A conceptual approach to extension education

by

Lloyd William Wade

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CHAPTER I. INTRODUCTION

Extension education is an important social phenomenon. Despite this widely recognized fact, there is a dearth of explicit theory to help justify this significant form of education.

Extension education has a well-developed philosophy and a rich history but it does not have a theoretical posture distinctly its own.

Although formal theory from adult education is of inestimable value to extension education, in many instances it is not sufficient to explain certain phenomena encountered in extension educational activities.

A need exists for a theoretical approach specifically based upon the concept of extension education.

Purpose of Study

The purpose of this study is to build a conceptual approach or theoretical base to extension education which encompasses knowledge from the discipline of adult education, and which additionally synthesizes knowledge from the sciences of psychology and sociology.

It is the central contention of this thesis that extension education derives its theoretical substance from the disciplines of psychology, adult education and sociology. Certain-

ly concepts from other areas of knowledge (e.g., biology, anthropology, economics, etc.) are valuable in explaining phenomena related to extension education. But these can be used more fruitfully, perhaps, at different levels of analysis. This study is confined to the three disciplines which are generally recognized as having direct and basic application to extension education.

Therefore, the often stated but hitherto unsynthesized relationships of extension education to theory from psychology, adult education, and sociology will be developed into a unified conceptual approach.

The study will provide theoretical underpinning for this approach. Additionally, this conceptual framework can be used as a first step to encourage further extension theory building, can provide a base for empirical research, and can be of immediate utilitarian value to the practitioner in his everyday work.

Intended readership of this study is the extension practitioner. In addition, it should be of interest to extension administrators who are charged with securing results within extension. It may be of interest to persons developing theories in related fields, especially in areas of applied social science.

It is important to note that this study is based upon the results of theoretical research. The viewpoint expressed

here is scientific. It is therefore not speculative, philosophical, literary or introspective in approach. The historical review and the theoretical analysis are based upon the writings of established theorists. Model building is, of course, a creative act and represents the stance of the researcher toward the phenomena to be explained.

The general objectives of this study, then, are to explore the theoretical relationship of extension to psychology, adult education, and sociology; articulate conceptual, operational and action models; and indicate how the models might be applied.

Rarely does the theoretical literature directly support or refute the central contention of this thesis. Therefore, some delimitation is necessary in confronting these three disciplines, and a plan of research is needed.

Method of Research

Although theoretical in perspective, this study is based upon the results of research of literature as well as field investigation and observation. The field work was done largely after the theoretical research and primarily to corroborate impressions to be used in synthesis and model formulation.

The theoretical research was conducted in approximately the sequence of the chapters and sections constituting the

organization of this thesis.

First, a literature search was performed to determine the nature and scope of existing extension theory. This was followed by a review of the historical perspectives of extension. From the central contention of this thesis and these antecedents, a conceptual model was constructed. Selected concepts from the three academic disciplines in the conceptual model were examined using the method of comparison. A choice was made of those concepts to be researched in more depth using the analytical method. A rationale was formed for the order of this analysis. Using the method of contrast, two working models were derived from the analysis: an operational model and an action model. A new dimension and a new domain of process for extension theory were postulated. The last element of the action model was obtained using the method of logic.

For the literature review of extension theory, conventional library research was conducted utilizing various indices, abstracts and other references as sources. The chapter on antecedents merely presents a brief historical review.

Since the organization of Chapter III is somewhat more complex, the actual procedural steps of theoretical research are given at the beginning of that chapter.

Material in the first two chapters is used to formulate

the conceptual model. Subsequent chapters are derived from this model through analysis and formulation, culminating in a plan for application of a new approach.

Appendix A is a "Thesis Organization Schematic" which depicts the relationship of chapter titles to the progression of this research and theoretical formulation.

Literature Review of Extension Theory

Extant theory in extension is often segmental in approach, dealing with certain phases or segments of extension, without attempting a more general approach or comprehensive theory.

Griffin (1) has conducted theoretical research on one element of extension: the county agent. She has developed a model to identify changes experienced by the male professional worker. From this base, a modified model is developed for application specifically to the county agents in the Cooperative Extension Service. Although limited in scope, the technique used is important to extension theory. Her model integrates theories from several disciplines, and this is exactly what appears to be needed in the construction of a more general conceptual approach.

Pesson (2) proposes a somewhat broader model of the extension program development process. The process is seen as a continuous, circular model consisting of eight steps.

All steps are classified as either program planning or program action activities.

Raudabaugh (3) has developed a circular model of rather striking similarity, consisting of five steps which may be classified as either determining the program or carrying out the program.

Brereton (4) attempts to improve upon the somewhat conventional, circular type models by combining two different models. He does this by superimposing a diffusion type model developed by Everett M. Rogers upon a social system equilibrium model developed by Kurt Lewin. Brereton appears to have accomplished this combination with considerable facility. He also applied this hybrid model to a case study.

Knox (5a) analyzes university extension divisions in a more general fashion into a tripartite process: input, transformation and output. He enumerates eight types of inputs to achieve extension outcomes. These are participants, mentors, subject matter content, administrative staff, support staff, goals of continuing education divisions, facilities for group meetings and staff offices, and finances. He notes that the last input is used to acquire many of the others.

Definition of Extension

A formal definition of extension education will not be attempted here because one more definition of extension is perhaps not necessary. However, to guide the reader, extension education is seen in this context as a form of university adult education.

As a generic term, extension education can refer to innumerable instances of extending education, including those in government and the private sector. Hereinafter, the term extension is taken to mean extension education or extension work at the university level unless otherwise stated.

University extension is continuing higher education with learning activities intended primarily for part time adult participants.

As will be discussed more fully below, two major historical currents or traditions exist within extension: agricultural and general.

Agricultural extension today generally has reference to county agricultural extension activities including home economics education and youth and 4-H work. Extension for preadult learners has not been researched for this thesis, although both traditions have provisions for serving more youthful clients, as will also be noted below.

In the past, clients of agricultural extension have

usually been farmers and rural folk. Organized activity of agricultural extension is typified by the Cooperative Extension Service (CES) and this organization is now increasingly interested in urban extension as well.

The CES is associated with the Land-Grant institutions. Its task is extending established knowledge and the results of research from these "peoples' colleges." Much of this extending has been problem centered, action oriented education for adults, emphasizing "know how" and teaching of solutions to practical matters.

Agricultural extension is often noncredit, informal, off-campus education. General extension may offer credit or non-credit education, usually at locations extramural, but often on-campus as in the case of evening colleges, conferences, institutes, etc.

In addition to face-to-face teaching, general extension has long been interested in correspondence instruction. Recently, this has often been supplemented with instruction through radio, television, newspapers and other media. Sometimes the correspondence education is augmented by periodic meetings or by intensive summer session work on campus.

Organized activity of general extension is typified by the National University Extension Association (NUEA). General extension has grown from the English tradition of university

extension while agricultural extension is American in origin.

James (5b, p. 55) describes university extension as a movement for popular education for adults and maintains that "It is the bringing of the university to the people when, under our social and economic relations, the people can no longer go to the university."

James continues with a rather basic and appealing definition of university extension in this fashion:

> There is a certain inclination on first hearing the phrase "University Extension" to think of it as something new, as referring to a particular phase of nineteenth century progress, if not indeed as belonging only to the last decade. As a matter of fact, the idea of this movement antedates the foundation of the universities. The idea is simply that of the universal right of all men to learning. (p. 51)

It is difficult to improve upon this early description of university extension. James wrote these words in 1891.

A New Approach

This study will propose a new type of extension approach in contrast to the traditional extension work presently in progress. This new approach will be called "Developmental Extension."

Its basic tenets are:

1. Extension needs its own theoretical framework. As a specialized form of adult education, extension draws its theoretical support from psychology and sociology.

2. The extending of knowledge is virtually synonymous with facilitation of the learning process. This facilitation has been successful in the past. It should continue undisturbed by this new approach. In short, Developmental Extension does not offer a plan for revising university extension. (It does, however, propose a plan for extension to develop beyond its present status.)

3. Restraints exist to the traditional extension process. The new Developmental Extension will be successful insofar as the practitioner can identify and deal with these restraints. A knowledge of psychology and sociology, in addition to adult education, will increase the extension agent's ability to define and cope with restraints.

The postulation of restraints to extension implicitly constitutes a call for research on both the action and formal levels of investigation.

CHAPTER II. ANTECEDENTS

This chapter will present a brief sketch of antecedent developments in extension and adult education. It will first note the close historical relationship between extension and adult education, discuss the early development of general and agricultural extension, mention more recent aspects of the two traditions and establish a conceptual or theoretical relationship to the two behavioral sciences.

Early Development

Someone has commented that adult education is as old as man and may have begun when one adult first showed another how to gather food. And the history of extension closely parallels the history of adult education.

Hall-Quest (6, p. 8) delves into the early history of the extension aspects of adult education and takes note of the ancient Greek custom of lecturing to the people in open places and on the streets:

> In Homeric times, adults, active in the affairs of life, were aroused by the itinerant teacher whose vivid narratives of Greek heroism intensified national life and tempered the steel of national character. Socrates taught in the market places.

In Europe, the early activities of the minnesinger and troubadour may have had some extension characteristics.

(1) General extension:

General university extension originated in England. Hall-Quest (6, p. 9) comments:

> Popular lectures given in series began in England by the efforts of Professor James Stuart, lecturer at Cambridge University. In response to a request from an association of women teachers...he gave in 1867 eight lectures on the history of astronomy in Manchester, Liverpool, Sheffield and Leeds, eight in each place.

Kelly (7, p. 217) agrees that English extension is usually traced to the work of James Stuart in the 1860's but maintains that the term "university extension" first came into use in the 1840's before the work of Stuart. Originally, the term meant primarily the extension of facilities for full-time university education. Kelly states that "University Extension in the narrow sense of the extension of facilities for part-time university education was a part of this wider movement."

"The extension of university teaching is nothing less than the extension of truth among the multitudes of men and women who constitute the nations of the world," wrote Draper (8, p. 83) in 1923. Draper provides an interesting chronological table of historical events in general extension. For example, he notes that in 1873 James Stuart was appointed first Secretary for Lectures at the University of Cambridge and in 1876 the London University Extension Society was founded. Oxford University soon became interested in uni-

versity extension also.

Hall-Quest (6, p. 13) provides an insight on how English extension crossed the Atlantic:

> The English university extension movement was first fully presented to American audiences by Professor Herbert B. Adams of Johns Hopkins University, who spoke on this subject before a regular meeting of the American Library Association in September 1887. An immediate result was the beginning of extension work under the auspices of the public libraries in Buffalo, Chicago and St. Louis.

In fact, the extension concept may have been influential in strengthening the American Public Library movement, according to Lee (9, p. 31):

> During the first two decades of the 20th century, libraries undertook a vast program of extension, which was designed to bring library services to a much larger proportion of the population. As a result of these efforts in extending services and in making them as attractive to the public as possible, the public library was well on its way to becoming a more permanent part of the American public scene.

In the U.S., the American National Lyceum was founded in 1831 and the Chautauqua movement in 1874 (6). Both had distinct extension characteristics.

(2) Agricultural extension:

True (10a) observes that American agricultural extension has passed through a number of stages of development from the early agricultural societies (such as the Philadelphia Society in 1785 and the Massachusetts Society for Promoting Agriculture in 1792) through the farmer's institute movement and

agricultural demonstration work, and eventually to the extension work of the agricultural colleges.

Various firsts in agricultural extension are claimed by different states. The cooperative demonstration aspect of extension work is widely recognized to have originated in Texas under the direction of Seaman A. Knapp. Knapp wanted to show farmers the advantages of diversified agriculture as opposed to growing the single crop of cotton. He had established a number of demonstration farms for this purpose.

True (10a, p. 59) explains Knapp's role in the development of demonstration work as follows:

> Experience in this undertaking confirmed his belief that farmers generally would not change their practice from observing what could be done on farms operated at public expense. There must, therefore, be demonstrations carried on by the farmers themselves on their own farms and under ordinary farm conditions. In 1903 Professor Knapp took this matter up with business men and farmers at Terrell, Texas. A committee of eight was formed, who provided $1,000 as an indemnity fund to protect against loss farmers who would attempt to grow cotton under his direction. Walter C. Porter volunteered to do this on his own farm and made a success of his demonstration....

Agricultural extension had begun.

Bliss (10b, p. 41) reports another early extension event in Iowa from an interesting commemorative plaque in the Sioux County courthouse in Orange City:

> Birthplace of an Idea -- At this location county cooperative agricultural extension work as now conducted throughout the United States was first established. This plan was conceived by Perry G. Holden of

> Iowa State College, the Sioux County Farmers' Institute and the Board of Supervisors of Sioux County, February 18, 1903. The first work undertaken was the improvement of farmers' seed corn. This -- the first mass effort to improve corn -- started a movement that spread over Iowa and the corn belt. Sponsored by Iowa State College in cooperation with the people of Sioux County and the Michigan State University Corn Foundation.

Brunner and Yang (11, p. 7) confirm the importance of the farmer's institute movement in stating that "Perhaps the most popular ... early Extension activities were the farmer's institutes. These were begun in 1863 in Massachusetts."

Domestic science played an early role in agricultural extension. "The goals of home economics extension education were broad: 'to foster and develop those lines of endeavor which make for better homes, better health and better rural living in every sense'," according to Eppright and Ferguson (12, p. 150).

Sanders (13) refers to three historical events on the national level which are of importance to the development of agricultural extension:

1. Abraham Lincoln recommended to Congress in 1862 that a Department of Agriculture be established by the federal government.

2. Senator Justin Morrill of Vermont sponsored a bill supporting the establishment of the Land-Grant institutions.

3. The Hatch Act authorized an agricultural experiment station at each of the Land-Grant colleges.

Ultimately, these events would influence the evolution of the Cooperative Extension Service in Agriculture and Home Economics (CES) which would become the nation's largest and most successful single agency of adult education.

Some writers also mention the importance of the Homestead Act to early development of agricultural extension, because this law was influential in determining the anatomy of the American countryside.

The law creating the Cooperative Extension Service in Agriculture and Home Economics is referred to popularly as the Smith-Lever Act. The CES was created "In order to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same..." (13, p. 426).

Extension would become a "third function" at the Land-Grant colleges, along with the resident teaching and research functions.

The cooperative designation of the CES refers to federal, state and local levels of participation in extension.

The Two Traditions

Thus, there developed two major historical currents in the university extension movement. Since the turn of the century, university extension has become more and more diversi-

fied, but Shannon and Schoenfeld (14) find the dichotomy of general and agricultural extension still useful in their analysis. In some cases the two seem to merge and the line of demarcation often tends to blur.

True (10a) asserts that English extension strongly influenced the development of American agricultural extension.

The Wisconsin idea or Wisconsin plan is also a more recent milestone in the development of university extension. Adolfson (15, p. 36) summarizes the idea:

> In the final analysis university extension embodies the idea of a university's responsibility to all the citizens of the state. An extension division is the administrative instrument used by a university and, in a broader sense, by a state to discover new educational needs, to interpret those needs to the university, and, drawing on all available facilities, to translate those needs into action programs. Such an educational agency makes possible the continuing interaction between the people of the state and their university, to the immeasurable benefit of both.

Today, university extension defies simple definition due to its many facets and broad perspective.

The great diversity of the universities themselves perhaps makes extension considerably different from campus to campus. Shannon and Schoenfeld (14) state that university extension is characterized by this lack of uniformity. Perhaps most extensionists believe that the great diversity of university extension constitutes strength rather than a weakness.

In spite of diversity, some consistency seems to emerge

in the administration of university extension. By 1953, the NUEA (16) reported that "A majority of institutions... have established the extension organization as a major division of the University directly responsible to its chief officer, ordinarily the president."

Petersen and Peterson (17, p. 57) comment on the complex nature of university extension:

> None of the important institutions of higher learning in the United States, one can safely say, presently restricts itself to activities precisely defined by the two functions of (1) daytime education toward a degree and (2) research.... The total extension function of the university, thus, is something considerably larger and more complex than what laymen often assume it to be, and this complexity is increased by the facts that the allocation of administrative responsibility varies greatly from one campus to another, and that no standard usage has developed for distinguishing the whole miscellany of extension activities from various portions of it.

One example of the more recent innovative developments in extension is reported by the NUEA (18, p. 28): "The first University Center for Continuation Study was erected at the University of Minnesota in 1936).

University extension may even include "resident extension" activities, almost a conflict of terms until the history and growth of farmer's institutes and the "short course" is recalled. Today, numerous seminars, institutes, conferences, etc., are held on-campus under the auspices of university extension.

As all youth and 4-H workers will attest, extension

activity is not exclusively confined to adults in the agricultural extension tradition of the CES. The same is true in general extension. Creese (19, p. 117) discusses special courses for youth and points out that:

> By 1939 the system of supervised correspondence had been adopted in eleven states. Many of the special courses prepared at the University of Nebraska were in common use outside the state. North Dakota reported that 60 per cent of her high schools, mostly the schools of two or three teachers, were using supervised correspondence instruction to supplement regular courses of study.

Instruction for youth is an important component of extension and should not be overlooked. However, as already noted, most extension work has been traditionally directed toward adult clients (5b).

Conceptual Interpretation

From the preceding study of the development of extension and a review of the two historical traditions, a conceptual interpretation emerges.

Extension education is a more general concept than university extension but both are usually viewed as specialized forms of adult education. Examples of nonuniversity extension are to be found in the educational activities of proprietary schools, the extending of training by private industry, and in certain training and educational activities by governmental agencies.

The position of university extension may be considered in the following paradigm which shows diminishing levels of generalization:

Adult Education

Extension Education

University Extension

Agricultural -- (CES) USDA, state and local affiliation

General -- (NUEA) University Colleges, Evening Divisions, Continuing Education Divisions, External Programs, etc.

An early reference to the central contention of this thesis was made by Davidson et al. (20, p. 173) when they spoke of "some of the fields that appear to offer worthwhile help..." to extension work. The fields they specified were psychology, sociology and education.

In combining the central contention with the two traditions, a somewhat pyramidal mental picture can be formed into one conceptual figure shown on the following page.

In Figure 1, psychology and sociology are seen as "basic" to adult education which is perhaps a more applied discipline. The lines do not form a closed triangle indicating that this model does not purport to represent with

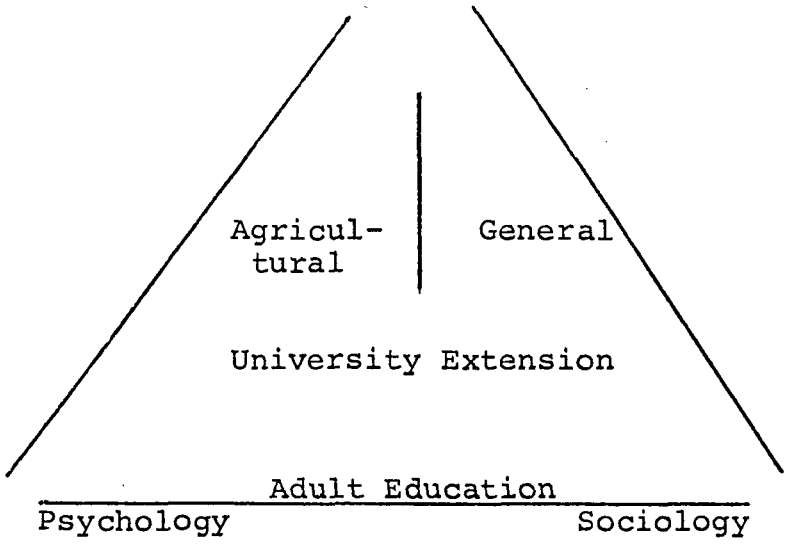

Figure 1. A conceptual model of the relationship of university extension to the sciences of psychology and sociology

precision all forms of extension, notably nonuniversity extension and extension for youth.

The theoretical input of psychology, adult education and sociology in this conceptual model to university extension will be examined in the next chapter.

CHAPTER III. TOWARD ANALYSIS

As used here, "analysis" consists of selection, ordering and recording ideas relevant to extension from the academic disciplines of psychology, adult education and sociology, to support the conceptual model developed in Chapter II.

Little attempt is made here at interpretation. The extension practitioner may draw his own inferences as to the theoretical value and the possible applied value in his own work situation. Some of this material will already be familiar to the extensionist and some may provide fresh insights for the agent's tool kit of information, and perhaps stimulate the desire for further reading.

From this analysis of the supporting material for the conceptual model, the operational model and then the action model will be developed in Chapter IV. This analysis will include rudimentary information necessary to implement the action model. In a sense, this analysis constitutes the theoretical "data" of the research. Specific theorists have been selected for analysis here because in the opinion of the investigator they present and explain the concepts succinctly.

Although this analysis is tantamount to a literature review from selected portions of the three disciplines in some respects, it is not so much exploratory in nature but is intended rather, to give some depth to the concepts under

analysis. Perhaps it can be more accurately described as theoretical research because it has a rationale and follows fairly distinct procedural steps.

For example, it is quite obvious that an exhaustive analysis of the science of psychology is impossible within this context. The problem is one of delimitation, therefore, the principle of organizing constructs will be used. Here, the ideas for analysis are organized around these constructs rather than establishing boundaries for the analysis.

Procedural steps in the research of psychology are as follows:

1. Itemize constructs from the science and place these in array, such as the following: cognition, intelligence, personality, memory, imagination, awareness, emotion, perception, motivation and learning. (Obviously, many others could be itemized.)

2. Select the last three for analysis in more depth by theoretical research. The rationale for selection of these three constructs is:

    a. in order to get information at all through instruction, the individual must be perceiving.

    b. all extension in the U.S. is voluntary and volitional motivation is required to participate.

c. human learning is the ultimate outcome desired by extension.

3. Analyze each construct, in order, through the use of concepts from the literature of the science which explain the construct. This body of concepts will provide a theoretical base for the conceptual model.

Although the analytical method was used also for adult education and sociology, it was modified somewhat to better suit each discipline and reflect possible interests of extensionists in each discipline. Thus, "general theories" in adult education and "sub-disciplines" of sociology were selected instead of organizing constructs.

Organization of Chapter

For each discipline, a short consideration of early theorists will precede the analysis from contemporary theorists. This will be followed by a section on conclusions for each discipline.

Analysis of contemporary theorists is as follows:

As stated, in psychology the organizing constructs will include perception, motivation and learning.

In adult education the general themes will deal with content, change and life-span education.

In sociology, analysis of concepts from sub-disciplines

of the science will focus on social psychology, social organization and social change. The intervening variable of social environment will be introduced.

Following the section on sociology, a table of germane concepts will be presented from the three disciplines.

An outline of the analysis of the three disciplines appears as follows:

A. Psychology
    1. Early Theorists
    2. Organizing Constructs
    3. Conclusions
B. Adult Education
    1. Early Theorists
    2. General Themes
    3. Conclusions
C. Sociology
    1. Early Theorists
    2. Sub-disciplines
    3. Conclusions

Many other analytical techniques are, of course, possible.

Again, the reader may wish to refer to Appendix A to help clarify the flow of the central theme in this analysis.

Psychology

A. Psychology

As an organized field of study, Western psychology began as a branch of philosophy and as a science is indebted to the work of many philosophers as well as scientists.

1. Early Theorists The theoretical work of the great English naturalist Charles Darwin in the science of biology directly relates to much conceptual formulation in psychology. Man is foremost a biological organism and a product of organic evolution.

Wilhelm Wundt is usually given credit for establishing psychology as a science. Wundt (21, p. 22) believed that psychology should employ "two chief methods: experiment and observation" (zwei Haputmethoden: das Experiment und die Beobachtung) for analysis and causal interpretation of facts.

Another German, Hermann Ebbinghaus, was the first to study systematically the phenomenon of human learning. Wrench (22, p. 218) speaks of the technique: "Using himself as his only subject, Ebbinghaus spent some time each day for over 2 years memorizing, remembering and testing himself on lessons."

The American psychologist, William James, refined the idea of pragmatism, which refers all thinking to its consequences and ultimately emphasizes the usefulness or practical results of ideas and concepts. The principle was developed by

Charles S. Peirce but lay virtually unnoticed until revived by James. Regarding the principle, James (23, p. 44) says: "It is astonishing to see how many philosophical disputes collapse into insignificance the moment you subject them to this simple test of tracing a concrete consequence."

2. Organizing Constructs Gilmer (24, p. 402) comments on the relationship of psychology to education: "... in some respects we may say that psychology is the science underlying education, much as the physical sciences provide the foundation for engineering." Although Gilmer is referring to education in general, presumably the analogy would hold for the relationship of adult psychology to adult education.

Psychological systems do not develop in test tubes and most psychological theorists are indebted to the work of others in some fashion. Wolman (25, p. 8) recalls that psychologists are human beings who communicate with other humans. He says in this respect that theorists often base their work, in part, on that of their predecessors, for example, "The psychological theories of C. L. Hull and of B. F. Skinner are, to a certain extent a continuation of the works of Pavlov, Thorndike and Watson."

a. Perception Man receives information from his physical environment only through his senses. According to Gelard (26, p. 258), "...there are five senses, or more

than a score of them, or some intermediate number, depending upon what decision is made concerning sensations originating in the skin and internal organs of the body."

Classically, vision, smell, audition, taste and touch provide the link of the individual consciousness to its environment.

The study of the physical basis of human neural and mental activity lies within the purview of physiological psychology. The electroencephalograph (EEG) is a device for detecting and recording the mangitude and type of encephalic electrical impulses or "brain waves." Sternbach (27, p. 58) discusses the "different EEG patterns" associated with various psychological states. One of these identifiable psychological states of awareness is termed selective attention. This selective aspect of human perception and attention is an important concept.

Underwood (28, p. 24) explains that "We are able to respond in a selective or discriminative fashion to the enormous complex of stimuli which impinge upon us at all times." The human organism can respond in different ways to various stimuli. The selective capacity assists the individual in creating order in the universe.

b. Motivation The psychology of motivation is concerned with why individuals behave as they do. Hall (29,

p. 6) believes it is "...probably impossible to state a definition of motivation which all psychologists would accept", but continues with three points salient to the construct:

-- the activity level of the organism

-- the direction of such activity, and

-- the persistence of the organism in trying to reach a goal.

Atkinson and Birch (30, p. 1) conceive of the fundamental problem of understanding motivation as the analysis of the change of activity of the individual:

> The behavioral life of an individual is a constant flux of activity. There are no behavioral vacuums except when the individual is literally inactive and unconsicious -- yet still alive in a medical sense -- as in the case of extreme illness or after a severe blow on the head. Otherwise, his behavioral life (which constitutes the subject matter of psychology) is ... a continuous stream characterized by change from one activity to another without pause from birth until death.

This concept of activity charge in relation to motivation has interesting implications for extension.

Irwin (31, p. 139) makes a distinction between general and specific motives. For example, a desire for food may be seen as a general motive, whereas a specific motive may be an appetite for certain special foods.

Whatever the theoretical approach, the idea of different types or different levels of motivation usually emerges in the considerable literature of motivation. Madsen

(32) analyzes twenty formal theories of motivation.

The idea of levels of motivation is developed more fully by Abraham Maslow who has postulated a hierarchy of human needs to describe this construct. An individual is motivated to use his capacities whenever needs at lower levels are met, according to Maslow. Physiological needs are the most basic, followed by safety, love and belonging, esteem and what Maslow calls self-actualization which is the highest need. Maslow (33, p. 382) clarifies this concept: "A musician must make music, an artist must paint, a poet must write, if he is to be ultimately happy. What a man can be, he must be. This need we may call self-actualization."

c. Learning The phenomenon of learning is a hypothetical construct of enormous importance to the psychologist and of unparalleled importance to the extensionist. Dallett (34a, p. 227) describes the hypothetical nature of learning:

> Learning is not an observation but an explanation. When we refer to learning or to memory we mean to say that we have observed a behavior change that we do not wish to explain in terms of fatigue, a changed stimulus, a shift of motive, a process of maturation or of decay, or any other alternative possibility. Instead we wish to infer a special process of change called 'learning'.

Notterman (34b, p. 9) comments further on the basic nature of this construct:

> We all know that certain biological characteristics of the living organism are handed on from generation to generation and provide the basis for natural

> selection. We do not ordinarily realize, however, that among these biological attributes is one which is sufficiently distinct to warrant creation of a separate discipline (psychology) in order to study its properties and processes. This biological characteristic is the ability to learn and to modify one's behavior in the light of past experience and current conditions .... Learned acts are not inherited. A generalized capacity to learn is principally an inherited trait, however, and all animal species possess it.

Therefore, learning capacity is at once a species trait and an individual trait.

At a rudimentary level, learning ability presumably has survival value from the biological viewpoint. A motile organism must struggle to free itself from restrictions within the environment in order to survive.

Closely related to this struggle, is the ability to benefit from past experience. In effect, the struggle becomes more refined and more energy is conserved than in the case of gross struggle behaviors. Avoidance behaviors emerge. Even simple biological organisms can modify behavior for survival.

Notterman (34b, p. 13) continues:

> Adaptation, during the individual's life, comes from learning. It is synonymous with learning. <u>In sum, learning bears the same relation to the adaptation of the individual that natural selection bears to adaptation of the species</u>.

The psychologist E. L. Thorndike did pioneer work on the subject of adult learning. In a sense, his research provided scientific legitimation to adult education as a discipline.

Morgan et al. (35a, p. 10) say of Thorndike's work: "The publication of his studies in 1928 marks the beginning of a new era in the education of mature people."

Differences in educational outcomes in the adult versus more youthful learners may not really be related to learning ability, but instead to a predictable decline in perception ability as the person ages--or perhaps to differences in motivation between the two groups.

Birren (35b, p. 169) suggests that "Since Thorndike's studies in 1928, there has been a general tendency to advance the age at which subjects in learning research are regarded as aged."

Adults do have the capacity to learn.

3. Conclusions There is no single, universally recognized theoretical viewpoint in psychology (comparable for instance to Darwin's formulation of organic evolution in biology) to explain the phenomenon of human learning. As a scientific construct, learning can be explained by many schools of psychology. In short, there are many theories of learning.

Investigators can promote the phenomenon and measure the results but are hard-pressed to provide a generally accepted explanation of its "true" nature.

As Wrench (22, p. 112) has noted, however:

> While there is still considerable disagreement among psychologists over theoretical interpretations of learning, much is known about the empirical phenomena which the different theories attempt to explain.

When confronted by the complexity of the human brain and the intricate dimensions of the learning construct, some extensionists might profit from Gagne's (36, p. 30) reminder that "...learning is an individual act, a set of events which take place entirely within the learner." At times it might be useful for extensionists to be reminded of the individuality of learning, especially those accustomed to dealing with large groups.

Newcomers to the extension profession may at times be almost overwhelmed by the complexity of the science of psychology. For this reason, perhaps they should be aware of, and resistant to, the orthodoxy in much of the theoretical literature of the science. Some psychological theorists may convey the impression that their approach provides the final explanation of all behavior. It may at times be difficult for the newcomer to the science to sort out for himself the implications of a given theoretical system.

Psychologists may agree on certain facts relating to human behavior but disagree on the underlying theoretical framework which explains these facts.

B. Adult Education

1. Early theorists The work of John Dewey on the principle of induction has special relevance to adult learning situations. In Dewey's (37, p. 419) words: "The methods by which generalizations are arrived at have received the name 'induction'; the methods by which already existing generalizations are employed have received the name 'deduction'." A further comment on the principle of induction will be found in part 2a (Content) below.

As noted above, Seaman A. Knapp was an influential personage in early development of agricultural adult education. Despite a serious injury sustained in an accident, Knapp was an active and distinguished agriculturalist and educator. He served as professor of agriculture at Iowa State Agricultural College at Ames and was later appointed president of that institution prior to this work with demonstration farms in Louisiana and the Gulf states (10a).

Sanders (13) credits Knapp with the use of the demonstration technique to combat the boll weevil in the Rio Grande Valley in 1904. Knapp recognized the need for a more general program and, after the emergency of the insect problem had passed, this program was developed into a broader type of rural adult education.

William Rainey Harper is said to be the father of the university press, the university extension program in the United States, and the four quarter system. Axford (38, p. 44) says of Harper:

> He would not agree to Rockefeller's offer to come to found the University of Chicago in 1891 until it was stipulated that the Extension Division would be a basic part of the organizational structure of the university in order to take knowledge to the people through whatever means possible -- lectures, correspondence study, and the university press.

Extension leadership passed from the University of Chicago to the University of Wisconsin around 1906. Woods and Hammarberg (39, p. 131) quote President van Hise, father of the Wisconsin idea:

> Speaking before the First National University Extension Conference in 1915...President van Hise said: 'If a university is to have as its idea, service on the broadest basis, it cannot escape taking on the function of carrying knowledge to the people. This is but another phraseology for University Extension if this be defined as extension of knowledge to the masses rather than extension of the scope of the university along traditional lines.'

2. General Themes

a. Content Adult educators attach special significance to the term content, as do extensionists. Content always depends upon the expressed needs of the client. Schroeder (40a, p. 34) says of this theme:

> The content of adult education has neither horizontal nor vertical limits -- that is, instances of adult education can be found that touch every body of knowledge known to man and that involve all levels of

> sophistication within each body of knowledge. Any content at any level which reflects the adult's interest and need to know appears to be the legitimate concern of adult educators.

Content exists within the environment of the client and may include skills development. Bergevin et al. (40b, p. 241) define content as mainly the substantive information in a learning program: "The 'what' of education as compared with the 'how.' The 'what' could be considered content, the 'how' process. In program planning, the topics developed for treatment in the learning activity being planned."

The question of how the content is conveyed to the client may be included in a consideration of method of teaching the content. Anderson (41) points out that the inductive approach to teaching content is well suited to adult teaching-learning situations. This refers to teaching from the less general to the more general, and learning from the known to the unknown. The inductive presentation of content begins the learning situation with the client's interests and is geared to what he already knows at his own level. Anderson gives examples of inductive learning situations as case method, project method, demonstration and group discussion.

6. Change An enormously important concept to adult education, change is often equated with learning. Frequently learning is viewed as controlled or directed change.

Kidd (42, p. 17) speaks of education as planned learning and asserts that:

> Learning means change. It is not simply a matter of accretion -- of adding something. There is always reorganization or restructuring. There may be unlearning. Indeed, ...this may be the most difficult part. What there is of pain in learning is not so much coming to terms with what is new, but reorganizing what has been learned.

Lorge et al. (43, p. 23) refer to the adult teaching-learning process as a "transaction" and include a basic assumption that "...the target of education is change and growth in the individual and his behavior; and thus in his worlds. This is a deeper and broader goal than cognitive learning only."

Tyler (44) advances the idea of change in the direction of the need of the client. He proposes three sources of assistance in determining this need -- the learners themselves, the social situation and the subject matter area.

The idea of planned or controlled change consistent with client need is persued by Boyle and Jahns (45, p. 64): "...educational objectives should be related to a clientele, that is, to a target population.... The content, of course, may be in terms of knowledge (concepts and principles), skills and/or values, or a combination of these."

Perhaps a person's own life cycle is his most immediate evidence of change. Change is the universal constant which neither the social scientist nor the adult educator can dis-

regard. (As Henry Thoreau (46a, p. 12)) observed: "All change is a miracle to contemplate; but it is a miracle which is taking place every instant.")

c. Life-span education As noted above in the section on psychology, Thorndike offered experimental evidence that adults can continue to learn. This theme is of central importance to adult education and is given many designations such as continuing learning, further education, education permanente, and the like.

Yeaxlee (46b, p. 164) posed the question in 1929: "If we ask 'when does a man become full, adult? When is his education complete?' The only true answer is 'Never while he lives.'"

Jessup (47, p. 25) speaks of the lifelong aspect of educational activity:

> There is a time to seek and a time to lose, a time to keep, and a time to cast away; different places in the life of a man or woman bring different interests, different problems, different potentialities, and a call for different educational opportunities -- and even abstention from organized form of education. Discontinuity in education is natural; discontinuance of education is like a mental amputation."

Verner (48, p. 1) proposes that "Continuous learning is necessary if an adult is to maintain himself in a state of reasonable adjustment in...society."

The concept of life expectations is postulated by Lorge et al. (49, p. 18):

> To be aware that one is behind, on, or ahead of schedule of life expectations can have a profound effect on life adjustment. Lewin says that to the child the future is vague but just ahead, to the adolescent vague but unlimited. The adult, however, has a realistic attitude toward time which sharply differentiates his perspective from the outlook of youth.

According to Miller (50, p. 203), "One of the truly significant differences between adult education and the education of youth, is the relative freedom of the adult to choose the kind of program he is interested in or sees value in and, to some extent at least, his freedom to proceed at his own pace."

The Havighurst theory outlines an extremely important theoretical perspective in adult education. With considerable erudition, Havighurst has postulated basic tasks of life which he terms "developmental tasks." These tasks must be achieved within the social context if persons are to "live successively and to go on with a good promise of success to the later stages of life" (51, p. 7). Havighurst emphasizes that behavior is socially defined and explains:

> "The developmental tasks are set for us by three forces: (1) the expectation of values of our society; (2) the maturing and then aging of our bodies, and (3) our own personal values and aspirations."

Havighurst's theory is of considerable interest to extenders of education.

3. Conclusions In discussing adult learning, Thompson (52, p. 25) comments in a fitting summary to this theme:

"Learning is invisible. It is a mysterious and unreliable process which cannot be directly observed or reliably controlled." It is the task of science to erode the mystery.

The newcomer to extension work might sometimes view a bewildering array of concepts in adult education. Liberation, education for living, learning to learn, and many others will be encountered.

He will probably encounter also a considerable degree of fragmentation in the discipline of adult education, perhaps with its attendant narrowness at times. He will soon become aware that adult education has many facets.

Content of learning is determined by the needs and interests of the individual client.

Sociology

C. Sociology

Perhaps most extensionists are already acquainted with many of the concepts expressed in this section, but this order of classifying them may prove of interest to the worker as well as provide support for the conceptual model presented in Chapter II.

To this point, emphasis has been upon the fact that the normal individual is always behaving within his physical environment, whether in relation to extension activities or not, and has the capacity for modifying these behaviors

throughout his lifetime. Emphasis will now shift to a consideration of the social influences of the environment. The science of sociology is of vital importance to extension.

1. Early theorists August Compte invented the word sociology in 1839 by combining the Latin root socius meaning companion with the Greek suffix logy meaning science of, or study of. Since then, the writings of a host of master theoreticians (Max Weber, Karl Marx and Emile Durkheim to name but three) have enriched the theoretical literature of the science.

The work of Lester F. Ward is of considerable historical interest to extension. Ward (53, p. 108) developed six theorems in his remarkable system of Dynamic Sociology:

"A. Happiness is the ultimate end of conation.

B. Progress is the direct means to Happiness; it is, therefore, the first proximate end of conation, or primary means to the ultimate end.

C. Dynamic Action is the direct means to the ultimate end.

D. Dynamic Opinion is the direct means to Dynamic Action; it is, therefore, the third proximate end of conation or tertiary means to the ultimate end.

E. Knowledge is the direct means to Dynamic Opinion; it is, therefore, the fourth proximate end of conation, or fourth means to the ultimate end.

F. Education is the direct means to Knowledge; it is, therefore, the fifth proximate end of conation, and is the fifth and initial means to the ultimate end."

Ward saw education as the great panacea for the evils of society and insisted that education must be universal: "The knowledge which society requires to be extended to one, it must require to be extended to all. Otherwise the true end in view is not attained" (p. 593). Ward defines happiness simply as the excess of pleasure over pain or enjoyment over discomfort.

Many extensionists are also acquainted with three other classical theorists in sociology -- Charles H. Cooley, William I. Thomas, and Albion Small.

Cooley (54, p. 152) postulated a social self which he called the reflected or looking-glass self:

"Each to each a looking-glass
Reflects the other that doth pass."

Three principle elements constitute the looking-glass self; the imagination of the individual's appearance to other poeple; the imagination of their judgement of that appearance, and "some sort of self-feeling, such as pride or mortification."

Volkart (55, p. 121), referring to the contribution of William I. Thomas to sociological theory, lists the latter's formulation of the human "Four Wishes":

1. new experience
2. security
3. response

4. recognition.

Thomas recognized the great variety of concrete forms of human wishes but believed all could be classified into these four categories.

Albion Small (56, p. 444) is often remembered by extensionists for his postulation of the "six interests" of the human being:

> Speaking somewhat roughly and symbolically, we may say ... that all the acts which human beings have ever been known to perform have been for the sake of (a) health, or (b) wealth, or (c) sociability or (d) knowledge, or (e) beauty, or (f) rightness, or for the sake of some combination of ends which may be distributed among these six.

Small believed that human interests are the motors of all individual action and social action.

2. Sub-disciplines

a. Social psychology Klauger and Unkovic (57) point out that social psychology is an area of applied interest to both the sciences of sociology and psychology. Viewed here as a sub-discipline or specialization within the science of sociology, it provides considerable theoretical elaboration on the concept of the social self.

Social psychology, as taught by sociologists, places substantial emphasis on the work of George H. Mead. Perhaps the chief proponent of Mead's work today is Herbert Blumer who coined the term "symbolic interaction" to designate the

body of theory and research which has grown around Mead's work.

Mead theorized that the human being is a social actor with a self. People possess selves only in relation to others. The individual learns about himself from others and social perception follows. In order to completely develop the self, it is not enough for the person to take the attitudes of others and internalize them. He must, additionally, generalize the individual attitudes into that of the organized social group -- the "generalized other."

Language, or the ability to symbolize, is species-specific to homo sapiens and thus becomes the vehicle of culture. Mead believed that human group-life was a necessary precondition for the development of consciousness. And through language, the individual achieves self-consciousness.

Mead (58, p. 232) clarifies the distinction:

> Consciousness, as frequently used, simply has reference to the field of experience but self-consciousness refers to the ability to call out in ourselves a set of definite responses which belong to the others in the group.

Some theorists even view language as a determinant of thought.

The internalized use of language constitutes thinking. With the ability to symbolize comes the ability to perform mental abstractions. For instance, the individual can abstract the concept of time. Because of this he is capable of prediction thus acquiring the ability to forsee his own

death, etc.

As a consequence of the ability to abstract a self of his own, the individual is capable of self-interaction. Blumer (59, p. 234) comments on this point:

> In asserting that the human being has a self, Mead simply meant that the human being is an object to himself, the human being may perceive himself, have self-conceptions of himself, communicate with himself, and act toward himself.

The concept of self-perception adds another dimension beyond the mere discernment of objects within the individual's environment.

Kurt Lewin conceptualized a "psychical field" of the human individual. This exists with the social field of force. Objects within the field of force possess a valence. Individuals experience attraction to or repulsion from objects or events within their social field.

Lewin (60, p. 51) states that "Valences...operate at the same time (as do other experiences) as field forces in the sense that they steer the psychical processes, above all the motorium." Presumably other selves within the individual's environment would also possess a valence according to Lewin's view.

Marlow (61, p. 136) makes reference to the relationship of learning to the self:

> The self-concept is socially learned. This social learning takes place during the life-long process of socialization, which shapes the individual through a variety of experiences whose effects are cumulative.

In a sense, the entire cognitive structure of the individual constitutes the self and has continuity through time because of the social learning process.

Leon Festinger investigated the process of cognition and in 1957 published his theory of cognitive dissonance. According to Sampson (62, p. 108) the theory:

> ...posits three kinds of relationships that can exist between two cognitions -- which are simply beliefs or knowledges about anything -- may be in a consonant relationship, a dissonant relationship, or an irrelevant relationship.

Sampson concludes that the theory maintains that "man abhors dissonance with as much passion as nature was said to abhor a vacuum.

The concept of attitude is important in social psychology. McGrath (63, p. 43) refers to attitude as a "predisposition to respond to a stimulus."

Of interest to the extensionist is the concept of attitude change. Kiesler et al. (64, p. 343) critically review a number of theories of attitude change and note that:

> ...for the most part theorizing in this area is still at a relatively low level; assumptions are not made explicit; relations between theoretical constructs are not spelled out; and the details necessary for precise predictions are often missing.

Nevertheless, the concept has played a central role in the development of social psychology.

It follows that an individual can and does possess attitudes toward the self. An example of interest to extension-

ists is that each person develops a conception of what he is able to learn -- a "self-concept of his ability" according to Brookover (65). He states that "...individuals learn to behave in the ways that people who are important to them consider desirable, expected, proper and in the ways that they feel that they are able to learn" (p. 33). A person may wish he were an astronaut or a judge and yet never take any steps for preparing for these positions because he does not feel he is capable enough.

b. Social organization Perhaps somewhat analogous to the self-consciousness, all individuals possess a class consciousness. The concept of stratification or social class is useful in analyzing the organization of societies.

Man everywhere must organize if he is to live in groups. The human group must deal immediately with the physical environment in obtaining food, shelter and the satisfaction of other basic needs. The concept of division of labor is an extremely important tool of group behavior analysis in this respect, but is inadequate to analyze within-group and intra-group phenomena. Among numerous other alternatives, social structure may be analyzed in terms of roles.

Especially in highly industrialized societies, social class may be considered as resembling a generalized role. Roach et al. (66a) advise, however, that all societies have

this type of social differentiation of classes and that class consciousness always develops within the members.

All societies have specialized roles also. This concept of role is important in social psychology but it is also important in the sub-discipline of social organization. Role is a valuable concept in analyzing social organization because of the phenomenon of role occupancy by individual members of the society.

If one way of studying social organization is through role structure, the role concept itself may also be of practical interest to the extensionist because of problems associated with role change. Banton (66b, p. 93) expresses a view on role changing:

> For an individual to move from one role to another is not always an easy matter. It requires that he know the rights and obligations of the role to which he is moving and that he change his behavior accordingly. It also requires that other people recognize his change of role and modify their behavior towards him in a corresponding fashion.

An individual may occupy many roles, yet he can experience behavioral difficulty and conflict in given role situations and in role changing attempts. He may experience enforced role change as in mandatory retirement, incarceration, etc. The general and specific roles an individual occupies are closely linked to his age, sex and kinship. The available roles are part of the social organization, however. They are not a part of the individual's belongings.

Mott (67, p. 16) expounds on this point:

> Roles are parts of social organizations; they are not persons; they are positions in organizations with which certain routinely performed combinations of activities are associated. Persons occupy these positions and perform activities associated with them; persons occupy roles.

Mott notes some important types of organizations containing roles: cliques, families, task organizations, associations, industries, institutions, communities and societies.

Extensionists often have a special interest in families and communities and perhaps occasionally find the additional concept of neighborhood useful in their work also.

c. Social change Some extension workers may tend to view instigated social change (often called community development and social action) as method in extension work in contrast to small group and individual instructional methods.

At times, the extensionist may conceive of himself as a "change agent" and view the teaching process as one of his tools for intervention. Accordingly, he can teach to promote change or teach to adjust to change, among other possibilities.

Rather than refer to the lifelong process of socialization, some sociological theorists prefer to separate the concept of socialization of youth in the society from the concept of resocialization of its more mature members.

Resocialization is always in evidence where social change occurs.

The process of resocialization may be viewed as critical to the change process or as an adjunct to instigated change. McNeil (68, p. 234) elaborates on the resocialization concept:

> Socialization during middle and later adulthood is fundamentally a process of resocialization that is stretched out over a long period of time. This process is concerned less with the taming of drives and the teaching of attitudes, habits and belief than with the reformulation of values, interests, interpersonal relations, self-image, and patterns of response.

Various approaches to the analysis of social change have been developed. Three are discussed below -- one time ordered, one general or overall approach and one categorized model.

Beal et al. (69) have designed a social action model consisting of a linear conceptualization of the social change process within social system boundaries. An idea of the complexity of the social change process is provided by the fact that Beal identifies over thirty "heuristic" or action steps of the process. Because it is sequentialized, Beal's model has many pragmatic implications for the worker.

Wileden (70, p. 253) confirms the practical value of models and asserts that the idea of a social action model is an attempt to develop a validated theoretical construct of the social action process:

> An obvious purpose of such a 'model' is to keep the discussion of a given social action at a higher level of abstraction than would be possible without it. It is also designed as a means of empirically analyzing social action in a frame of reference that is useful in understanding many types of situations.

A broad classification of social action by Benne and Chin (71) consists of a typology of three major or "General Strategies" for affecting change.

(1) Rational - Empirical

> The rational-empirical strategy is reflected by the views of the Enlightenment and Classical Liberalism. Among the examples Benne cites are Thomas Jefferson, Horace Mann, early psychological testers such as Benet and Moreno, and the Land-Grant universities.

(2) Normative - Re-educative

> Normative strategies are represented by the views of therapists: practical utopian thinking -- B. F. Skinner and Futurists; language clarification -- Korzybski and Hayakawa; Lewin research training action -- National Training Laboratories, Sensitivity and Training groups; and the Psychotherapists.

(3) Power - Coercive

> Examples given by Benne are in three categories: Non-violent -- Thoreau and Ghandi; Conflict and Confrontation -- Saul Alinski; Use of political institutions and changing power elites -- Marx and C. W. Mills.

Another analytical approach to social action of possible interest to extension workers is the Processually Articulated Structural (PAS) model. Leagans and Loomis (72, p. 386) say of the model:

> The distinction between the change agent and the change target system is basic to analyzing the process of change...an analytical tool that provides the basic

> concepts for each system and the interrelation of both is needed. One such analytical tool has been provided by the PAS model....

Incorporating both the social structure and the process of change, the model designates Elemental Process with the corresponding Social Action Categories and the Elements of these categories.

Leagens and Loomis show examples of each of these:

> "Elemental Processes: tension management, goal attaining activity, application of sanctions;
>
> Social Action Categories: feeling, achieving, sanctioning;
>
> Elements: beliefs, goals, norms, etc." (72, p. 393)

The PAS model might provide extensionists a worthwhile contrast to the linear type models.

3. Conclusions Modern man is confronted by an increasing number of decisions, many of which are attributable to the rise of technology.

Increasing density of population results in increased interaction. As his number of choices and interactions increases, an individual's needs may change considerably. Already ambiguous stimuli may become more confusing and exist in increased profusion.

The individual may live longer than his progenitors and experience repeated major changes during his lifetime. Many observers insist that the rate of social change is accelerating.

The modern extension worker may often ask himself how he as an individual, can deal with widespread social problems and social pathology in the "golden age" of technology. He may be well acquainted with social problems but feel powerless to combat them.

Perhaps a consideration of social problems would be another sub-discipline which would provide beneficial information for the extensionist. Certainly many other topics from the science, (e.g. social exchange theory, social power, social migration, rural-urban sociology and countless others) are relevant to certain aspects of extension today.

In fact, sociological literature of potential theoretical input to extension knowledge is available in such proliferation that the extensionist may indeed feel intimidated by the science, especially in the wider sense of sociology which may include socio-economic, socio-political and social anthropological theory.

The new extension professional will be alert to the pitfalls of oversimplification in the social area; causation in social situations is rarely a simple matter in extension problems. The effective extensionist will be aware of the complexity of stochastic models and the importance of the social environment.

Skinner (73, p. 117) acknowledges this importance of the social environment to the individual:

> Without a social environment, a person remains essentially feral, like those children said to have been raised by wolves or to have been able to fend for themselves from an early age in a beneficient climate. A man who has been alone since birth will have no verbal behavior, will not be aware of himself as a person, will possess no techniques of self-management, and with respect to the world around him will have only those meager skills which can be acquired in one short lifetime from nonsocial contingencies.

Extension leadership in the area of combatting the problems in the social environment is being assumed by the Cooperative Extension Service. A Committee Report of the Joint USDA-NASULGC Study Committee on Cooperative Extension (74, p. 13) makes this clear:

> There can be no question in today's society that one of our highest priority goals is centered upon the elimination of poverty, discrimination, and alienation. Cooperative Extension is dedicated to these efforts.

Likewise the NUEA has long been interested in ameliorating social ills through university public service.

As will be seen in Chapter IV below, it is within the social environment that the concept of social facilitation of the extention process assumes increasing importance.

Germane Concepts

In conclusion to Chapter III, Table 1 represents a synopsis of the above analysis of contemporary theorists. Shown are various concepts selected from each category of the foregoing analysis and from the conclusions section of each

discipline. These are considered germane to the formulations which follow in Chapter IV.

Table 1. Concepts germane to extension theory from three academic disciplines

Summary of Germane Concepts From the discipline of:		
Psychology	Adult Education	Sociology
Selective Perception	Induction of Content	Self Perception
Activity Change	Planned Change	Role Change
Learning Capacity	Lifelong Learning	Resocial-ization
Individuality of Learning	Content of learning	Social Facilitation

CHAPTER IV. TOWARD SYNTHESIS

The preceding analysis in Chapter III is based upon theoretical research. In a sense, it consists largely of selection and classification of the ideas of representative theorists. What follows is "new in the world" so to speak.

Contrasting Formulation

A concept of traditional extension will now be proposed as a unifying principle of the above analysis. Traditional extension refers to both traditions of extension (viz., agricultural and general) as shown in Figure 1. It is the form of university extension presently in progress.

This will be followed by formulating through the contrasting technique a new conceptual approach to extension. This will be termed developmental extension.

Wharton (75, p. 2) suggests the term "developmental education" but his use of the term is more at the economic definition. Havighurst and Orr (51) uses the terminology "developmental tasks" to classify those events in an individual's social life which provide the basis for his theory of guided adult learning.

Here the term "developmental extension" is proposed to contrast to traditional extension on two conceptual levels, (1) dimension and (2) domain.

(1) Dimension:

Shannon and Schoenfeld's (14) analysis includes the geographical and chronological dimensions of university extension. Historically, the extending of education has been essentially synonymous with facilitation of the extending of content to clients in the geographical sense. This may also include on-campus activity due to the advantages of centralization. The chronological dimension refers to the influence of university extension on various phases of the continuum of the client's life span.

As extension develops, the contrasts in problems encountered in the geographical dimension are readily apparent. In the days of seed corn trains and itinerant riders the problems of facilitation were perhaps somewhat different than in today's world of instantaneous electronic communication and offset printing processes.

Recalling that Havighurst's life tasks are largely socially determined, contrasts are also apparent in the chronological dimension as influences of social change increase.

It is now proposed that an additional dimension called the intellectual dimension will be useful to explain phenomenon encompassed as a general class of activity in developmental extension.

In the management of learning experiences for their

clients, extensionists are increasingly concerned with the former's physical, social and intellectual development.

The extension client experiences changes due to his life cycle; he may experience many changes in his life style. He has practically unlimited capacity for development through the intellectual dimension. Thus, the three dimensions of extension are (1) geographical, (2) chronological, and (3) intellectual.

(2) Domain:

Correlary to the three dimensions are three domains of extension. Domain refers to the purview of the extension process as related to the needs of the client. Extension exists to serve the clients' needs. The needs of the client may arise in or relate to one or more of the extension domains: physical, social, mental. Traditional extension has emphasized the physical-social while developmental extension will strive to include more and more emphasis on the social-mental.

This suggests that extensionists will adjust their teaching to fulfill needs and interests in all three domains. There may be a progression of client needs within the domains. Not only the physical concerns of the environment, but also concerns within the social environment may influence the need or interest of clients. They may become increasingly

interested in self-adjustment, self-development and self-fulfillment in the mental domain as needs at lower levels are satisfied. Consequently, the three domains of extension are (1) physical, (2) social, and (3) mental.

Extensionists may have limited options in dealing with psychological problems of their clients. If a client believes his problem is psychological he might be likely to seek the services of a different professional.

Therefore, psychosocial considerations come into play more and more as dominant needs of the client shift from needs of his physical being to those within his social and mental life. Further contrasts in the formulations of traditional and developmental extension have to do with the concept of social facilitation. Facilitation refers to promoting the extension process. In traditional extension this emphasis has often been closely related to the physical environment. In developmental extension the emphasis is closely related to the social environment. (Social facilitation as used here should not be confused with the technical term in social psychology which designates the phenomenon of an organism doing more in a social situation than when alone (76)).

The antithetical proposition of the concept of facilitation is that of restraint. Restraints may tend to arise within the social environment. Restraints are inhibitors to

the extension process. All extensionists are aware of drawbacks to extension. These drawbacks or obstacles may exist within the physical environment.

Extensionists attempt to increase their facilitation efforts or revise their facilitation strategies when such obstacles are encountered. The following are contrasting characteristics or general tendencies of the two concepts:

Obstacles	Restraints
Passive	Active
Visible	Invisible
Barrier	Restriction
Thwart	Prevent
Known	Unknown

Learning situations may be more concrete in traditional extension and more abstract in developmental extension. (Consider for example, the difference in learning how to grow corn and then learning about hedging when the grain is harvested.)

Content may often be intended to meet lower client needs or tangibles in traditional extension and higher client needs or intangibles in developmental extension.

A more concise formulation for traditional extension and developmental extension follows:

Traditional Extension

The complexity of university extension is evident. The technique of representing extremely complex and constantly changing elements by formula to show the synthesizing relationship is useful.

Traditional extension (TEx) may be represented by a non-mathematical, irreducible formula:

TEx = L + C + F,

where: L = Learner

C = Content

F = Facilitation.

No matter how complex, all extension situations may be encompassed within or described by the above formula. The three elements or components of TEx (L, C and F) each have a nearly infinite number of variables.

The formula is irreducible because no extension exists when any one element is removed.

Any known element or variable of importance to the practitioner may be included in such a formulation as long as it logically relates to the conceptual framework developed in the analysis of the three disciplines in Chapter III, (i.e., psychology, adult education, and sociology).

There is no extension without F. The practitioner manipu-

lates variables within the environment to facilitate L + C. Assume that TEx = L + C + F is operational and the practitioner still detects a lack of efficiency in the process.

This lack of efficiency may be explained by certain aforementioned restraints which tend to operate upon the process. These restraints (R) may be conceived of as influencing specific elements of the formula.

Three conceptual examples are:

1. $TEx = L + C + F + R$

2. $TEx = L + C + \frac{F}{R}$

3. $TEx = \frac{L + C + F}{R}$.

The first conjecture indicates relatively vague and undefined influences of restraint upon extension. The second formula would suggest that restraints operate to counteract facilitation. The third formula perhaps most correctly describes reality in most situations -- restraints can be operative on all three major elements of TEx. Other relationships are, of course, possible.

Developmental Extension

All elements of university extension are constantly changing or developing. The extension client or L is subject to change due to aging, life style, etc. The content or C is

in constant change due to obsolescence and new knowledge. The environment in which extension exists is in perpetual change with new and different obstacles and restraints.

The concept of restraints is of special significance to developmental extension. Restraints are hypothesized in contrast to facilitation. Using the method of logic, the element of facilitation is polarized and the opposite concept defined. If there must be facilitators, then there may also be distractors in any extension situation. These distractors are subsumed under the general class or element which includes situational inhibitors of the extension process.

As situational inhibitors, restraints may differ for every given extension situation. Developmental extension relies upon the professional judgement of the individual practitioner to isolate restraints.

Developmental extension as a new concept does not presume to improve upon the facilitation efforts of TEx.

Human effort is required to sustain extension. Extension is subject to entropic influences and the formula will degenerate without F. Developmental extension, therefore, <u>always</u> assumes an element of F, but it will be omitted from the formulation for brevity only. The extensionist who ceases to facilitate will no longer be an extensionist.

The conceptual formulation for developmental extension (DEx) now becomes:

DEx = L + C - R .

The DEx imperative is to develop strategies to define and reduce restraints. Since restraints are any influences which obstruct the purposive work of extensionists, the task is to remove or reduce anything which impedes the process of L + C.

The extensionist who perceives the restraint reductive concept as merely a restatement of facilitation in negative terms will be unlikely to devote extra thought to the definition and removal of restraints. Restraint identification and reduction requires deliberate, conscious effort on the part of the practitioner.

Quite obviously, accurate definition of restraints does not always insure that they can be successfully reduced or removed by the individual practitioner. However, it is an important first step to DEx and may prove furitful some days or even years hence.

Restraints may inhibit effective perception, motivation and learning on the part of the client. Countless other psychological variables which have not been analyzed here may also be influenced. The extensionist will wish to reduce these or assist in their reduction insofar as possible.

Restraints may exist in the element C if the material is not at the client's level, for example. "What to teach" is a possible restraint in many situations. All extensionists recognize the importance of the communication process in

extending C to L and restraints may be hypothesized in this process also.

Conceivably, restraints are so ubiquitous in the social domain that the postulation of the social environment in this schema as an intervening variable will prove profitable to extensionists in focusing attention on this variable.

Conclusions

It is apparent even to the casual observer that many methods are available for promoting the development of extension: expert committee work, management edict, judicious funding, community effort, etc.

Action oriented professionals may want an additional tool for application at their own discretion to local systems. The DEx approach may provide such an alternative.

Extension is an important human endeavor and a significant component of adult education. Yet it lacks its own body of theory. This has been an attempt to synthesize knowledge from three disciplines into a formal conceptual approach - embryonic theory perhaps.

This was done by forming a conceptual model, conducting theoretical analysis and then postulating two working models derived from the analysis: the formulation for traditional extension is called the operational model; the formulation for developmental extension is called the action model.

To be more responsive to client needs, traditional extension strives to improve and revise its facilitation efforts and has been very successful in this work. On the other hand, developmental extension assumes these successful facilitation efforts will continue but proposes an additional action step of restraint elimination.

The relative thrust of the two working models can be seen in Table 2. Both working models seek to exert influence toward positive facilitation. In DEx, the goal is also successful negation of restraints.

Table 2. Relative position of the working models to positive and negative emphasis of two extension elements

Extension Element			
Facilitation		Restraint	
Positive	Negative	Positive	Negative
TEx			
DEx			DEx

This study has attempted to explore a theoretical relationship of three academic disciplines to university extension.

When DEx = L + C - R, it concludes that the element L primarily implicates theory from psychology because this science explains the behavior of individuals and ultimately because it explains the activities of individual extension clients as perceiving, motivated and learning organisms.

The element C primarily implicates theory from adult education because this discipline is concerned with teaching method, the prospect of life long change and subject matter content.

The element R primarily implicates theory from sociology because this science explains the behavior of men in interaction -- suggesting the importance of the possibility of restraints to the extension process, especially within the social environment.

Since the elements of DEx are interdependent and interrelated, all three disciplines contribute in numerous other ways toward understanding each of the three elements.

The successful application of the DEx approach can enhance the extension process.

CHAPTER V. TOWARD APPLICATION

This chapter is intended only for the practitioner who wishes to consider application of the DEx approach proposed in the foregoing chapter.

Operational Prerogatives

It is the right of the individual practitioner to determine how or when (or indeed if at all) to apply any theoretical approach to specific extension situations.

Professional extensionists perform a considerable amount of subjective analysis of extension work. If they wish to gather objective data, criteria must be established for selected incidents or conditions within the process.

The extensionist is often confronted with the problem of obtaining objective criteria to measure extension outcomes. He may question the wisdom of attempting formal evaluation of informal education.

The relative merits of extension approaches and techniques may be investigated in formal research or hypothesis-testing studies and in less formal applied or action research.

Perhaps a sample of criterion establishment and a possible informal method of application of DEx would be of some value to the practitioner interested in the action research frame of reference.

Establishing Criteria

Criteria establishment will depend upon each specific extension situation and is the responsibility of the practitioner. This is one reason he is considered a professional. Once the thought pattern on the DEx approach is formed, the basic synthesizing application can be performed very rapidly in the mental processes of the extentionist. Until then, a thought flow chart to begin the application might be useful, such as that shown in Appendix B.

Recall that DEx is based upon the principle of restraint reduction. General restraints to extension may be identified and validated through scientific research. Until this is done, all restraint definition and reduction must be left to action research in the specific extension situations.

The following sample application is at a relatively low level of verification or measurement on the ordinal scale. Quantifiable data on the interval or ratio scales of measurement would provide more precision in the analysis.

The DEx formula itself suggests one very simple method of developing criteria. The method involves first establishing criteria for each major element relating to selected variables within the element individually and then considering each element in relation to the others. Once this is accomplished, the extensionist is able to recombine the

criteria for the three elements into the formula to determine whether or not he has achieved DEx.

Any objective formulation of criteria may be used which logically relates to the element under consideration. Criteria must be developed for all three elements before the DEx process is initiated.

Sample Application

The following are not proposed as criteria but are put forward here merely as a sample method of application to show how a DEx approach could work.

Assume that the restraint to L was defined as low motivational level to participate in a given learning experience. Attendance increase at a meeting is stipulated as evidence of restraint reduction as follows:

At least 15 persons attend = high

At least 8 persons attend = low.

After the meeting, follow the thought flow in Appendix B to the scoring grid in Appendix C. If 15 or more attended, place a check in the high box of the element L. If between 8 and 14, score low; and score nil for less than 8.

The restraint to content presentation was defined with the verified skill of speaker as criterion of reduction.

Speaker A agrees to give presentation = high

Speaker B agrees to give presentation = low.

The same process would be followed in scoring the C element.

Restraint in the social environment has been defined as resistance to a specified program of instigated social change. Stated opinion change is taken as criterion of restraint reduction:

Obtain the agreement of 10 individuals = high

Obtain the agreement of 5 individuals = low.

Criteria may be established relating to countless variables in each element such as number of persons, number of times, duration, level of content or whatever objective yardstick the practitioner wishes to use. Each criterion must clearly indicate restraint reduction within the element.

Table 3 indicates the inferred relationship of hypothetical high end low degrees of DEx for the three elements.

Appendix C shows a modified blank form of Table 3 which the extensionist could use to score the appropriate degree of DEx according to the criteria established.

As noted, this is scored on an ordinal scale of measurement and is on the relatively crude greater-than or less-than relationship. Therefore, all three elements must be scored high to assume a high degree of DEx and any score of nil

invalidates the DEx process. This simply indicates that TEx is still in progress and the practitioner has not developed his program beyond it.

Table 3. Characteristics of degree of DEx for major elements

Degree of DEx	Learner	Content	Restraints
High	Perceiving Motivated Learning	Meaningful Coherent Relevant	Negated Minimized Removed
Low	Distracted	Too difficult arcane, obscure	Negated Reduced
Nil	Not perceiving Not motivated Not learning	Inapplicable No meaning Not communicated	Operative

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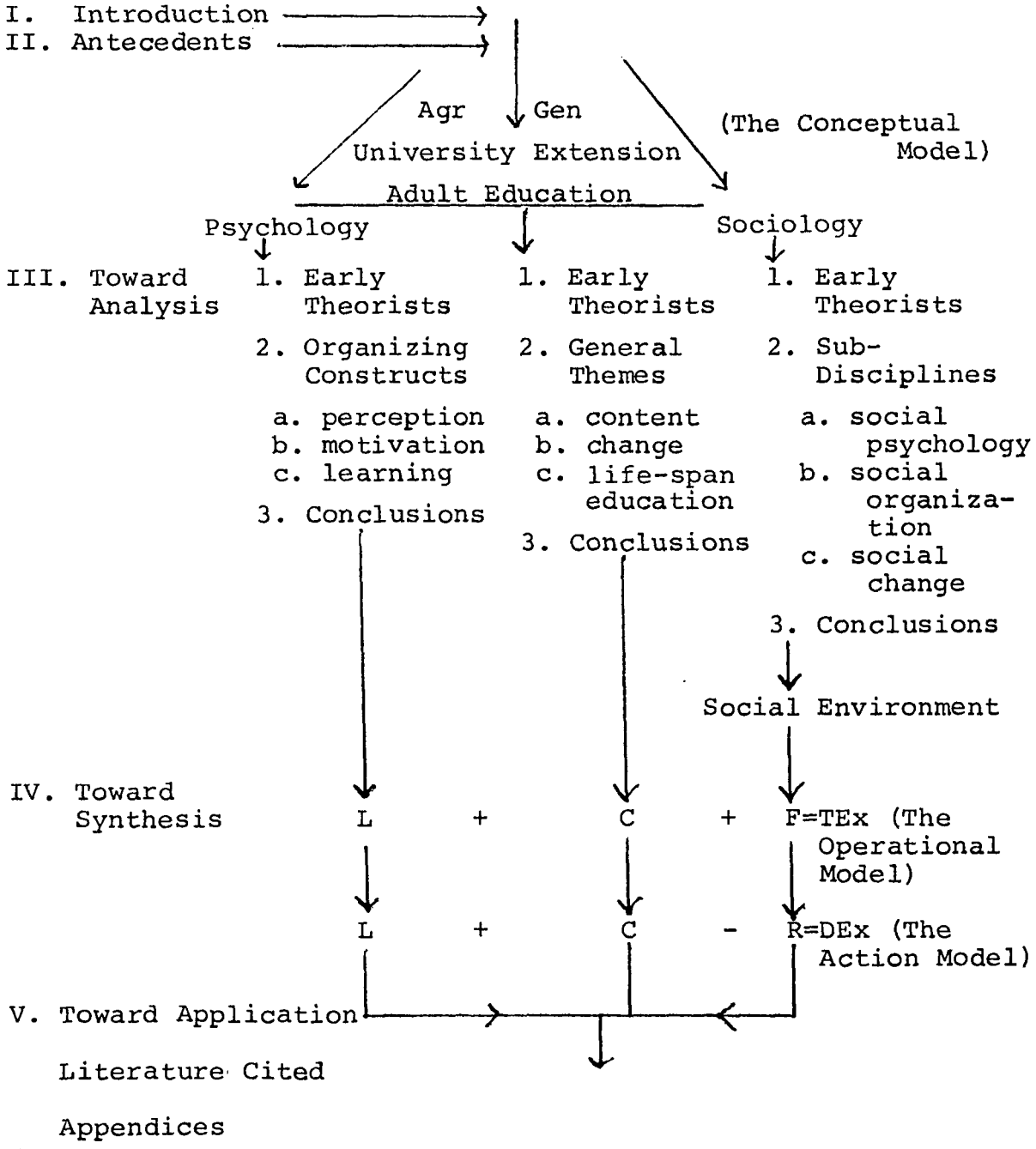
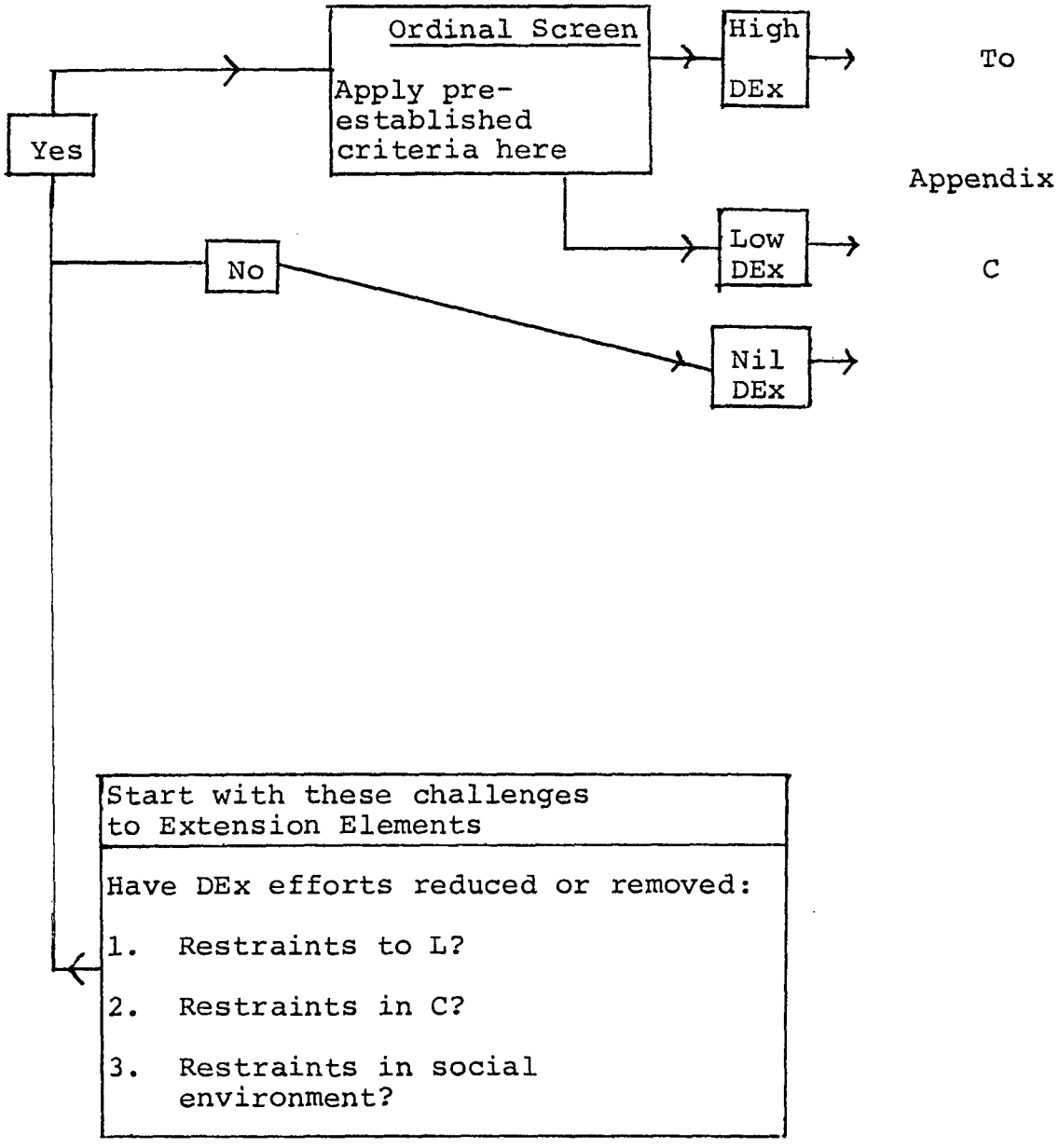
APPENDIX A

Thesis Organization Schematic



APPENDIX B

Developmental Flow Chart



APPENDIX C

Synthesizing Grid

From	DEx	Element (one score required for each)		
	Degree	L	C	-R
B →	High			
→	Low			
→	Nil			