

# Fundamental Structure of Knowledge in Nursing

Kwang Ja Lee

College of Nursing, Ewha Womans University

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## I. INTRODUCTION

Much of the early education for nursing in Korea was narrowly technical emphasizing rule-of-thumb procedures to the neglect of any basic theoretical knowledge. The approaches to identification of knowledge for nursing practice has been described historically as "based on an accumulation of unrationalized experiences and derived from intuitively projected goals."<sup>1)</sup> Curricular content was closely linked to medical knowledge and organized according to medical speciality areas designated within the hospital. But as nursing moved into the modern scientific era the body of knowledge constituting the field of nursing was and is being challenged.

The movement of nursing into the traditional academic setting of institutions of higher learning is, in part, a response to the recognition of the complexity and demands of contem-

porary life and of the need for mastery of a rapidly expanding body of knowledge. It also implies a general acknowledgment of the importance of excellency and adequacy of a body of knowledge to serve as the fundamental rationale for practice.

The responses to the changing nature of nursing together with the "need to achieve a clear, explicit and substantive definition of the professional dimension of nursing practice"<sup>2)</sup> have resulted in a wide range of educational schemes for ordering and perceiving knowledge. These various schemes are reflected in new and innovative curriculum patterns, new teaching strategies and changing relationships between disciplines in baccalaureate nursing programs.<sup>3)</sup> But the development and identification of a body of knowledge to serve as the fundamental rationale for practice and ways of organizing a knowledge base relevant to nursing has been and continues to be a major concern and

<sup>2)</sup> 본 논문은 1982년도 문교부 국비 해외파견교수 연구조성비에 의한 것임.

1) Juanita F. Murphy, ed., *Theoretical Issues in Professional Nursing*, New York: Appleton-Century-Crofts, 1971, p. 4.

2) Holly S. Wilson and Shirley S. Chater, "Graduate Education: Challenge to the Status Quo," *Nursing Outlook*, 21, July, 1973, p. 440.

3) Ibid.

a controversial issue in nursing.<sup>4)5)</sup> This lack of a clearly defined body of knowledge has in many instances resulted in "conflict, dissent, and confusion among nurse educators."<sup>6)</sup>

This study represents an attempt to identify the fundamental structure of knowledge in nursing. The genesis of this study is derived from the theses that the body of knowledge that serves as the rationale for nursing practice has patterns, forms, or structure that serve as organizing principles and that the understanding of these patterns or structure is essential for the teaching and learning of nursing.

#### Statement of the Problem

To what extent can an analysis of literature in the field of nursing demonstrate or identify the structure of knowledge in nursing?

#### Purposes of the Study

This study represents an attempt to:

1. utilize a systematic approach to the analysis of selected nursing literature that will serve to identify the structure of knowledge in nursing.
2. make a contribution to the literature in nursing.

#### Definition of Key Term

Structure of knowledge—that body of concepts which define the investigated subject of a discipline and direct the methods of inquiry that characterize the field of learning.

#### Limitations

This study is not intended to provide a summary of all that is known in nursing, nor is it a textbook-like collection of content. Rather it is an attempt to illustrate some of the more fundamental structure of knowledge in nursing.

In that all viable fields of inquiry are under-

going frequent change and alteration there can not be, in one sense, any final, complete or definitive identification of the parameters of knowledge.

#### Methodology

The approach that appears best suited to the identification of the fundamental structure of knowledge in nursing is a systematic analysis of the literature from a philosophic point of view. A systematic analysis is not an exhaustive review of the literature in a particular area, but rather a carefully selected sample, critically examined and evaluated on a systematic basis. Philosophic considerations of the theory of knowledge differs from empirical investigation that seeks, as an end product of investigation, to add to what is known. The objective of philosophic inquiry in this study is not to extend the range of what is known but rather may be regarded as a way of critically examining or thinking about what is taken to be of value or significance to the teacher involved in the educational enterprise.<sup>7)</sup>

The knowledge comprising the discipline of nursing, as identified in the selected literature, will be analyzed along two main lines and the sequence of the analysis will be guided by the following questions;

- A. What is the conceptual structure of knowledge in nursing?
  1. What are the concepts that specify, describe, define and/or classify the phenomena of the field of nursing?
- B. What is the syntactical structure of knowledge in nursing?
  1. What are the methods of inquiry?

4) Murphy, *Theoretical Issues in Professional Nursing*, p. 3.

5) Imogene M. King, *Toward a Theory for Nursing*, New York: John Wiley and Sons, 1971, p. 2.

6) Barbara J. Stevens, "Analysis of Structural Forms Used in Nursing Curricula," *Nursing Research*, 20, Sep-Oct, 1971, p. 388.

7) Maxine Greene, *Teacher as Stranger*, Belmont, Calif.: Wadsworth Publishing Company, 1973, p. 120.

## I. THE STRUCTURE OF KNOWLEDGE

Our problem belongs to theory of knowledge or epistemology. The object of this chapter is to present a brief summary of some of structure of knowledge to answer the persisting questions involved in the problem of knowledge. The role of epistemology today has to a great extent become focused on the clarification and analysis of what is involved in various claims of knowledge and the methods by which the disciplines, which constitute the contemporary world of knowledge, formulate their problems and answers.

In the past several years there has been a general interest in structure of knowledge, especially in the field of education, as it relates to the process of teaching and learning. The term "structure," as used by Bruner in his widely read book *The Process of Education*, refers to the general principles of a field of inquiry<sup>8)</sup> or the fundamental ideas of a discipline.<sup>9)</sup>

### The Substantive Structure

The substantive or conceptual structure of a discipline has been identified by various terms as:

1. the body of imposed conceptions which define the investigated subject matter of that discipline and control its inquiries.<sup>10)</sup>
2. the scheme of categories by which the meanings in the discipline are symbolized, mak-

ing it possible to interpret the significance of the field within the total framework of meanings.<sup>11)</sup>

3. the fundamental ideas of a discipline.<sup>12)</sup>

The substantive structure of a field of inquiry is composed then of the concepts or "representative ideas"<sup>13)</sup> which are deliberate constructions of the mind and serve as guiding principles of inquiry. The terms used to express conceptual activity comprising a discipline may be arranged in a hierarchical order, Phenix suggests, in that some concepts or representative ideas "clearly reveal its pervasive essential features" while others "draw attention at particular aspects of the subject rather than to the essential patterns of the whole."<sup>14)</sup> King and Brownell suggest such a hierarchical arrangement as follows, to be read in an ascending order: (1) concept, hypothesis, rule, or principle, (2) theory or law, and (3) models or paradigms.<sup>15)</sup>

The substantive structure which serves as a guide for the selection and classification of what is relevant, important, and meaningful to any field of inquiry is controlled, Schwab says, by two opposing criteria: reliability and validity.<sup>16)</sup> These criteria lead to two important characteristics of knowledge: (1) a revisionary character of knowledge which accrues from the continuing assessment and modification of substantive structures, and (2) the plural character of knowledge in that there may be concurrent utilization of several sets of substantive structures within any discipline.

8) Bruner, *The Process of Education*, p. 31.

9) Ibid., p. 3.

10) Joseph Schwab, "The Concept of the Structure of a Discipline," *Educational Record* 43, July, 1962, p. 199.

11) Phenix, *Realms of Meaning*, p. 54.

12) Bruner, *The Process of Education*, p. 3.

13) Phenix, *Realms of Meaning*, pp. 322~323.

14) Ibid., p. 324.

15) King and Brownell, *The Curriculum and the Disciplines of Knowledge*, p. 82.

16) Schwab, "The Concept of the Structure of a Discipline," pp. 199~200.

or field of inquiry.<sup>17)</sup>

This process of revision of knowledge evolves in two principle directions; that of more valid principles and therefore more complex and principles of wider scope which seek to reduce separate and discrete phenomena to related aspects of a common pattern. As the various fields of inquiry become more rich and complex in content with greater coherence and interdependence of its component statements the warranted and valid knowledge must be understood and conveyed in context. "To learn structure," Bruner says, "is to learn how things are related."<sup>18)</sup>

#### The Syntactical Structure

Different disciplines have different substantive or conceptual structures. Each poses widely different questions and seeks solutions to different problems; they also seek different kinds of data and conclusions. The differences in the way and in the extent to which each field of inquiry goes about discovering and verifying its knowledge.

Schwab uses the term syntactical structure to refer to the pattern of procedure or methods by which each discipline determines:

what it does by way of discovery and proof, what criteria it uses for measuring the quality of its data, how strictly it can apply canons of evidence, and in general, to determine the pathway by which the discipline moves from the raw data to its conclusions.<sup>19)</sup>

Syntactical structure concerns itself with the modes of inquiry or patterns of discovery and verification, what each discipline or group of disciplines mean by verified knowledge and

how they go about the verification.<sup>20)</sup>

Phenix refers to the methods of inquiry as:

the unifying elements in a discipline, binding together all the separate results into one coherent domain of study... The methods of a discipline in effect contain all the particular findings that result from inquiry. In that sense knowledge of methods is a kind of surrogate for everything that can be discovered by applying them.<sup>21)</sup>

Phenix's analysis of the fundamental patterns of meaning indicates that thought follows not one logical pattern, but at least six fundamental ways corresponding to the realms of meaning. Methods of inquiry—patterns of discovery and validation—are determined by the conceptual or substantive structures that characteristically vary according to the realm of meaning. He also draws attention to the idea that "methods," like representative ideas or concepts, "appear in hierarchies ranging from the most general to the most particular."<sup>22)</sup>

Briefly summarized, the concept of a structure of any field of inquiry "is concerned in a highly important sense with truth,"<sup>23)</sup> in that:

The conceptual structure of a discipline determines what we shall seek the truth about and in what terms the truth shall be couched. The syntactical structure of a discipline is concerned with the operations that distinguish the true, the verified, and the warranted in that discipline from the unverified and unwarranted. Both of these—the conceptual and the syntactical—are different in different disciplines.<sup>24)</sup>

It is the study of shared paradigms, or conceptual and syntactical structures, that prepares the student for membership in the particular scientific, academic, or professional community

17) Schwab, "Structure of the Disciplines: Meanings and Significances," pp. 25~28.

18) Bruner, *The Process of Education*, p. 7.

19) Schwab, "Structure of the Disciplines: Meanings and Significances," p. 14.

20) *Ibid.*, p. 21.

21) Phenix, *Realms of Meaning*, p. 333.

22) *Ibid.*, p. 339.

23) Schwab, "The Concept of the Structure of a Discipline," p. 197.

24) *Ibid.*, p. 205.

and commits him or her to the same fundamental rules, standards for practice and norms of critical evaluation of knowledge.

### III. THE CONCEPTUAL STRUCTURE OF KNOWLEDGE IN NURSING

The general conception of any field of inquiry, either held by an individual or shared by a group, carries direct implications for defining the subject matter of the field in that it ultimately determines the kind of knowledge the field aims to develop as well as the manner in which that knowledge is to be organized, tested, and applied. The purpose of this chapter is to focus on the identification and analysis of the representative concepts and conceptual structures that provide a basic understanding of the discipline of nursing and which direct or control its inquiry.

These concepts and conceptual structures provide the "dimensions, aspects, or attributes of reality"<sup>25)</sup> which engage the interest, attention, and study of any number of that field of inquiry. Concepts provide the "labels, categories, or selected properties of objects to be studied."<sup>26)</sup> They comprise the specialized vocabulary of the discipline which permits description, classification and connections to be made between phenomena in terms of generalizations.

Any discipline may, at any given time, have several sets of substantive structures which are concurrently utilized to explain and describe the particular phenomenon which is the object of inquiry.<sup>27)</sup> But there are some concepts which, more than others, represent the discipline in which it occurs in that "they are aspects within which the image of the complete disciplines or major portions of it is contained. They are epitomes of the subject."<sup>28)</sup> Phenix proposes that representativeness, being a matter of degree, allows for the arrangement of concepts comprising a discipline in a hierarchical order with those few concepts that characterize the discipline (i.e., having the highest order of representative quality) at the top of the hierarchy.<sup>29)</sup> Those concepts in nursing which have, in the judgment of this writer, the highest order of representative quality are identified and analyzed in the following section.

#### Primary Concepts That Characterize the Selected Phenomena of the Discipline of Nursing

##### Man

Man, the human organism, is identified as the phenomenon central to the discipline of nursing. Man is described, almost without exception in the selected literature, in terms of his integrated, dynamic wholeness.<sup>30)</sup> He responds to his constantly changing environment as a bio-psycho-social and/or energy unit.<sup>31)</sup> Man is

25) Margaret E. Hardy, "Theories: Components, Development, Evaluation," *Nursing Research* 23, March-April 1974, p. 100.

26) Ibid.

27) Schwab, "Structure of the Disciplines: Meanings and Significances," p. 28.

28) Phenix, *Realms of Meaning*, New York: McGraw-Hill, 1964, p. 323.

29) Ibid., p. 324.

30) Marjorie L. Byrne and Lida F. Thompson, *Key Concepts for the Study and Practice of Nursing*, St. Louis: C.V. Mosby, 1978, pp. 4~8; Joan P. Riehl and Sister Callista Roy, *Conceptual Models for Nursing Practice*, New York: Appleton-Century-Crofts, 1980, see especially chapters 5~26, pp. 53~338; Martha E. Rogers, *An Introduction to the Theoretical Basis of Nursing*, Philadelphia: F.A. Davis Company, 1971, pp. 45~54.

31) Byrne and Thompson, *Key Concepts*, pp. 8~9; Rogers, *Theoretical Basis of Nursing*, pp. 90~91; Betty M. Neuman and R. Jeanne Young, "A Model for Teaching Total Person Approach to Patient Problems," *Nursing Research* 21, May-June, 1972, pp. 265~269.

frequently conceptualized as a system<sup>32)</sup> functioning in and as a part of other systems. He responds as a whole, rather than a series of integrated parts, and cannot be understood out of context from the environment in which he exists. He is distinguished by certain fundamental capacities such as abstraction and imagery,<sup>33)</sup> language and communication with others, having basic needs<sup>34)</sup> and/or developmental tasks.<sup>35)</sup>

The importance and centrality of Man as the focus of nursing is clearly evident, for example, in Rogers' insistence that "the concern of nursing is with man in his entirety, his wholeness."<sup>36)</sup> A considerable effort is devoted by Rogers to identifying and discussing the fundamental attributes or general characteristics of Man which she summarizes in five basic assumptions.<sup>37)</sup> The life process in Man provides Rogers with a clear, unequivocal conceptual frame of reference from which she derives descriptive, explanatory, and predictive principles specific to or capable of being translated into nursing practice.<sup>38)</sup> Byrne and Thompson, as well as Rogers, stress the unified wholeness of man as an integrated bio-psycho-social

energy unit who functions as a unified whole within the environment in which he exists.<sup>39)</sup> Johnson, Roy, Neuman, and Beland all emphasize the perception of man as an open, self-maintaining, self-regulating system.<sup>40)</sup>

#### Health

The interest and concern of the discipline of nursing in Man is regulated and determined by one specific dimension of his life process, that of *Health*. But beyond the general agreement that health is more than the absence or lack of disease, definitions of health seem to have no absolute or universal criteria.

It is commonly conceptualized as a dynamic, fluctuating phenomenon,<sup>41)</sup> a state of being,<sup>42)</sup> or an expression of the life process.<sup>43)</sup> However, the persisting and as yet unsolved, problems of how to measure health, how to effectively promote and maintain it inhibits the determination of any specific and/or reliable defining criteria, Orem,<sup>44)</sup> Mitchell,<sup>45)</sup> and King<sup>46)</sup> express the general assumption that the attainment and maintenance of health is not an end in itself, but rather a means of achieving or fulfilling an ideal, unspecified human potential. Henderson speaks of the healthy

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- 32) Byrne and Thompson, *Key Concepts*, pp.6~8; Rogers, *Theoretical Basis of Nursing*, pp.49~54; Pamela H. Mitchell, *Concepts Basic to Nursing*, New York: McGraw-Hill, 1973, p.7.
- 33) Rogers, *Theoretical Basis of Nursing*, pp.67~73; Dorothea E. Orem, *Nursing: Concepts of Practice*, New York: McGraw-Hill Book Company, 1971, p.43.
- 34) Irene L. Beland, *Clinical Nursing*, 4th ed., New York: Macmillan, 1981, pp.78~89; Mitchell, *Concepts Basic to Nursing*, pp.52~53, p.142; Henderson, *The Nature of Nursing*, pp.11~17; Byrne and Thompson, *Key Concepts*, pp.10~19.
- 35) Dorothy W. Smith, Carol P. Germain, and Claudia D. Gips, *Care of the Adult Patient*, Philadelphia: Lippincott, 1971.
- 36) Rogers, *Theoretical Basis of Nursing*, p.3.
- 37) *Ibid.*, pp.43~73.
- 38) *Ibid.*, pp.81~88.
- 39) Byrne and Thompson, *Key Concepts*, pp.1~4.
- 40) Riehl and Roy, *Conceptual Models*, pp.119~274; Beland, *Clinical Nursing* pp.61~67.
- 41) Smith, Germain, and Gips, *Care of the Adult Patient*, p.73. Beland, *Clinical Nursing*, pp.42~43; Sister Callista Roy, "Adaptation: A Conceptual Framework for Nursing," *Nursing Outlook* 18, March, 1970, p.42; Bryne and Thompson, *Key Concepts*, pp.33~38.
- 42) Orem, *Nursing: Concepts of Practice*, p.43.
- 43) Rogers, *Theoretical Basis of Nursing*, p.85.
- 44) Orem, *Nursing: Concepts of Practice*, p.43.
- 45) Mitchell, *Concepts Basic to Nursing*, p.6.
- 46) Imogene King, *Toward a Theory for Nursing*, New York: John Wiley and Sons, 1971, p.72.

individual as possessing completeness, wholeness, or independence.<sup>47)</sup>

Health is identified in positive terms which may be associated with movement or location along a continuum.<sup>48)</sup> The characteristics of health are not treated as properties which any given individual either has or lacks. Rather, they have the character of traits which are, at least theoretically, capable of gradation or ordering along a scale and which an individual may exhibit more or less at any given time.

The conceptualization of health as a phenomenon capable of gradation along a continuum contrasts sharply with the more traditional view which carries with it the connotation of all or none categories of either life or death, illness or wellness. This change from a strictly classificatory either/or concept to a comparative one which allows for more or less represents a change in the logical character of the concept as well as those concepts systematically related to it.<sup>49)</sup>

Although the complete absence of health may be identified with death, the optimal state or degree of health is not defined nor identified but is frequently associated with man's ability or capacity to capably respond to, cope with, or adapt to his constantly changing environment.<sup>50)</sup> Health and illness may then be viewed as relative states or fluctuating levels of wellness rather than discrete entities and may be expressed in terms of man's relationship with

his environment, both internal and external, and which varies according to current and accumulated factors at any given point in time.

#### Patient-Client

The various defining criteria which serve to place an individual in the category of recipient of nursing care are determined by the meaning of the concept *Patient-Client*. This concept, as identified in the selected literature, seems to lack any clear, unequivocal criteria of application that can be summarized in terms which would indicate a general uniformity of usage to the authors. Several of the authors individually exhibit a systematic consistency in their conceptualization of the patient-client in relation to their conceptualization of Man, Health and Nursing<sup>51)</sup>. However the identifiable criteria employed to distinguish the category of Patient-Client reveals a wide variation among the selected authors, ranging from any individual under the care of any health professional,<sup>52)</sup> to a complete lack of any specific criterion in that "nursing's conceptual model has equal relevance whether an individual is deemed to be sick or well."<sup>53)</sup>

Most of those who conceptualize health as being an expression of an ecological balance between man and his environment have, to a greater or lesser degree, systematically incorporated this perspective into the concept of patient-client, in that an individual becomes a recipient of nursing care when he is unable to

47) Henderson, *The Nature of Nursing*, p.16.

48) Byrne and Thompson, *Key Concepts*, pp.58~59; Roy, "Adaptation: A Conceptual Framework for Nursing," p.42; Mitchell, *Concepts Basic to Nursing*, pp.6~11.

49) Carl G. Hempel, *Aspects of Scientific Explanation*, New York: Free Press, 1965, pp.151~152.

50) Ernestine Wiedenbach, *Clinical Nursing: A Helping Art*, New York: Springer Publishing Co., 1964, pp.3~7; Neuman and Young, "A Model for Teaching Total Person Approach to Patient Problems," p.265; Orem, *Nursing: Concepts of Practice*, pp.42~44.

51) Byrne and Thompson, *Key Concepts: Orem, Nursing: Concepts of Practice: Wiedenbach, Clinical Nursing: and Betty Jo Hadley, "Evolution of a conception of Nursing," Nursing Research* 18, Sept-Oct, 1969: 400~404 are clear examples of this systematic relationship holding among the four concepts.

52) Wiedenbach, *Clinical Nursing*, p.3.

53) Rogers, *The Theoretical Basis of Nursing*, p.127

positively adapt or capably respond to the demands made by his changing environment or to meet his basic needs without assistance. The concept of Patient-Client, then, may be expressed in terms, of Man's relationship with his environment as it determines or alters his health status or level of wellness. A significant basic assumption underlying this concept for Johnson,<sup>54)</sup> and Byrne and Thompson<sup>55)</sup> is that within certain limitations, such as legal, social or cultural norms, the individual has the personal freedom to determine whether or not he will utilize nursing, or any other health care service and the right to be the final judge as to what level of wellness he will accept as functionally adequate.

#### Nursing

Nursing is conceptualized as a deliberate, goal-directed, action oriented process which cannot be defined apart from the recipient of nursing care. The focus or point of concentration of the field of nursing is Man who, by virtue of his location along the health-illness continuum, is categorized as a patient-client according to several inconstant defining criteria. The purpose of nursing is variously described as assisting, helping, providing, supporting, promoting, enabling and facilitating the patient

-client in such a way that health is maintained, illness prevented or recovery facilitated.

This specialized assistance, support, help or care is provided through the action or intervention taken by the nurse which is directed toward deliberately controlling, designing, influencing, regulating, modifying or in some way manipulating either the environment or the patient-client/environment relationship.<sup>56)</sup> This action or intervention is intended to achieve the goal of preventing, reducing or modifying stress-tension,<sup>57)</sup> the promotion of adaptation<sup>58)</sup> or the ability to cope with environmental demands,<sup>59)</sup> compensating for or aiding to overcome disability,<sup>60)</sup> or the maintenance and /or reestablishment of a system balance.<sup>61)</sup>

The actual provision of nursing care involves a problem-solving process referred to as the nursing process. This is a systematic process involving assessment of the patient-client's health or health related problems, planning and implementing nursing care and evaluating the effectiveness of the action taken.<sup>62)</sup>

At this point it becomes painfully clear that any precise general definition of nursing having universal application or acceptance is difficult if not impossible. The historical struggle and debate involved in attempts to define nur-

54) Judy Grubbs, "An Interpretation of the Johnson Behavioral System Model for Nursing Practice," in *Conceptual Models for Nursing Practice*, by Joan P. Riehl and Sister Callista Roy, New York: Appleton-Century-Crofts, 1980, pp. 217~254.

55) Byrne and Thompson, *Key Concepts*, pp. x-xi

56) The manipulation or regulation of the patient-client and/or environment is a basic assumption, either implied or explicitly stated, in all of the nursing literature reviewed by this writer. For example, see Hadley, "Evolution of a Conception of Nursing," p. 403; and Grubbs, "An Interpretation of the Johnson Behavioral System Model for Nursing Practice," p. 174.

57) Hadley, "Evolution of a Conception of Nursing," p. 403; Smith, Germain and Gips, *Care of the Adult Patient*, p. 76.

58) Sister Callista Roy, "The Roy Adaptation Model," in *Conceptual Models for Nursing Practice*, by Joan P. Riehl and Sister Callista Roy, New York: Appleton-Century-Crofts 1980, p. 179; Beland, *Clinical Nursing*, p. 71.

59) Widenbach, *Clinical Nursing*, pp. 5~6; King, *Toward a Theory for Nursing*, p. 89.

60) Orem, *Nursing: Concepts of Practice*, p. 47; Mitchell, *Concepts Basic to Nursing*, p. 28.

61) Grubbs, "An Interpretation of the Johnson Behavioral System Model," p. 166.

62) Helen Yura and Mary B. Walsh, *The Nursing Process*, 3rd. ed., New York: Appleton-Century-Crofts, 1978, p. 20



sing and the unique nature of nursing practice has led Lewis to comment that "Florence Nightingale was probably the first and last nurse to be clear in her own mind about 'what nursing is and what it is not.'"<sup>63)</sup> This apparent confusion and lack of agreement as to the defining boundaries of nursing as a field of inquiry and what knowledge is essential for the practice of nursing is one of the most difficult and persistent problems facing those involved in teaching, practice and research. Some authors are of the opinion that a concept of nursing is unnecessary for the discovery and development of knowledge in the field,<sup>64)</sup> while others maintain that identification of the uniqueness of nursing, in relation to other health care disciplines, is a necessary and preliminary requirement for the development of a conceptual-theoretical structure.<sup>65)</sup>

While it may be assumed that the ultimate goal of the health and well-being of individuals is shared by all members of the health sciences "it is in the definition of the situation that one profession is distinguished from another."<sup>66)</sup> The nature of the knowledge required for nursing is closely related to and largely determined by the purposes and goals of nursing practice and kinds of problems the discipline seeks to answer. It is these two factors which seem to most clearly distinguish the discipline from all others engaged in providing health care in that they are what defines the situation and provides a "vital and unduplicated contri-

bution to the welfare of the recipient of health care."<sup>67)</sup>

Johnson conceives the nature of knowledge required for nursing as consisting of three general types. She classifies this knowledge into the following categories: (1) knowledge of order which "describes and explains the 'normal' state of man and the 'natural' scheme of things";<sup>68)</sup> (2) knowledge of disorder "which helps us to understand those events which pose a threat to the well-being or survival of the individual or society, or which are deemed undesirable for some other reason";<sup>69)</sup> and (3) knowledge of control "which allows us to prescribe a course of action which, when executed, changes the sequence of events in desired ways and toward specified outcomes."<sup>70)</sup> The category of knowledge of control has been identified by others as situation-producing theories or prescriptive theories.<sup>71)</sup> On the basis of both traditional and logical grounds Johnson concludes that the problems unique to the discipline of nursing are those concerned with the etiologies, properties, cause, prognosis and control of behavioral system disorders.<sup>72)</sup>

#### Behavior

The problems which confront nurses have seemingly been of many different and various kinds. But the preponderant tendency in the current literature is to describe, classify and diagnose the nature of problems presented by patients in terms of behavior and behavioral responses.<sup>73)</sup>

63) Edith P. Lewis, "The Stuff of Which Nursing Is Made," *Nursing Outlook* 23, February, 1975, p. 89.

64) Madeleine M. Leininger, "Conference on the Nature of Science in Nursing: Introduction," *Nursing Research* 18, Sep-Oct., 1969, pp. 388~389.

65) Hadley, "Evolution of a Conception of Nursing," pp. 400~404.

66) Reva Rubin, "A Theory of Clinical Nursing," *Nursing Research*, 17, May-June, 1968, p. 210.

67) Byrne and Thompson, *Key Concepts*, p. 141.

68) Dorothy E. Johnson, "Theory in Nursing: Borrowed and Unique," *Nursing Research*, 17, May-June, 1968, p. 207.

69) Ibid.

70) Ibid.

71) Dickoff, James and Wiedenbach, "Theory in a Practice Discipline: Part I," pp. 421~423.

72) Johnson, "Theory in Nursing," p. 209.

Behavior is a fundamental concept for the majority of nursing theorists engaged in developing the various conceptual models. But the concepts of behavior, man, health, patient-client and nursing, although identifiable as primary concepts in that they are constant and unvarying elements in all nursing literature, are sufficiently vague as to be almost useless they are understood in the context of the several conceptual structures which provide a guide or pattern for determining the significant events and relationships holding within the reality setting.

#### IV. THE SYNTACTICAL STRUCTURE OF KNOWLEDGE IN NURSING

The preceding chapter was focused on the identification and analysis of those primary concepts and conceptual structures that, in the judgment of this writer, provide a basic understanding of the field of nursing. However, these conceptual structures that serve to define the subject matter of the discipline and function as a guide to inquiry are only one component of the concept of the structure of knowledge. This chapter is concerned with the second component of structure, the syntax of the discipline, that is, the methods of inquiry and investigation characteristic of the field of nursing. To gain a more complete understanding of the structure of knowledge, this chapter examines the literature dealing with the methods of inquiry characteristic of nursing. The examples selected from the literature for sys-

tematic consideration and analysis are those the writer feels will best illustrate the primary methods of inquiry, and what methods are used to validate/test claims to knowledge.

##### The Accumulation Method

"Historically the method of acquiring knowledge for nursing practice," Murphy says, "might best be described as one based on an accumulation of unrationalized experience and derived from intuitively projected goals."<sup>74</sup> This "accumulation" method represents one of the earliest approaches to the acquisition of knowledge which was primarily tacit and transmitted through an apprenticeship-like education.

Nursing knowledge was organized by classification according to medical specialty areas in which each of the body systems became the focus for a nursing course. Each of these courses emphasized the diseases or injuries specific to a physiological or organ system and the corresponding nursing "procedures." Stevens labels this approach as the logistic method which she characterizes as a "systems building, brick-upon-brick construction" of a body of knowledge which is "amassed like the process of addition."<sup>75</sup>

This disease-centered, body systems approach to the accumulation of knowledge dominated the field of nursing and was seldom questioned or challenged in the professional literature until the 1950's. With the growth of medical science the expanding units of disease entities, with their corresponding etiology, pathology, clinical manifestations and medical therapy regimens together with the accompanying nursing procedures, became overwhelming in number and the accumulation method began to

73) Sister Callista Roy, "A Diagnostic Classification System for Nursing," *Nursing Outlook*, 23, Feb., 1975, pp. 90~91; Mary O'Neal Mudinger and Grace Dotterer Jauron, "Developing a Nursing Diagnosis," *Nursing Outlook*, 23, Feb., 1975, pp. 96~97; Kristine Gebbie and Mary Ann Lavin, "Classifying Nursing Diagnosis," *American Journal of Nursing*, Feb., 1974, p. 250; R. Faye McCain, "Nursing by Assessment—Not Intuition," *American Journal of Nursing*, April, 1965, p. 82.

74) Murphy, *Theoretical Issues in Professional Nursing*, p. 3.

75) Stevens, "Analysis of Structural Forms Used in Nursing Curricula," p. 389.

show symptoms of overload.

The search for alternate approaches, such as limiting the entities covered to the more common illness or integrating courses, resulted in a thinning-out of the content or the offering of fewer courses with an expanded content but represented nothing more than another way of presenting the same body systems approach rather than a change in the basic methodology of acquiring knowledge. Even the admission of nursing into the university failed initially to alter or escape this fundamental methodological approach. Most nursing curricula were still organized by medical specialty areas<sup>76)</sup> and hopefully the student attained the necessary knowledge for nursing practice by compiling fact after fact until she was able to form an understanding of the whole:  $A+B=C$ .

Other attempts were directed toward overcoming the perceived inadequacies in this methodological approach that limited man to a collection of physiological systems by adding social, behavioral and communication aspects. But this approach, creaking at the joints and bursting at the seams, was "too far out of step with the times to be renovated,"<sup>77)</sup> either by subtraction or addition.

The first real departure from this method of developing a body of knowledge through accumulation of unrationalized experience, according to Stevens, was the attempt to develop and organize knowledge needed for practice not as a calculus of diseases with their respective nursing care but from a new perspective, that of a concept of man from birth, through growth to maturity, old age and death, in relation to health.<sup>78)</sup> Rather than the accumulation of discrete facts about one entity after

another which were then used to construct a systematic whole, the learner, from the perspective of man from birth to death, acquires more and more knowledge about the same entity, man.

Stevens remarks that "the chief contribution of this method of acquiring knowledge to nursing was the expansion of concepts of both health and nursing" which had as a "chief advantage the redefinition of the patient."<sup>79)</sup>

It is suggested that what most significantly differentiates these two frames of reference is: (1) their incommensurable ways of seeing the world and the practice of nursing in it; (2) the new scheme for describing man in relation to the concepts of health and illness and for representing the process of nursing proved more successful than the prevailing traditional view of solving some of the problems that both educators and practitioners had come to recognize as acute; and (3) the new point of view created a need for new explanations, gave rise to new problems which in turn led to the search for new answers and new methods of conducting inquiry because the new problems could not be explained nor answered within the old framework nor the old accumulation method of acquiring knowledge.

The traditional point of view saw man as a helpless victim of his environment and the nurse as a functional agent directed by the physician in providing the environment most conducive to the medical therapeutic regime. The new frames of reference lead to the interpretation of the patient as a person with a health problem rather than merely as a repository for a disease. Health and illness are "explained" as two parts of a single entity and the nurse

76) Margaret A. Newman, "Nursing's Theoretical Evolution," *Nursing Outlook*, 20, July, 1972, p. 449.

77) Ina M. Longway, "Curriculum Concepts—An Historical Analysis," *Nursing Outlook* 20, February, 1972 p. 119.

78) Stevens, "Analysis of Structural Forms Used in Nursing Curricula," p. 391.

79) *Ibid.*, p. 392.

is identified as an independent agent responsible for identifying and solving the problems of the patient which emerge relative to his particular location along the health continuum.

#### Nursing Process; The Primary Method of Inquiry

Abdellah's *Patient-Centered Approaches to Nursing*<sup>80)</sup> represents one of the first and perhaps the most well-known attempts to apply a systematic method of investigative problem-solving to the activities of nurses. This systematic method of inquiry known as the nursing process is identified as the primary method of inquiry in the field of nursing. It is a fundamental method in that it is applicable in any setting and to any of the various conceptual structures. The nursing process is conceived of as primarily a problem-solving process and described by Yura and Walsh as

an orderly, systematic manner of determining the client's problems, making plans to solve them, initiating the plan or assigning others to implement it, and evaluating the extent to which the plan was effective in resolving the problems identified.<sup>81)</sup>

The nursing process as a method of inquiry involves a complex and diverse combination of methodological activities performed by the nurse, creative and intellectual as well as technical, which can be classified in broad general areas such as assessment, diagnosis, planning, implementation or intervention and evaluation which in turn are based on prior or simultaneous methods such as observation and interviewing. Bloch remarks that the process, with-

out the referent nursing, can be considered synonymous with the helping process which is applicable to all professions.<sup>82)</sup>

To facilitate discussion and analysis of the nursing process as a primary method of inquiry it is divided into the following five subsidiary methods: assessment, diagnosis, designing the intervention, implementation of the intervention, and evaluation. Those corollary methods associated with each of the five major component phases are identified.

#### Analysis of the Components of the Nursing Process

##### Assessment

The term assessment as used in the current nursing literature may refer to both fact-gathering, i.e., data collection, and interpretation of the data or it may be restricted to data collection only without an interpretive component. Bloch suggests that assessment be defined to include the two separate processes:

(1) data collection (the gathering of more or less objective facts without an interpretive component), and (2) problem definition (or the making of the diagnosis), where judgment is brought to bear on the data by critical analysis and interpretation.<sup>83)</sup>

Yura and Walsh identify assessment as the first phase of the nursing process, the purpose of which is "to identify and obtain data about the client that will enable the nurse and/or the client or his family to designate problems relating to wellness and health."<sup>84)</sup> The assessment phase is concluded when a diagnosis is made.<sup>85)</sup>

80) Faye G. Abdellah, Almeda Martin, Irene L. Beland and Ruth V. Matheney, *Patient-Centered Approaches to Nursing*, New York: MacMillan, 1960.

81) Yura and Walsh, *The Nursing Process*, p. 20.

82) Doris Bloch, "Some Crucial Terms in Nursing: What Do They Really Mean?" *Nursing Outlook* 22, November, 1974, p. 689.

83) Bloch, "Some Crucial Terms in Nursing," p. 692.

84) Yura and Walsh, *The Nursing Process*, p. 95.

85) Ibid.

### Diagnosis

Diagnosis is a complex cognitive process which Gebbie and Lavin<sup>85)</sup> see as

the logical end product of nursing assessment... It is the identification of those patient problems or concerns most frequently identified by nurses... which are amenable to some intervention which is available in the present or potential scope of nursing practice.

Abdellah defines diagnosis as "a determination of the nature and extent of nursing problems presented by individual patients or families receiving nursing care."<sup>87)</sup>

Mitchell uses the term diagnosis to denote a process involving a sequence of operations which provides the data which the nurse analyzes to identify areas of deviant function. This analysis includes a comparison of the data in terms of some predetermined normative standards which may vary depending upon the conceptual frame of reference of the nurse or the standards or norms of the patient-client.<sup>88)</sup> Bloch employs the term problem definition rather than diagnosis which she describes as "the making of the decision regarding the deficit or potential deficit in the health status of individuals, families, or communities that are believed to be in need of correction."<sup>89)</sup>

Diagnosis, then, is a summary statement, a decision, judgment or inference made by the nurse, on the basis of her analysis of the data collected through the process of assessment, as to the nature or description of the patient-client's health problems.

### Designing the Nursing Intervention

Once the diagnosis has been made the deter-

mination of which of the identified problems fall within the province of nursing must be made. Those problems beyond the scope of nursing are referred to the appropriate health worker or it may be decided that the problem can be resolved by the client and/or members of the family without assistance.

For those patient-clients whose diagnosed health-related problems are judged to be amenable to nursing intervention the nurse must design the therapeutic nursing care intended to resolve, eliminate, or ameliorate the problem. This may involve the ordering or assigning priorities if there are several presenting problems.

Orem designates the goal of this phase of the nursing process as designing and planning for nursing assistance.<sup>90)</sup> The designing of "an effective and efficient system of nursing is essentially a process of selecting valid ways of assisting a patient once his self-care requirements and limitations are identified and described."<sup>91)</sup>

There seems to be a general accord among the selected authors that the methods involved in the designing or planning of nursing care interventions consist of the making of a decision or judgment as to what goals are to be obtained and what actions or activities are to be considered most appropriate as possible solutions for each problem diagnosed. These judgments include, then: (1) the designation of goals and objectives, that is, the prediction of expected consequences or results to be achieved by the action taken by the nurse or those delegated to act for her; (2) the selection of specific activities most likely to be successful

85) Gebbie and Lavin, "Classifying Nursing Diagnosis," p. 250.

87) Faye Gi. Abdellah, "The Nature of Nursing Science," *Nursing Research* 18, Sep-Oct, 1969, p. 391.

88) Mitchell, *Concepts Basic to Nursing*, pp. 74~75.

89) Bloch, "Some Crucial Terms in Nursing," p. 693.

90) Orem, *Nursing: Concepts of Practice*, p. 164.

91) *Ibid.*, p. 165.

in resolving or minimizing the problem; and (3) the designation of criteria by which the effectiveness of the action taken may be measured or evaluated.<sup>92)</sup>

#### Implementation of Prescribed Interventions

This stage of the nursing process in the one which is so commonly thought of as the "doing" of nursing. It is the putting into action those activities prescribed to resolve or relieve the health related problems of the nurses' patient-client. It is the performance of the means designated to achieve the end. It is the mini-stration of help needed which involves the use of one or all of the "whole gamut of skills, techniques, procedures, and devices... on which the nurse relies, day in, day out."<sup>93)</sup>

Orem describes this step of the nursing process as methods of assisting which meet the patient's requirements for nursing.<sup>94)</sup>

Johnson describes four modes of intervention, that is, four general methodological approaches that may be employed to achieve a goal of behavioral change. The specific actions, activities, or techniques of intervention themselves which would be required by or appropriate to the methods of assisting described by Orem or the modes of intervention designated by Johnson are familiar to all nurses, such as those listed by Yura and Walsh: Inserting, withdrawing, turning, cleaning, rubbing or massaging, flexing, touching, warming, administering, and talking to mention a few.<sup>95)</sup>

In the Roy adaptation model nursing inter-

ventions are devised by selecting the influencing factors, which are categorized as focal, contextual, and residual stimuli, that can be manipulated by the nurse either for purposes of reinforcement or modification of patient behavior in any or all of Man's four modes of adaptation. Roy specifies the nurses' interaction with the patient as the primary method for manipulating the system or the environmental factors.<sup>96)</sup>

Wiedenbach identifies three types of nursing interventions which she classifies as rational, reactionary, and deliberate on the basis of the kind of information analysis that precedes the overt action. Inadequate information analysis results in rational or reactionary action.<sup>97)</sup>

The implementation phase of the nursing process, then, is the sum of all actions taken by the nurse, or those activities delegated to others by her, for the purpose of resolving the patient's diagnosed problems. The actions are guided and/or limited by the plan of care which has been designed as the most probable or feasible methods of producing the desired change in the patient's condition. These general methods of intervention may be broadly summarized as: acting for another, guiding, supporting or strengthening, teaching, redirecting or reeducation, providing or maintaining, restricting or reducing, defending, facilitating, and inhibiting. These methods and the more specific activities, actions, or techniques associated with them may be inferred as those pri-

92) Mitchell, *Concepts Basic to Nursing*, pp.107~118; Yura and Walsh, *The Nursing Process*, pp.115~129; Orem, *Nursing: Concepts of Practice*, pp.164~171; Bloch, "Some Crucial Terms in Nursing," pp.693~694; Frederick J. McDonald and Mary T. Harms, "A Theoretical Model for an Experimental Curriculum," *Nursing Outlook* 66, August, 1966, pp.48~51; and Donna Zimmerman and Carol Gohrke, "The Goal-Directed Nursing Approach: It Does Work," *American Journal of Nursing* 70, Feb., 1970, pp.306~310.

93) Wiedenbach, "Nurses' Wisdom in Nursing Theory," p.1062.

94) Orem, *Nursing: Concepts of Practice*, p.171.

95) Yura and Walsh, *The Nursing Process*, p.137.

96) Riehl and Roy, *Conceptual Models for Nursing Practice*, pp.179~188.

97) Wiedenbach, *Clinical Nursing*, p.42.

marily employed to manipulate and/or modify selected environmental factors or patient behavior, or both, in a manner which will contribute to or promote a higher level of wellness.

#### Evaluation of the Therapeutic Intervention

In the preceding phases of the nursing process the methods which were identified were those concerned with making an inference or diagnosis based on assessment, those methods which permit prediction, goal-determination and guide the selection and application of specific actions or activities to achieve the desired results—to solve the problems. The evaluation phase, the fifth and final component of this process, concerns those methods which permit appraisal or validation of the accuracy of the predictions made and the effectiveness of the action taken.<sup>98)</sup>

This method of evaluation requires that goals and/or objectives that are the predicted or expected outcomes be<sup>99)</sup> expressed in behavioral terms. To summarize, the evaluation is in terms of the goal achievement, both long-term and short-term, as measured by specified criteria expressed in behavioral terms that are based upon predicted behavioral change expected if the prescribed therapeutic interventions are successful.

This methodological procedure for assessing the validity of treatment or intervention, then, requires the expected or predicted outcomes be specified before the therapeutic action is initiated. This prediction of expected results is, in effect, a test of the knowledge which allows the prediction. Knowledge, which may be derived from past experience or theoretical assumptions, or both, is the basis for asserting or predicting that certain changes will be accom-

panied by, or will result in, other changes. But the range of valid application of knowledge is dependent on such factors as the precision of explanatory statements and methods for controlling or accounting for the multiple variables involved in any given situation. This in turn makes possible more adequate and critical testing through specification of more precise criteria of confirmation or refutation. There, of course, remains the problem of how to develop criteria which permits validation of predictions from generalized knowledge about phenomena applied to a particular, presumably unique, individual patient in a specific situation with a particular nurse.

#### Summary

The nursing process as a method of inquiry has remained, despite frequent technological innovations and an evolving complexity and plurality of conceptual structures the most stable and enduring feature of the field of the field of nursing over the past decade. Analysis of its several parts reflects a cyclic, vital movement between and among its components. The competent use of this process requires intellectual, interpersonal and technical skills, creatively combined and knowledgably directed.

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98) Riehl and Roy, *Conceptual Models for Nursing Practice*, pp. 243~247, 299~301, 82; Wiedenbach, *Clinical Nursing*, pp. 32~33, 57~58; Yura and Walsh, *The Nursing Process*, pp. 140~141; Mitchell, *Concepts Basic to Nursing*, pp. 119~121; Byrne and Thompson, *Key Concepts*, pp. 93~102.

99) Ibid.

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## 간호학의 기본 지식 구조

이 광 자

이화여자대학교 간호대학

오늘날은 과학문명의 발달로 인하여 기존지식의 수명이 점차 짧아져 가고있는 것이 특징이다. 지식의 증가는 단순히 지식의 양을 증가시키는 역할뿐 아니라 많은 기존지식을 불충분하고 쓸모없는 것으로 바꿔버리게 한다. 그러므로 학교에서는 학생들에게 어떤 특정지식의 축적보다는 그 학문에 내재해 있는 기본적인 지식의 구조를 학습하게 하여 여러가지 개념을 관련시키는 논리적 방법을 학습하게 하고 합리적인 탐구방법을 구사할 수 있도록 하여 변화하는 미지의 세계에 대처해 나갈 수 있도록하는 것이 중요하다.

본 연구는 간호학의 기본 지식구조를 확인하는데 그 목적이 있다. 본 연구를 하게 된 동기는 간호업무의 근거로 활용될 지식체계는 교육과정의 조직원리로 작용될 유형이나 구조를 지니고 있으며 이런 유형이나 구조를 중심으로 간호교육과정을 구성하는 것이 간호교육에 필수적이라는 문제에서 비롯되었다.

연구방법은 1982년 9월부터 1983년 5월에 걸쳐 간호학 문헌을 체계적으로 분석하여 간호학의 개념적 지식구조와 구문적 지식구조를 확인하였다.

그 결과 얻어진 결론은 다음과 같다.

1. 간호학의 개념적 구조: 모든 학문에는 탐구의 대상인 특수현상을 설명하고 서술하는데 활용되는 일련의 실질적, 개념적 구조를 가지고 있다. 그러나 그 학문의 중요한 부분 또는 중심을 포함하고 있는 개념은 여러 개념들 가운데 몇개에 불과하다. 그 개념들이 그 분야 또는 학문의 개략이라고 할 수 있는데 연구결과 간호학에서 가장 높은 순위의 대표적 특질을 지닌 개념은 인간, 건강, 환자/대상자, 간호, 행동으로 분석되었다.

2. 간호학의 구문적 지식구조: 지식구조의 두 번째 요소인 학문의 구문(syntax)은 간호학에서의 특징적인 탐구방법과 관련되나 개념적 구조와 마찬가지로 탐구방법은 학문에 따라 다르며 그 분야의 주요양상을 나타낸다. 연구결과 간호학에서의 특징적인 탐구방법은 공통적으로 간호과정(nursing process)임이 나타났으며 그 요인으로는 사정, 진단, 계획, 수행, 평가의 다섯단계로 분석되었다.