Professional practice is based on knowledge of order, disorder, and change. The meaning of these concepts in medicine and in occupational therapy is compared to clarify the differences in orientation between the two disciplines. The negative influence of the biomedical model on occupational therapy theory and practice is illustrated. The development of a taxonomy of levels of performance in occupation to serve as a basis for referral to occupational therapy and for theory building is suggested.

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Professional practice is based on three types of knowledge, namely, knowledge of order, disorder, and control (1). Knowledge of order, which encompasses the underlying lawful regularities of phenomena, provides an image of the normal state of Man and of the natural scheme of the environment. Since practitioners seek to establish, maintain, or enhance order, they must know what order is.

The second type of knowledge required by practitioners is knowledge of disorder. Disorder is judged in relation to order. Thus, it depends on a particular concept of order. Disorder has a quality of confusion or inexplicableness in relation to order. Knowledge of disorder includes phenomena that threaten or disrupt the order of individuals or of their surroundings. Knowledge of disorder is needed by the profession so that disorder and its precursors may be recognized.

The third knowledge area needed by the practitioner is knowledge of control or change. This stems from knowledge of order and disorder. It allows one to prescribe a course of action intended to result in specified outcomes. Knowledge of control is needed to convert disorder into order and to prevent disorder.

Professions differ in the meaning their members attach to order, disorder, and change. The purpose of this paper is to examine the meanings of these concepts as they are used in medicine and occupational therapy. The reference point selected for medicine was the biomedical model since it is medicine's prevailing paradigm (2). In the absence of a predominant paradigm in occupational therapy, the model of occupation as formulated by Meyer (3) was selected as the reference point since this model reflects the philosophical heritage of occupational therapy. The aim of comparing the models of biomedicine and occupation is not to debate the usefulness of biomedical constructs for medicine. Rather, it is to elucidate the inadequacy of biomedical constructs as building blocks for theory in occupational therapy.

Knowledge of Order and Change

Order and Change in Medicine

The biomedical concept of order is health. In Western medicine, health is defined as the absence of disease (4, 5). Disease, as will be subsequently pointed out, is conceptualized in biomedical terms. Thus, health refers primarily to the absence of biological signs, symptoms, and dysfunctions.

Health has a passive connotation. It implies a state of well-being that can be sustained with little effort by the individual (6). Health-promoting actions generally involve avoiding disease rather than enhancing health. Thus, health refers to minimal health. Health may be restored by neutralizing or removing disease by the medical modalities of drugs and surgery. Treatment is disease-oriented and cure-motivated (7).

Occupational Performance

A juxtaposition of the concept of order in medicine and in occupational therapy highlights several critical differences. Whereas health is perceived as the absence of a phenomenon labeled disease, occupational performance is defined as the presence of a phenomenon called competence. Health implies passivity, whereas occupational performance requires activity. Although biomedicine generally postulates dualism, or a separation of mind and body, occupational therapy maintains a mind-body unity. The minimal standard used to evaluate order in medicine is replaced by an optimal standard in occupational therapy. In contrast to health, which is restored by drugs or surgery, occupational performance is restored by learning. Although medical therapies emphasize cure first, and control second, occupational therapy measures are principally palliative. Furthermore, the medical modalities of drugs and surgery are designed primarily to restore health, rather than to promote optimal health. In contrast, occupational
therapy seeks to promote maximum competence in occupational performance through skill acquisition. An historical perspective of health sheds further light on the contrasts between health and occupational performance. The notion of health as the absence of disease can be traced to the ancient Greeks (10). Galen, in the second century A.D., saw health as resulting from a balance of the naturals and nonnaturals. The naturals were the structural and functional elements of the body. The nonnaturals included elements involving human choice such as food and drink, exercise, and emotional expression. Diseases, or the praeternaturals, resulted from an imbalance between the naturals and the nonnaturals or among the nonnaturals. The physician functioned to provide counsel both to remove disease and to promote health. Thus, the subject of medicine was the naturals, the nonnaturals, and the praeternaturals.

By the 19th century, however, Western medicine became the study of disease—the praeternaturals—in terms of bodily structures and functions (the naturals). Thus, the elements of a balanced lifestyle and of human choice (the nonnaturals), which are essential to occupational performance, were de-emphasized.

Knowledge of Disorder

**Disorder in Medicine.** In medicine, disorder is labeled disease. In the contemporary biomedical perspective, disease signifies an abstract biological entity that involves abnormalities in function or structure. These abnormalities are defined in biochemical, anatomical, and physiological terms. Disease characteristics are attributed to tissues, organs, and organ systems. Although disease is not a perceptual reality, it tends to be treated as a "thing" that can be removed or destroyed (11-13).

An organismic theory is used to explain disease. Disease occurs as a result of exposure to a pathogen, which resides in the environment before its interaction with a healthy person. There is a preference for explaining disease in terms of unitary causes, since this leads to a simple cause and effect relationship. Disease is recognized by objective laboratory procedures such as urinalysis. The underlying anatomical and physiological pathology may also be manifested in clinical symptoms (13, 14).

The notion that disease is a discrete entity separate from the patient has appeal both for the patient and the physician. The patient becomes a helpless victim attacked by a noxious agent. Thus, he or she is relieved of responsibility for his or her condition. Detaching the disease from the patient allows physicians to focus their intervention on the abnormality. The organ that is diseased can readily take priority over the person who is ill (2, 13, 15). This reductionism accounts for the problematic use of the disease concept in psychiatry (2, 5, 12, 16).

The biomedical concept of disease is summarized in the medical diagnosis. Disease labels reflect the biological character of disease. Diseases are identified symptomatically, physiologically, anatomically, and etiologically. The medical diagnosis is more than a convenient label. It links medical theory and medical practice (15, 17). The basis used to name a disease essentially determines the nature of the cure (4, 13). Thus, the medical diagnosis embodies those characteristics significant for treatment by medical modalities. In other words, disease is created by the medical establishment in such a way that it can be controlled by the physician (18). Nomenclature and taxonomy aid conceptualization regarding etiology, therapy, prognosis, and prevention.

The usefulness of a theory in any practice discipline depends on a substantial degree on the effectiveness of its remedial measures. The biomedical paradigm of disease, along with improvements in the standard of living, education, nutrition, and sanitation, was extremely successful in controlling infectious diseases. This past success may account for the current reluctance to seek alternatives that may be more amenable to controlling contemporary diseases. Challenges to the medical model stem from the low control achieved over chronic conditions such as arthritis, stroke, and cancer. Such conditions are multifactorial and linked with lifestyle and environmental choices (13). The inclusion of social-psychological and ecological factors in medical theory would require a revision of medical diagnostic concepts and of their classification scheme (19).

**Disorder in Occupational Therapy.** Disorder in occupational therapy is defined as dysfunction in occupational performance. It implies a lack of integration of the client's biopsychosocial systems that results in performance below capability. The causes of disruption in occupational performance include disease, injury, cultural deprivation, genetic abnormalities, the aging process, inappropriate socialization, and the absence of a sense of purpose in life. Occupational performance dysfunctions result in an inability to effectively accomplish daily tasks and to enact occupational roles. They require a multivariate explanation based on motor, sensory, cognitive, psychological, and social functioning, and self-...
care, work, and leisure skills (8, 9). They are characterized by inactivity, unproductivity, and diminished competence, and they are assessed by a combination of objective and subjective measures.

Disease versus Occupational Performance Dysfunctions. The concept of disorder in medicine and in occupational therapy may be contrasted by looking at the nature and the cause of disorder. Medicine largely confines disease to the biological level; however, in occupational therapy, dysfunctions in occupational performance are placed at the level of the person. Dysfunctions at the biological level are only significant to the extent to which they impair social role functioning. Hence, occupational therapy’s view of disorder is more holistic than that of biomedicine.

Causality in occupational therapy is also more complex than it is in medicine. While the disease model favors unitary, external causes, the occupational performance model recognizes multiple and multidimensional causes that may be intrinsic or extrinsic to the client. Although occupational performance is conditioned by a supportive social network, a barrier-free architectural environment, and the integrity and integration of the biopsychosocial systems, it is governed by the client’s values.

The Paramedical Relationship
Concepts of order, disorder, and control are core concepts for theory development and have utility for practice. A comparison of these concepts as they are used in medicine and occupational therapy has delineated substantive differences. The health care system, of which occupational therapy is a part, is dominated by medicine; hence, the occupational therapy process is heavily influenced by the biomedical model (9). This section analyzes several negative implications of occupational therapy’s paramedical status and outlines actions required to stimulate theory and practice.

Eligibility for Occupational Therapy Services. Distinctions between order and disorder are of more than theoretical interest. They have practical consequences in providing the basis for determining eligibility for services. The parameters of order and disorder identify what is and what is not an object of concern.

Presently, the medical concept of disorder is the primary criterion used to determine eligibility for occupational therapy services. Disease, rather than occupational performance dysfunction, is the principal determinant of referral. This holds in medical as well as in nonmedical settings. In medical settings, the physician certifies the presence of disease and refers patients for occupational therapy. In nonmedical settings, the medical diagnosis is used to screen clients. For instance, in the school system, all too often occupational therapists locate clients with cerebral palsy, and then assess dysfunctions in occupational performance. They do not seek clients on the basis of occupational performance dysfunctions alone. Thus, a medical diagnosis becomes a prerequisite for occupational therapy services. Clients do not enter the occupational therapy system directly, but rather through the medical system.

By relying on the medical diagnosis as an indicator of problems in occupational performance, occupational therapists are limiting the scope of their practice. The relationship between order and disorder in medicine and occupational therapy is diagrammed in Figure 1. Cell 1 represents those persons who are both healthy and competent in occupational performance and hence require neither medical nor occupational therapy services. Patients who
are diseased but not functionally disabled fall into Cell 2. A patient having inflamed tonsils would be representative. Although a physician would be needed to control the inflammation, disturbance in occupation would be transient, and occupational therapy would not be needed.

Persons exhibiting dysfunctions in occupational performance who are not ill are depicted in Cell 3. This situation occurs when a person experiences problems in daily living not associated with medical problems. Occupational therapy services for this population have developed slowly, despite the fact that nonmedical causes of occupational performance dysfunctions have traditionally been recognized. The provision of services to the well aged in the community or the inmates of correctional facilities continues to be regarded as innovative. There has been a lack of conceptualization about the need for services for occupational performance dysfunctions caused by unemployment, divorce, bereavement, boredom, "dis-ease," or executive stress. Persons in this cell are high risks for developing health problems. They are not patients, however, and cannot be identified through the medical system.

Cell 4 denotes persons experiencing both medical and occupational problems. Dysfunctions in occupation may be correlated with or unrelated to the disease being treated. For example, a patient with arthritis may require treatment from a physician to control inflammation and from an occupational therapist to prevent deformity. If the same patient had also just lost a spouse, occupational therapy might also be needed to facilitate role adjustments; however, these occupational performance dysfunctions would result from loss of spouse, not from arthritis.

Even when disease and occupational performance dysfunction coexist, total reliance on the physician to refer patients to occupational therapy is inadvisable. Physicians are not trained to assess problems in occupational performance. They do not ask the right questions to formulate judgments about occupational performance. Thus, many patients appropriate for occupational therapy, who filter through the medical system, will not be referred. This notion was expressed well by a Navaho medicine man, when he said:

_There are some things which we medicine man know the white doctor is better able to cure than we, such as appendicitis and tuberculosis; we have given up on these. Then there are such things as snake bite, which both the medicine man and the doctor can cure, each using his own method. But there is still a third kind of illness which only the Navaho medicine man can cure—for example, a person might have lightening illness, caused by his being nearby when lightening struck. You white doctors wouldn't know that person is sick and so it wouldn't occur to you to treat that person. But, in the Navaho way of thinking, it is just as important to treat him as it is to treat the person in pain with appendicitis._ (20, pp. 27-28).

_The Occupational Therapy Diagnosis._ A clear statement of occupational therapy's concepts of order, disorder, and change is a prerequisite for establishing an effective referral system. What is it that occupational therapists set out to change? How and toward what end?

Occupational therapists are familiar with the assessment process (21, 22). Client data are collected, classified, and analyzed to determine assets and liabilities, as well as goals and prescriptions. Yet, we have failed to use this information to construct a diagnostic scheme. Instead, the medical diagnosis is used to organize clinical, educational, and research activities. We need to create "disease" entities and processes that we can treat and manage.

Theory development begins with a description of the various types of occupational performance dysfunctions. These must then be named, based, on a common organizing principle. The occupational therapy diagnoses must then be ordered and classified into groups, based on their similarity and contiguity. Such a conceptual scheme would put occupational performance problems in the foreground and medical problems in the background. Since the biological changes associated with disease are frequently exhibited in daily behavior, a systematic relationship would emerge between the biomedical and occupational performance paradigms. When evaluated in behavioral terms, diverse diseases may appear similar and similar diseases may yield different profiles (12).

Support for a behavioral paradigm of disease may be found in the literature. Fabrega (12, 18) outlined several approaches to theory construction. One approach used daily functions as the major organizer, and required periodic ratings of activities such as sleeping, walking, and performing household tasks. The other avenue focused on performance social roles such as family member, worker, and worshipper. Although the former approach is reminiscent of the activities of daily living checklists, the

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latter is compatible with the occupational behavior frame of reference promoted by Reilly's and her students.

The development of a standardized nomenclature and of a diagnostic taxonomy relates directly to the advancement of knowledge and of practice. The terms applied to the objects of occupational therapy services identify the conceptual entities relevant to practice. Uniform terminology permits therapists to converse meaningfully with each other about a client's condition. Occupational performance dysfunction X would have the same meaning to all therapists and could be readily distinguished from occupational performance dysfunction Y. When these terms are taken together and arranged in a systematic fashion in a taxonomy, they define occupational therapy practice. The taxonomy can thus be used to communicate the nature and scope of practice to consumers, other professionals, and third party payors (23, 24).

With the formulation of new conceptual entities, new kinds of questions can be asked, such as: How do they change over time? What kinds of behavioral dimensions cluster together? What causes this pattern? What intervention is most effective? How can performance be improved? Answers to these questions will contribute to the advancement of occupational therapy science.

**Elements of the Occupational Therapy Diagnostic Statement.** For a diagnosis to give direction to intervention, it must include elements essential for guiding treatment. Thus, occupational therapy diagnoses must contain data on order and disorder, that is to say, on functional abilities as well as functional disabilities.

A diagnostic statement concerning the nature of a phenomenon. The phenomenon treated by occupational therapists has biological, psychological, social and environmental qualities. Each of these qualities may be assessed for its ability to promote or inhibit adaptation. All these data should be represented in the occupational therapy diagnosis. In 1969, Line (21) presented a model of clinical reasoning intended to help occupational therapists define problems in their own terms. She encouraged development of a problem statement in relation to assets and liabilities in social adaptation, activities of daily living adaptation, and disease adaptation. Such a statement supports the philosophy that occupational performance may be improved by strengthening assets as well as minimizing liabilities. Use of Line's model results in a diagnostic taxonomy that describes levels of occupational performance as opposed to states of occupational performance dysfunctions.

Since medicine concentrates on disease factors, its diagnostic statement tends to be limited to disorder. Occupational therapy has largely replicated this deficit model, as is illustrated in the following quotations.

A diagnostic statement encompassing only deficit data is inadequate for guiding occupational therapy practice. It hinders a holistic view of Man and suggests that a person's strengths are not relevant to the occupational therapy process. It implies that order may be restored only by removing or curing the deficit. Strengths in the person and in the environment that may be used to compensate for deficits or to develop new strengths are ignored. This generates a theory in which the laws of occupational performance dysfunction become the laws of occupational performance.

Listing problems according to occupational areas and performance components enables the therapists to note strengths and weaknesses quickly. The client's strengths should be those areas and components which have few problems while weaknesses have more problems (25, p 50).

Trombly and Scott (22) although cognizant of assets and liabilities, emphasize negative or deficit information for treatment planning, while Reed and Sanderson (25) define strengths in terms of weaknesses. The practice standards formulated for occupational therapy services for clients with physical disabilities (8) also follow a deficit position. After recommending an initial assessment of abilities and deficits in occupational performance, motor skills, and sensory integration, they go on to state:

If the results of the above evaluation indicate possible deficits in psychological/social and/or cognitive skills, the therapists should evaluate these areas . . . . (8)

A profile of strengths and limitations will emerge from results of evaluations and other data-gathering processes. In order to identify the problem(s) toward which the therapeutic plan will be directed, it is necessary to select the significant information. Significant information refers to that data and those scores which reflect limitations that decrease functioning, that limit the likelihood of return to function, and/or lead to deformity or maladaptive personal-social functioning (22, p 4).
Summary

A professional requires knowledge of order to establish treatment goals, of disorder to identify when treatment is needed, and of change to convert disorder to order. Medicine and occupational therapy attach different meanings to these concepts.

Order in medicine is defined as health and in occupational therapy as competence in occupational performance. Occupational performance differs from health insofar as it involves the presence as opposed to the absence of a quality; it implies activity rather than passivity; it encompasses psychological, social, and environmental dimensions as well as biological; and it uses an optimum versus a minimum standard. Disorder in medicine is seen as disease and in occupational therapy as occupational performance dysfunction. Disease is a biological phenomenon caused principally by external unitary causes and remediated by drugs and surgery. Multidimensional causes, extrinsic and intrinsic to the client, precipitate occupational performance dysfunctions. Habilitation and rehabilitation depend on the learning of adaptive skills.

The biomedical model permeates the health care system and has shaped the development of the occupational performance model. Disease rather than occupational performance dysfunction serves as the indicator of need for occupational therapy. The type of disease rather than the type of occupational performance dysfunction guides the therapeutic process. The assessment of occupational performance accords deficits as opposed to functional abilities.

The full potential of occupational therapy as a professional service will not be realized until occupational performance dysfunctions are conceptually separated from disease entities. A genetic theory of occupational performance is needed to view occupational performance capacity regardless of medical problems as well as in the absence of medical problems. Theory building begins with the description, definition, and standardization of the concepts that guide occupational therapy practice. These concepts were referred to as occupational therapy diagnoses. Since occupational therapy practice is guided by functional abilities and disabilities, the diagnostic concepts must be formulated to incorporate both deficits and assets. A diagnostic taxonomy will serve to define the essence and parameters of practice and hence to facilitate communication within occupational therapy and to consumers, the medical establishment, and third party payors.

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