37.8% to 38.5%). Most use the booklet for private business (41.4%), but the other usage is fairly evenly spread, and far from inconsequential.

Overall

Overall, the frequency results show that the Airdrie Information Centre is a well-known, and necessary service provider for the city. It appears, however, that an increase in the number of programs offered may facilitate increased usage. From the data, the people seem very satisfied with the present level of service, and that it meets their present needs. The Centre could

offer more programs, although the popoulation is not sure what. In the opinion of the respondents, the Resource Booklet is one example of a valuable service which the Information Centre provides.

Utilization or Effectiveness

Cross-tabulation of use by demographics and adequacy by demographics yielded no statistically significant results. What this means is that the Centre was used and found adequate equally by residents regardless of whether they were male or female, single or divorced, employed or unemployed or where they lived in the city of Airdrie. It is of redundant to note, however, some salient points:

1. A slightly higher number of singles than expected felt the service inadequate;
2. A slightly higher number of divorced than expected felt the service to be adequate;
3. Females tended to use the service more frequently than males. Males were apt to use the service once a month or less;
4. The majority used the Centre once a month or less;
5. Regardless of amount of use, the respondents felt the service was adequate;
6. Regardless of the amount of use, the respondents felt the service was important;
7. There was a discrepancy between those who knew someone who needed the service and those who used the service.

Summary

In conclusion, the data shows the Information Centre to be a well-known and well-used service to the community. The service seems to cut across demographic boundaries, and it seems to service all segments of the population.

There seems to be, however, a need for the Centre to come up with some new and innovative programming to expand its solid user base. In doing so, the already aware public would begin to use the Centre more regularly. It would then become needed and not simply used.

The data from the existing data base at the Information Centre left the Steering Committee with the impression that the service provided by the Information Centre was little more than a glorified telephone answering service. The time which the staff spent on simply answering the telephone and giving out information on business and city affairs left little time for any community development. This picture is consistent with the one presented in the historical overview of the program.

On the other hand, despite its obvious lack of direction and planning, the Information Centre, according to data gleaned from the Supplemental Analysis of the Airdrie Needs Assessment (1987) was the city's best known resource. A majority of the population knew of and used the Information Centre in one capacity or another. Their only complaint seemed to be that they felt the Information Centre could do something more.

This is a community developer's dream . . . a resource which has its ear to the sensitivity of the community. With direction, the Centre could be a valuable source of public relations for city programs as well as providing feedback as to program deficiencies through its advocacy role.

PARTNERSHIP MODEL

F.C.S.S. FIT

There was some question at the beginning of this evaluation as to how what was being done at the Information Centre fit within the F.C.S.S. guidelines. The following chart is an attempt to distribute the tasks done by Information Centre staff according to whether they fell under the definition of F.C.S.S. related, or whether they fell under other auspices, be it either city of Airdrie or the local business community. The decision as to where to place the activity is based on a review of the F.C.S.S. guidelines (see Appendix 2) and the document entitled "The Role of F.C.S.S. in I & R" (see Appendix 3).

ACTIVITY DISTRIBUTION TABLE

Activity	City Depts.	Man Hours	Local Busi-nesses	Man Hours	FCSS	Man Hours
Grant Applications					X	6.5
Updating information files					X	37.4
Bulletin postings					X	74.7
Ad hoc city department requests	X	467.0				
P.R. for special events	X	37.4 (50%)			X	37.4 (50%)
Sales	X	18.7				
Community calendar					X	86.2
Welcome packages	X	56.0				
General public assistance	X	418.1 (30%)	X	696.9 (50%)	X	278.7 (20%)
Photocopying					X	74.7
Room & equipment bookings	X	65.4 (70%)			X	28.0 (30%)
Clippings file	X	14.9 (20%)			X	59.8 (80%)
Information Beat (Newsletter)	X	43.1 (50%)			X	43.1 (50%)
Transit services	X	66.8				
Community signs	X	11.2 (10%)			X	100.9 (90%)
Resource booklet			X	258.5 (80%)	X	64.6 (20%)
Information Centre special projects					X	129.3
Mail drop-offs	X	8.6				
Pamphlet maintenance	X	64.6 (40%)			X	97.0 (60%)
Commissioner for Oaths					X	74.7
Update strip file	X	18.7				
Seniors services					X	56.0
Christmas hampers					X	8.6
Greyhound Cardinal service			X	18.7		
Travel Alberta			X	21.6		
Travel brochures and travel information			X	37.4		
Supervisory and administration	X	59.8 (40%)			X	89.6 (60%)
Miscellaneous					X	74.7.
TOTALS	35%	1350	27%	1033	39%	1497

ANALYSIS OF PARTNERSHIP STRATEGY

Upon analyzing the data presented in the Activity Distribution Table, the Committee was of the opinion that the reason the staff of the Information Centre was so overloaded was that they were doing jobs outside the guidelines of the F.C.S.S., their funding source. The Committee saw this as a chance to reduce the workload of the staff by placing the burden of additional service delivery on those responsible, namely the business community and the city. Removing these extra responsibilities, the Committe felt, should leave time for community development projects which fell under the F.C.S.S. mandate.

TIME ACTIVITY DISTRIBUTION

Time Motion Study

Another area in which data was acquired was with regards to staff activity. The activity of direct client contacts took up about 50 percent of the staff time, and there were also additional activities in which they engaged.

The following chart was designed and compiled in an attempt to name and explain these activities as well as place a numerical value to the time spent on each activity. The "estimated time spent" is the subjective opinion of the unit supervisor. This data was collected by first determining all the activities carried out by the supervisor and staff and then placing a subjective amount of time on each task. The "adjusted man hours per year" is the translation of the subjective time spent into the actual time available through proportional adjustment.

TIME ACTIVITY CHART

ACTIVITY	DEFINITION	ESTIMATED TIME SPENT	DISCUSSION	ADJUSTED MAN HOURS PER YEAR
Grant Applications	Project Employment (PEP, STEP, SEED)	3 hours each time	3 times per year	6.5
Updating Information Files	Daily updates from newspapers. Initiating updates. Direct contact from public.	1 hour per week	---	37.4

ACTIVITY	DEFINITION	ESTIMATED TIME SPENT	DISCUSSION	ADJUSTED MAN HOURS PER YEAR
Bulletin Postings	Putting notices on board for public and Information staff. Keeping it current.	2 hours per week	Changed weekly	74.7
Ad hoc city department requests	Respond to requests from all city departments. Participate on city committees.	12.5 hours per week	Prepare information packages. Take weed complaints. Send letter to complainant. Hand out pitch-in bags. Take Fun Run registrations. Answer correspondence for Mayor.	467.0
Public relations for special events	Public relations for both city and community. Respond to requests for directions.	2 hours per week	i.e., Rodeo, Municipal Involvement Week	74.7
Sales	Selling of city of Airdrie pins, postcards and flags.	1.5 hours per week	Proceeds go to general city revenues	18.7
Community calendar	Prepare monthly listings of community events. Distribute to local media: Calgary Herald, Airdrie Echo, Q-91 Radio, Cable 10 TV	4 days in fall to gather initial data and 1 day for updating and preparation of calendar	Mass mailout in the fall to all groups. Compilation of data monthly. Distribution of calendar monthly.	86.2
Welcome packages	Update package to reflect changes in information. Mailed out to perspective residents and others. Handed out to new residents, businesses and real estate agents.	1.5 hours per week	Special version for Scottish visitors.	56.0
Client contacts	See attached Tables	37.5 hours per week	---	1393.7
Photocopying	Making copies. Explaining operation of machine to groups. Maintenance of copier.	2 hours per week	Clientele split equally between community groups and general public.	74.7
Room and equipment bookings	Booking done for city department and community groups.	2.5 hours per week	Take bookings. Sign out equipment. Train users. Maintenance of equipment.	93.4

ACTIVITY	DEFINITION	ESTIMATED TIME SPENT	DISCUSSION	ADJUSTED MAN HOURS PER YEAR
Clippings file	Clip and file newspaper articles related to: 1. Information Centre 2. Special events 3. Future developments 4. City council	2 hours per week	—	74.7
Information beat	Write a bi-weekly newspaper column.	10 hours per month	Check with all city departments. Publicize Information Centre. Write column. Deliver to Echo.	86.2
Transit services	Distribution and/or sales of passes to: - schools - general public - seniors Determine subsidy eligibility. Provide transit schedule information.	Full 15 hour week for 3 weeks and 4 hours per month updating lists and sales	Take applications and determine eligibility annually. Issue and distribute monthly. Sales at any time.	66.8
Community signs	Take bookings from city department and community groups. Make reminder calls. Make up signs. Restack when they come in.	3 hours per week	If a sign is not booked, then the Information Centre is responsible for filling it. Instruct on how to use signs.	112.1
Resource booklet	Make book ready for public, i.e., update information, compile book annually, arrange printing and distribution	PEP person - 3 month project	Negotiate funding. Contact all people in book plus new businesses.	323.1
Information Centre Special Projects	Organize workshops. Create theme displays.	2 days per month	Think up and set up monthly theme displays i.e., Olympic display	129.3
Mail Drop-off	Receive and deliver mail for all city department, primarily utility payments.	1 hour per month	---	8.6
Pamphletmainten-ance	Keep supply of pamphlets up-to-date. Research and acquire new stock.	2 hours per week	Stack pamphlet rack at city office.	74.7
Registrations - clubs - organizations - city recreation	Re: hockey, trade fair, Ms. Airdrie.	6 weeks per year	Explain: costs, times, how to register. Accept and delivery payments to Recreation department 4 times a year	161.6

ACTIVITY	DEFINITION	ESTIMATED TIME SPENT	DISCUSSION	ADJUSTED MAN HOURS PER YEAR
Commissioner for Oaths	1. Explain forms 2. Take people's oaths 3. Commissioner forms	2 hours per week	Sometimes involves work outside the Information Centre.	74.7
Update switchboard strip file	Compile and deliver updated community information.	5 hours per week	---	18.7
Seniors services	Assist in obtaining and completing government forms. Liasing with government office on behalf of seniors.	1.5 hours per week	Personal assistance very important. Often they just need "someone to talk to." Listening.	56.0
Christmas hampers	Accept donations at the Centre. Drop-off spot.	3 hours per week for 4 weeks	Basic preventative service.	8.6
Greyhound and Cardinal schedule information	Give out times at which buses run.	1.5 hours per week	Cardinal gives the Information Centre number when they receive calls regarding schedule information.	18.7
Travel Alberta	Compile a description of local events.	1 day, 4 times per year	---	21.6
Travel brochures and travel information	Order and distribute brochures. Provide travel consultation. Updating Airdrie component of David Thompson County Annual Guide.	1 hour per week	---	37.4
Supervisory and administration	Ordering supplies. Meetings. Planning. Statistics preparation. Reports - weekly, monthly, annually. Supervision of staff and projects, i.e., PEP, STEP, Tourist Bureau	4 hours per week	This part could easily account for as much as 2 day per week, but no time: supervision and planning not given the time they should be according to the supervisor.	149.4
Miscellaneous	Various and sundry activities.	2 hours per week	---	74.7
			Total = 3880.0 hours	

ANALYSIS OF TIME ACTIVITY DATA

The Steering Committee felt that the time-activity data reinforced the fact that the staff at the Information Centre was overworked, and that they were overworked doing jobs which, by rights, should not be theirs. Once again it was felt that those jobs which were not related to FCSS work should be eliminated from the tasks which the staff had to perform or that some kind of financial or manpower compensation should be forthcoming from those whose responsibility it was to do the tasks. The Committee, too, was aware of the fact that this high work load along with constant interruptions and the large variety of tasks had a severe effect on the ability to plan and to create.

COMPARATIVE INFORMATION

Three additional I & R programs were chosen for this comparative study. They are: Information Lethbridge, the Information and Volunteer Centre for Sherwood Park and the Red Deer A.I.D. Service. These programs were selected primarily to give some insight into how a program might grow. That is, they were selected for the belief that they had progressed beyond the services offered by the Airdrie Information Centre. In addition, Airdrie compared other programs in terms of both workload and budget. As well, all are members of the Information and Referral Services Association of Alberta (IRSAA).

An attempt was made by the researcher to find communities of similar population size to Airdrie that offered similar services. This search was unsuccessful. Due to the infancy of these programs, communities of similar size, if they offer the service at all, offer it on a considerably smaller scale. In fact, Airdrie, due to the boom-like conditions which created the Centre, is ahead of its time as far as I & R services are concerned. The Airdrie Information Centre has served as advisor to some of the smaller or similar sized communities on how to set up an I & R service.

COMPARATIVE TABLE

Topic	Airdrie	Red Deer	Lethbridge	Sherwood Park
DEMOGRAPHICS:				
Population	10,000	50,000	50,000	??
Type of Community	Urban	Urban	Urban	Rural Municipality
Location* of Centre	Central Extremity (accessible)	Central (unaccessible)	Central (accessible)	Suburban(somewhat accessible)
Size of building	Average ? sq. ft.	Large ? sq. ft.	Small ? sq. ft.	Large ? sq. ft.
Staffing	1 full-time and 2 part-time	1 full-time and 15 volunteers	1 full-time and 1 full-time casual	3 full-time and 20 volunteers
Majority of client contact	Paid staff Airdrie	Volunteers	Paid staff city of Lethbridge	Volunteers
Duties other than I&R	See "Activity Distribution Table"	None	Landlord/tenant	None
* Accessibility is defined here as the ease with which people may drop-in. Criteria include street level entrance, location, and setting.				
BUDGET:				
Total $	82,003	59,880	59,100	104,107
Major revenue source	FCSS	FCSS	City of Lethbridge	County of Strathcona/ United Way
Amount contributed	62,730	47,504	59,100	61,575/ 27,180
Percent of Total	76	80	100	85
Major source of expenditures	Wages & benefits	Wages & benefits	Wages & benefits	Wages & benefits
Amount spent	57,425	37,940	54,300	82,468
Percent of total	70	63	92	79

COMPARATIVE TABLE Continued

Topic	Airdrie	Red Deer	Lethbridge	Sherwood Park
WORKLOAD - January 1988:				
Contacts	1476	567+	1127	1340
Contacts by telephone	660	567	935	1301
Percent of telephone contacts	45*	100	83	97
Primary reason for contact	Direct information	---	Direct information	Volunteers
Number of contacts	1022	---	758	524
Percent of total	69	---	67	39
Primary source of contact	General public	---	General public	General public
Number of contacts	1196	---	948	approx. 1000
Percent of total	81	---	84	75

+ Red Deer does not breakdown their statistics in this manner.
* Airdrie averaged about 80% telephone contacts for 1987.

QUALITATIVE DATA

I & R services are distinctive by area, both in appearance and operation. It seems that they fit into the community which they serve. Although this is very functional from the community perspective and the perspective of I & R in general, this diversity makes quantitative comparison difficult. This difficulty is not simplified by the various and distinct reporting methods which have evolved in each area. Once again, while each may be well-suited to their individual needs, it makes cross referencing of the data a difficult and somewhat frustrating and inaccurate process.

Having said the above, the qualitative component will still shed some additional light on the subject. The distinct flavour and attributes of each community will, hopefully, be captured in this section.

1. Sherwood Park

Sherwood Park comes from the perspective that the job which they do is an extremely important one. This attitude is mirrored in their energetic and outward-going staff. They take an aggressive approach to marketing their product. Their strategy, when they deal with the funding source, is that "it could happen that they might need the service, and if it did not exist, what then?" Aggressive fund-raising is also evidenced in their budget. In addition, donations are accepted from those groups which use their facilities.

Volunteers man the telephones on a regular basis. This allows the staff the free time to plan long-range activities and to network with social service agencies and the business community. Volunteer recruitment and the retention of contented volunteers is a very important part of their program.

In addition, there is a strong advocacy component built into the program. Statistics are kept as to the time of the call and the amount of time spent on the telephone because, in their words, "listening time is important." Their statistic sheets are adjustable to assist other agencies in keeping a handle on different trends. They encourage their callers to call back again if they do not get the service they require and will write letters on the caller's behalf to bring attention to these negative occurrences.

The Sherwood Park program appears to be alive and vital.

2. Red Deer

The Red Deer Information Centre operates strictly as an information and referral service. Any additional tasks are taken on by the City or the business community. Volunteers man the telephones on a daily basis. This frees the supervisor for her networking responsibilities. She does presentations to schools and social service agencies and sets up mall displays. This marketing is an essential part of the service

and serves to enlighten the public as to the functioning and advantages of an information and referral program.

They, too, keep statistics on the time spent on each contact as well as the contact itself.

3. Lethbridge

Lethbridge is quite similar to Red Deer in that as a larger city it has become more bureaucratized. What is left for the information services is to inform and to refer, with one major exception. The staff is also responsible for landlord-tenant calls and this take up a large portion of their time.

The Lethbridge service, like Airdrie, uses no volunteers. This means that they have no time for marketing their service or networking with other agencies or the public at large.

What they do have is the storage of all information on computer. This program, designed by a University of Lethbridge student, has eliminated the need for rolodex files. It has also saved time and energy in terms of responding to calls and updating information.

4. Airdrie

The Airdrie Information Centre, as has been previously mentioned in the Present Functioning section, is a centre which has tended to stagnate due to work overload. Those who operate the program have little time for creative planning and even less for implementation.

ANALYSIS OF COMPARATIVE DATA

The Steering Committee was optimistic upon viewing the comparative data. This data showed that there were a number of ways for a program to grow from a common root. In addition, it gave some insight and ideas into how to revamp the Airdrie program.

A corrollary to this, but one which is very much relevant given the process rational of the evalution, is that these four centres have agreed that they should keep in closer contact to exchange ideas about future programming.

The Steering Committee met after each section of the data gathering process was completed. At each stage, the data was discussed and analyzed, and a basic consensus was arrived at as to its meaning. This ensured that the key players in the evaluation process, the Steering Committee, took ownership of the collected data, in keeping with Patton's (1978) criteria for evaluation utilization.

Much of the focus of the final meetings was centred around how, having already discovered the problems within the operation of the Centre, to take the project further along the path of resolution of these problems. This showed that the Committee had, indeed, taken over ownership of not only the data but of the project itself.

The final recommendation and the steps taken towards their end, reflect the energy with which the Committee approached the evaluation. The time established, along with the Committee's commitment to having these followed as closely as possible, provides further proof for the basic premises for utilization on which Patton bases his case.

At the time of writing this section, the following recommendations, as well as the discussions on which they were based and the time line for their implementation, were accepted by the Airdrie City Council.

CHAPTER FIVE

DISCUSSION AND PREMISES

EXECUTIVE SUMMARY OF DISCUSSION AND PREMISES

The Steering Committee, having reviewed the data collected from these areas, has agreed upon the following basic premises:

1. That the Information Centre should continue to exist.

2. That the Information Centre should remain at, or near, its current location due to its high visibility, centrality and accessibility. These characteristics are all vital assets in view of the program changes recommended,

3. That the program must be given a clear sense of direction in terms of developing appropriate goals and objectives,

4. That this direction must more accurately reflect the philosophy of its major funding source (F.C.S.S.) and the philosophy of I & R services,

5. That since the Information Centre is presently running at capacity, any proposed change in the program must take into account staffing requirements and any other related resource allocations,

6. That the Information Centre has been shown to be a valuable service in the community, but that it has been operating without a clearly defined set of goals and objectives which had led it to become a "catch all" for various city and business projects.

RECOMMENDATIONS

Based on the above agreed upon premises, the Steering Committee recommends:

Recommendation #1:

That the Centre adopt the following goals/objectives for its initial move towards more of a community development approach:

a) *Increased autonomy for the Information Centre.*

This process begins by transfer of day-to-day centre operation responsibilities to the Information Centre coordinator, coupled with an initial plan for the rationalization of non-F.C.S.S. related services. It is then necessary to set up an ongoing Advisory Board who would more closely examine and work with the staff to fine tune the goals and objectives, as well as look into the possibility of steps towards further autonomy.

b) *Increased public participation in the Centre.*

This means that Centre activities should be designed to encourage the involvement of the general public, including use of volunteers, to provide both program direction as well as direct services. Programs should be designed so that the public takes an active rather than passive interest in the Centre (e.g., the Panda Contest just recently completed, boardroom use, etc.)

c) *Increased sense of community.*

The Centre should create programs which instill in Airdrie residents both a sense of separation from other communities, as well as a sense of local uniqueness. In addition, they should stress the commonalities of those who share Airdrie as their home. In short, the programs should be more directed at supporting and enhancing Airdrie's identity.

d) *Increased planning time.*

The coordinator requires free time away from front-line responsibilities in order to develop programs which are directed towards the achievement of the goals.

e) *Improved data gathering and analysis.*

Data forms need to be revised in order that relevant and timely program information may be more readily accessible on changing community needs, and gaps in human services and user satisfaction with the various government and non-profit agencies in the city.

f) *Increased networking with community, city and private non-profit groups.*

The coordinator also needs time set aside so (s)he can begin to educate community groups and agencies about what the Centre has to offer them, and to explain the new focus of the Centre. In return, (s)he will develop the strong community and inter-agency rapport necessary to a stronger network of local human services.

g) *Increased public awareness of service.*

Residents who use the Information Centre value its services according to the 1987 Needs Assessment. It is, therefore, important to undertake to broaden this informed support through public awareness initiatives on the part of both staff and Information Centre volunteers.

h) *Become more advocacy oriented.*

The Centre should take a more active role in assisting citizens to wade through bureaucratic "red tape" or who have concerns about human services. This should include empowering their clientele to take action towards alleviating their own concerns (i.e., help them to help themselves). They should be prepared, if necessary, to assist in writing letters and making telephone calls on clients' behalf to the appropriate source, should the clients' own efforts prove unsuccessful.

i) *Promote volunteerism.*

The Centre should become the hub of volunteerism for the community. It should take on the responsibility for volunteer coordination, recruitment and training in addition to using them internally. The Centre should, as one of its services, establish a volunteer recruitment process for its own use as well as for other non-profit groups throughout Airdrie.

Rationale

For the Information Centre to continue in its natural development as a community resource, it must have a focus in which information becomes the medium for its community development message, rather than as the message itself. The above goals/objectives allow for this.

In order to achieve the above stated goals/objectives, time is needed. Since the Centre is presently operating at capacity, either program resources must be increased or the existing work load must decrease to make time available.

Recommendation #2:

That the Information Centre phase out their provision of information regarding local businesses in a manner consistent with the Chamber of Commerce plan to offer that service in the near future. This process should be targeted for completion by the end of the first quarter of 1989.

Rationale

A substantial amount of Information Centre staff time is taken up with business referrals, which is non-F.C.S.S. related. A recent meeting with Pat Dexter, President of the Chamber of Commere, indicates that the Chamber, quite independent of this evaluation, is planning to begin offering this service.

Recommendation #3:

That the majority of bus pass registrations and distributions be handled by the Transit Department.

Rationale

A plan has already been formulated whereby Airdrie Transit will handle fall registrations by temporarily placing an additional staff person at the Information Centre during late August. In addition, regular monthly distribution of subsidized passes will now be handled by the schools, themselves.

Recommendation #4:

That there be either a reduction in the number of city registrations done by Information Centre staff or an appropriate budget allocation be made to the Centre to compensate.

Rationale

It has been shown by the progress made on the above bus pass issuing situation that it is possible to come up with creative ways to balance the amongst of non-F.C.S.S. related tasks done by Information Centre staff with the compensating funds.

Recommendation #5:

That the Information Centre be used less frequently for the carrying out of ad-hoc city department requests unless the Centre staff can properly handle the task, given their workload at the time.

The previous five recommendations should, upon completion, free approximately 1300 person hours per year. It is the Committee's view that this time may be then directed towards the goals/objectives stated previously.

The Committee feels that on-going responsibility for further program direction should be turned over to the citizens of Airdrie in the form of an Advisory Board.

Recommendation #6:

That an Advisory Board consisting of one senior city staff member, one Chamber of Commerce member (or other local business person) and three representatives of the community-at-large be established.

Rationale

This Board would, among other things work with Information Centre staff to review and finalize program goals and objectives. It would also look into the prospects resulting

from the increased autonomy of the Centre, including additional revenue sources. The Board would also provide on-going community input into shaping and delivering Information Centre services. The Information Centre coordinator would continue to report to the Social Planning Director on personnel issues.

Establishment of such a board would help address potential conflict of interest situations related to the Centre's current reporting structure (i.e., reporting to the Social Planning Director) which would arise as the 1989 F.C.S.S. funding cycle begins this fall. Having the volunteer board in place would place the Centre on an equal footing with other volunteer-directed projects in its bid for 1989 F.C.S.S. funds.

Timelines

August 15/88	August 30/88	August September/88	September/88 - ongoing
evaluation completed and accepted by City administration and council	committee carries out plan to initially reduce Information Centre workload	establish Advisory Board	further program decisions made by Information Centre Advisory Board

It is in the best interests of the Information Centre and the public that these changes be implemented within a fairly limited time frame with most of the recommended changes occurring in this calendar year.

ONE-YEAR FOLLOW-UP

One year after the committee's report was presented to council, the researcher made a return visit. As has been mentioned before, this approach was new and innovative, the true test

being its success.

Meetings were scheduled with a former committee member, Julian deCocq, a senior city manager. John Graham, the senior city manager responsible for the Information Centre, the new Social Planning Director and the new Information Centre coordinator, Donelda Walker, and the staff people, Moya and Leslie. All those interviewed felt that the recommendations were good ones and that progress was made towards achieving each of them. John Graham said that "This was the way to go as far as research projects." In the past he claimed "many studies simply sat on the shelf gathering dust."

The new Social Planning Director felt that only the funding issues had yet to be resolved but felt that the directional changes initiated by the report were making an impact and that many of these had been implemented.

The Centre coordinator, Donelda Walker, was actually the one responsible for the direct implementation of the recommendations.

In a newspaper article published January 18, 1989, Donelda showed that she clearly understood the direction which the report had given, and was enthusiastic in working towards implementation. She stated, "We will continue to provide information and referral service and we are moving towards a community development approach." In addition, she says that they are phasing out the business referral service which accounted for more that 26 percent of the 1988 calls. Donelda says that the extra time will allow the Centre "to focus on working more closely with local community groups" (see Appendix III). During the researcher's meeting with Donelda, she showed the same insight and energy as was expressed in the article.

Already, a sub-office of Alberta Social Services Radisson District Office has been established in Airdrie. The Information Centre serves as a drop-off and pick-up point between the Radisson office and the Airdrie clients. In addition, workers will have office space in the provincial building in Airdrie one-half day per week. In addition, meetings were held with the

Canada Employment Centres to establish a branch office in Airdrie. Although this has not been successful to date, the Canada Employment Centre staff has agreed to hold Job Search/Resume Writing Workshops. The above simply shows the directional changes in the Information Centre approach.

The following table shows additional directional movement towards the Information Centre goals established through the program evaluation process.

Project Objectives for 1989

Specific Objectives	Activities Meet the Objectives	Target Date	Measures of Success	Achieved
Goal #1 Objectives:				
1) To provide up-to-date community information on services, resources, and meeting social needs.	a) Maintain present hours of service - 9:00 a.m. to 5:00 p.m.; Monday to Saturday for telephone and drop-in inquiries.	On-going	Completion as detailed.	Yes
	b) Maintain, upgrade, organize, and restock the information resources, i.e., rolodex, strip files, resource library, and the computer files.	On-going annually, or more often as needed.	Satisfaction of the public, community groups and staff. Dated material to provide evidence.	Yes
2) To provide a preventive service which helps avert family or community social breakdown, and which improves the ability of persons to identify and act on their own social needs.	a) "Actively listen" to problems and complaints. b) Assist with completion of forms where necessary. c) Demonstrate a greater advocacy orientation through documenting incidents of assisting citizens to wade through bureaucratic "red tape," empowering clientele to take action themselves, or writing letters and making calls on clients' behalf.	On-going 1988/89	Reported in monthly stats by numbers and comments.	Yes

Project Objectives for 1989 continued

Specific Objectives	Activities Meet the Objectives	Target Date	Measures of Success	Achieved
3) To prepare, produce, and distribute the Airdrie Community Resource Booklet, in cooperation with the Chamber of Commerce.	a) Scaled down version (minus businesses) available in 1988.	December/88	Availability	Yes
	b) Negotiate with the Chamber on the 1989 booklet for responsibility on the up-dating of what kinds of information.	January/89	Publishing and distribution of the updated ACRB 1989.	Yes
	c) Prepare material for printing and ensure all files are up-dated accordingly.	February/89		
Goal #3 Objectives:				
1) To coordinate the phasing out of the business referral activity with the Chamber of Commerce.	a) Discussion and meetings with the Chamber.	January to April/89	Successful completion. At present, a Chamber person is working in the office.	Yes
	b) Assistance in training their staff person.	June/89		
	c) Transfer of information.			
2) To encourage the transfer of responsibility for tourist information to the Chamber of Commerce.	a) Discussion and meetings with the Chamber.	January to May/89	Successful completion.	Yes
	b) Assistance in training their staff person.			
	c) Transfer of information.			
3) To monitor the workload of handling Airdrie Transit bus pass registrations and distributions. (This has been decreased substantially in 1988 through team work with Airdrie Transit, the School Board, the schools, and the Information Centre.)	a) Document time to handle, and number of passes handled.	January/89 On-going	Record numbers and comments monthly.	Yes

Project Objectives for 1989 continued

Specific Objectives	Activities Meet the Objectives	Target Date	Measures of Success	Achieved
4) To assess the workload of City registrations done by Information Centre staff with a view to decreasing the number, or possibly negotiating an appropriate budget allocation in compensation.	a) Document time to handle each one, and the number of registrations.	January/89 On-going	Record numbers and comments monthly.	Yes
5) To assess the workload of the service provided to Alberta Social Services, Income Security, to review the appropriateness of the level of funding that has been negotiated, with a view to adjusting this as needed.	a) Document time to handle these activities.	November/88 On-going	Record the numbers, time, and comments monthly.	Yes
6) To become the hub of volunteerism for the community. (See also the attached goals and objectives for the Volunteer Coordinator.	a) Create a full-time Volunteer Coordinator position, shared with Bethany Care Centre, Parks, Recreation and Community Resources, and the Information Centre.	January/89		Yes
7) To provide the Coordinator with increased planning time, networking opportunities, and time for managerial responsibilities.	a) Decrease the time at the front counter.	October/88 On-going	As reported monthly in comments.	Yes
	b) Increase work hours for Information Officers, to .8 person years each and have some back-up.	October/88 On-going		Yes
	c) PEP worker to assist in Special Projects and back-up.	November/88 to March/89		Yes

Finally, the researcher was most interested in how the changes had affected the staff of the Information Centre, Moya and Leslie. Front-line staff would be most affected by the rapid and radical changes. Throughout the evaluation process, they were most cordial and straight-forward in their criticism of the program and quite astute with their suggestions for improvement. This did not change during the review one year later.

They were happy about the increased focus but were somewhat upset by the fact that the new Information Coordinator was taking on more of a management role. This, in effect, meant one less body to work at the front line. The researcher must take full responsibility for this problem. Throughout the evaluation process it was his task to keep the front-line staff aware of possible changes so as to lessen their impact. Although in agreement with the need for separation of responsibility, the failure to communicate these led to problems which should not have occurred. In addition, Moya and Leslie were anxious and ready to take on more community projects. It is taking time for the Chamber of Commerce to take over the business responsibilities in order to free their time. All in all, the staff seems to have adapted quite well to the changes. Change is often difficult to deal with, especially when you are the focus of the impact. The ladies held up extremely well to their changing roles and the researcher escaped from his meeting with them less "beat-up" than expected.

The evaluation was done with efficiency in mind and the results after one year confirm the success of this approach.

CHAPTER SIX

CONCLUSIONS AND LIMITATIONS

Throughout this thesis, the key emphasis was placed on process and an attempt to mesh the real with the ideal in a planned change effort. Efficiency, expediency and efficacy, as well as change, were the baseline goals. Utilization was of the utmost importance. It was the expected result of the achievement of the above mentioned goals.

The fact that Airdrie City Council adopted the recommendations as presented and that almost all of the recommendations have been put into place one year after, is proof of this utilization. In addition, the fact that the time lines are being adhered to speaks well for the efficacy as well as the timing of these recommendations.

Not enough can be said about the importance of fostering a positive working relationship towards the utilization of an evaluation. As well, success would have been much more limited had the Steering Committee not taken ownership of the project. In this case, the author simply brought the data to the Committee and offered advise. The decisions as to the direction to proceed however, were strictly the Committee's and this is clearly evidenced in the results.

From the author's point of view, one of the most satisfying results was that even though the changes were fairly major, and implemented fairly rapidly, the creation of an environment for change led to success. In other words, the climate was right for change both during the evaluation and after its conclusion, therefore, it occurred with the least amount of discomfort. The author sees this as a vote for process.

There are, however, several limitations to this approach. Most notably, the results are not generalizable. The methods used in this study may not be suitable for another. The question design and data tabulation formats may need to be varied depending on those involved in the evaluation. In fact, it cannot be exactly replicated.

Another limitation is that there is no real proof that these changes would not have been implemented without the evaluation. In the scientific sense, the evaluation lacks validity. These

changes could, although it is the author's belief that they could not, have come about anyway.

Time was of the essence. Program funding was about to be cut and, therefore, some exactness was sacrificed for expediency. While the author is not completely comfortable with this, there is always more to do. He sees this as a necessary trade-off.

Another limit is the author's own knowledge. In attempting to do an eclectic study, the author found his knowledge lacking in many different areas. In an attempt to be competent in a number of diverse areas, he felt like an expert in none. There is the distinct feeling of knowing less as a result of this project than when the project, although the author knows this not to be so.

Also, process is never ending. It continues to evolve and change. Therefore a limitation of a study based on process is, "how does a person end it?" This is a dilemma which the author continues to struggle with, rationalizing by saying it is time to move on. Whether this project ends or not is the subject for further debate.

The multi-dimensional approach lends itself to adaptation in a number of different areas. The author would like to explore these various and diverse areas in search of overall patterns of activity, both in nature and in man. To concentrate on form as well as content is a difficult assignment, but research in this area, it is felt, will bring both personal and academic rewards.

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APPENDICES

APPENDIX I

THE FAMILY AND COMMUNITY SUPPORT SERVICES PROGRAM

Part I: The Legalities

A. The Main Points of This Chapter

1. In its most limited sense, FCSS is a cost-sharing arrangement between the province and the municipality, enabling the municipality to provide services to its residents.

2. The legal basis of the program is the FCSS Act and Regulation.

3. The FCSS program must:

   . promote volunteerism;
   . be preventive;
   . provide citizens with information about its operation;
   . encourage co-operation and co-ordination with other agencies.

4. The FCSS program must not:

   . be primarily recreational;
   . provide direct financial help to individuals and families;
   . be primarily rehabilitative;
   . duplicate other services.

5. FCSS may offer five types of services:

   . to promote social development of children and their families;
   . to enrich and strengthen family life;
   . to help the retired and semi-retired;
   . to support volunteer work;
   . to inform the public of available services.

6. The province provides FCSS legislation; contributes up to 80% of the cost of local FCSS programs; monitors to ensure local programs operate within the FCSS Act and Regulation; and may provide consultation service to local programs.

7. The municipality designs, organizes, operates, and evaluates its FCSS program, and provides at least 20% of the local cost.

8. Perhaps more important than the program's legalities, is its central philosophy of local people fostering prevention, self-help, and volunteerism in their communities.

B. What FCSS is

Family and Community Support Services (FCSS) is a municipal-provincial program that

enables Alberta communities to take part in activities or services that strengthen the family and community.

The legal basis of the program is the Family and Community Support Services Act (passed in June, 1981), and the Family and Community Support Services Regulation. The Family and Community Support Services Act replaced the former Preventive Social Services Act.

Local participation in the program is optional. A municipality may choose to become involved in FCSS by signing an agreement with the Province, or by signing an agreement with another municipality that has an agreement with the Province. A municipality may also choose not to participate in the program.

In a legal sense, the FCSS program can be defined as a cost-sharing arrangement between the province and a municipality, enabling the municipality to provide services for its residents. In a more subjective sense, people who are involved in the program often think of it in other terms:

- a way for local people to influence things that affect them;
- a chance for communities to be innovative and creative;
- a vehicle to encourage citizen participation, self-help and volunteerism;
- a way to enhance human growth and development.

C. Purpose of Family and Community Support Services

The FCSS Regulation says the program must:

- promote volunteerism;
- be preventive, in order to:
    - enhance, strengthen and stabilize family and community life;
    - improve people's ability to identify and act on their own needs;
    - help avert family or community social breakdown;
    - help prevent small problems from turning into crises;
    - provide citizens with information about its planning and operation;
    - use clearly identified needs and effective planning as the basis for services provided; and
    - encourage co-operation and co-ordination with other service agencies in the community.

D. What the Program Does not do

The FCSS Regulation says the program must not:

- primarily provide for recreation or leisure time pursuits;
- offer direct financial assistance to an individual or family;
- be primarily rehabilitative in nature; or
- duplicate services that fall within the mandate of a government agency, or that are already available in the community.

In summary:-

FCSS is:

- A municipal-provincial partnership;
- Voluntary;
- Preventive;
- Accessible;
- Based on defined needs and effective planning;
- Co-operative.

FCSS is not:

- Recreational;
- Direct financial assistance;
- Rehabilitative;
- Duplication.

E. Types of Services that May be Offered through FCSS

According to the FCSS Regulation, municipalities may use the FCSS program to offer five categories of services:

- Services that promote the social development of children and their families, including:
  - Parent-child development activities, and
  - temporary or occasional parent relief services;
- Services that enrich and strengthen family life by developing skills so people function more effectively within their own environment, including:
  - parenting and family life education and development programs,
  - marriage enrichment,
  - retirement planning,
  - programs for single adults and single parents,
  - courses designed to enhance self-awareness and personal growth,
  - individual, family and group counselling services that are educational and not treatment oriented,
  - youth development services;
- Services that enhance the quality of life of the retired and semi-retired, including:
  - home support services,
  - education and information services,
  - outreach and co-ordination services, and
  - self-help socialization activities;
- Services to promote, encourage and support volunteer work in the community, including:
  - recruitment, training and placement services,
  - resources to support volunteers, and
  - co-ordination of volunteer services.

- Services to inform the public of available services, including:

    - information and referral services,
    - community information directories,
    - newcomer services, and
    - interagency co-ordination.

Municipalities are not required to provide all of these services, but services they choose to provide through FCSS should fall into one of the above five categories.

F. Municipal and Provincial FCSS Responsibilities

The province and the municipality have different roles within the FCSS program.

In general, the province provides the program's legal framework, provides much of the funding, monitors to ensure that local programs operate within the FCSS Act and Regulation, and on request may provide consultation service. The municipality provides some of the funding, and actually organizes, runs, and evaluates the local FCSS program.

An overview of the roles is on the following pages.

* * * * * * * * *

APPENDIX II

THE ROLE OF F.C.S.S. IN INFORMATION AND REFERRAL SERVICES

Session Leader: Rick Assinger, Manager of FCSS in Red Deer

- What this session will really be looking at is I & R within FCSS.
- Rick presented his perception of the social welfare system as it exists today.
- Social welfare system is a composite of services to assist families to function effectively (includes all the "soft services") I & R links people with these services.
- The system is complicated because it is always changing, i.e., emerging new needs, such as battered women finally coming forward, the recent need for food banks, etc.

The System is Un-Co-Ordinated, Fragmented and Political

- Services immerge to meet needs and others disappear because the problem disappears. This keeps it fragmented. 3 levels of government also complicate matters of trying to keep a handle on things.
- Understanding this system will help you relate to what the role of I & R plays in this system.
- Rick then went through an overview of FCSS. We are the only province that has this system. Over 100 programs in Alberta. All are unique and different in size. There is standardization of services across the province even through each municipality has control over what needs will be net in their own community. Lots of room for uniqueness.
- Smaller FCSS programs are usually the only provider of community social services, they often also have to represent the provincial and/or federal government services.

* Whether they realize it formally or not, (with an identified I & R program) they are providing I & R in their communities.

- I & R often becomes directly involved with direct client service because they often are the only service available.
- In large sites, the program seems to be more formalized and often works with existing community groups.

* The interpretation of I & R is critical. We must work to make people realize that they are doing I & R.

HOW I & R IS A PREVENTIVE SERVICE

- There are three levels of prevention:
  - Level 1: Education to prevent possible future problems, designed to equip people for what's going to happen, i.e. pre-marital courses.
  - Prevention of the worsening of what is already a problem, i.e. counselling: There is a problem, but trying to work with it before it gets worse.
  - Disability limitations or rehabilitation (not treatment), i.e., working with a family after a child abuse situation. (There is a fine line on this level as to whether or not this level is still preventive).
- Rick sees I & R as a level 1.
- Others see I & R as a leave 2.
- I & R is the link between the problem and appropriate social assistance.

HOW I & R CAN BE EVEN MORE PREVENTIVE

- I & R can identify gaps and overlaps in existing services.
- The neutrality of the I & R services enables you to co-ordinate and objectively do things. I & R has the potential of playing the role of social planning.
- It is important to keep I & R service role neutral, however, you can't mandate I & R services to co-ordinate other agency services.
- Be aware that "community development" is the corner stone of FCSS. Be aware of how closely I & R has to work within this theory. Work with the system, not against it.
- Volunteer services are a mandate of FCSS.
- I & R is becoming more and more forced into the role of volunteer placement. Volunteer programs and I & R programs seem to be going more hand in hand.
- Social planning.
- I & R should play a supportive role in social planning (monitoring community needs not a lead role.)
- Lead role is to indicate the needs and how to deal with them.
- Support roles is simply to make the information available.
- If I & R takes too much of a lead role, you lose your neutrality.

- Support role can be done through statistics, annual reports, etc. (Most of the time the other agencies are not ware of the changing needs, because they don't record statistics.)
- Keeping the other agencies informed of your findings, helps them deliver their services better.
- Computerization of statistics is essential.
- Visual presentations of information are much more effective than just numbers - i.e., use graphs to show changing trends rather than listing numbers.

I & R ROLE IN CITIZEN'S ADVOCACY

- Give that role to I & R, only if the community wants it and asks for it.
- Smaller communities tend to get more involved with their clients.
- Advocacy can be seen as a check on the system.
- Your advocacy role has to be relative to your community and what you funding bodies will allow.

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APPENDIX III

NEWSPAPER CLIPPING
The Airdrie Echo
January 18, 1989

INFORMATION CENTRE HAS NEW DIRECTION

The Airdrie Information Centre is entering the new year with a new sense of direction.

"We're on the threshold of new things that we can do," says Co-ordinator Donelda Walker, who was hired in August of 1988.

The new direction arose from a 1988 evaluation of the centre which suggested changes to its operations.

Some of those changes have already occurred, but others are still in the planning stage.

One of the changes, appointing an advisory committee, has already occurred.

Walker says the centre now has a five-member advisory committee which is helping to oversee the centre's operations. The committee consists of three members of the public, one alderman, and one City of Airdrie employee.

"It is working well and we appreciate the support," Walker says.

The Information Centre, which will celebrate its 10th anniversary in May, also has a new two-prong focus, thanks to the evaluation report.

"We will continue to provide information and referral service and we are moving toward a community development approach," Walker explains.

Since the centre is now taking on more of a social services approach to its activities, Walker explains it is phasing out its business referral service which accounted for 26 percent of its calls in 1988.

The business referral service will soon be handled by the chamber of commerce which is currently setting up an office using the Information Centre's board room.

"We're looking forward to working closely with the Chamber," says Walker noting the Information Centre is planning to also transfer its tourist resources to the chamber of commerce.

Walker said the Information Centre currently has tourist information pertaining to areas across Canada and down into the United States. The primary users are Airdrie residents planning vacations.

"We do think it properly falls under the chamber umbrella," Walker says.

With more of its staff time freed up. Walker said the Information Centre plans to focus

on working closely with local community groups.

The Information Centre can offer groups quick access to information on grants and programs and hopes to act as a facilitator for projects. Walker says.

One of the those projects is Uncles at Large week.

Although Airdrie does not have an Uncles at Large group. Walker said the Information Centre is working with the Calgary group to link local boys with appropriate Uncles at Large.

Besides Walker and two 1/4-time employees, the Information Centre currently has a Mount Royal practicum student and a PEP program employee on staff.

The practicum student is training to work with the public, while the PEP employee is re-organizing the centre's resource library.

And while it has just received an offer of help from one volunteer, the centre always welcomes volunteer services. Walker says.

Services

While the Airdrie Information Service handled 39,000 calls in 1988 its staff do much more than answer questions. Walker explains.

Those services include offering the community free use of Airdrie's readerboard signs and providing loans of VCRs, projectors, television sets, flip charts, and Santa suits at Christmas.

The Information Centre also acts as a drop-off and pickup point for the Department of Social Services.

The services, which started in November is working well, says Walker, adding that clients have found the centre's resource library helpful in answering questions.

And finally, the centre has helped with a number of crisis situations involving local residents and highway travellers, says Walker.

"In some case, people have arrived in Airdrie with no money and no food and have come to us for help. We've been able to put them in touch with emergency social services," says Walker.

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