

*1996 Eleanor Clarke Slagle Lecture*

## Why the Profession of Occupational Therapy Will Flourish in the 21st Century

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Welcome to this celebration of our profession! Eighty-eight years ago, a young woman named Eleanor Clarke Slagle attended a course that explored the potentials of occupation as a therapeutic medium (Quiroga, 1995, chap. 1). Convinced of the power of occupation to enhance human life, Slagle went on to help found our profession. In her name, I am honored to present the 35th Eleanor Clarke Slagle Lecture.

Occupational therapy as a profession will flourish over the next century for the same reason that it has flourished over the past century. Real human beings needed therapeutic occupation in the days of Eleanor Clarke Slagle; they need therapeutic occupation in our times; and they will continue to need it beyond our days. Our service of occupational therapy is so sound because the idea of therapeutic occupation is so basic: The human being can attain enhanced health and quality of life by actively doing things that are personally meaningful and purposeful, in other words, through occupation. We are the profession uniquely devoted to helping persons help themselves through their own active efforts.

### **The Need for a Historical Perspective**

To appreciate the core of occupational therapy and its importance for human health and quality of life over the next century, we need a macroscopic point of view. I am not referring to the immediate time frame of next year's health legislation in Congress, the year 2000, or even the year 2050. My time frame is approximately the year 2096, a good time for someone, certainly not me, to be summing up the second century of organized occupational therapy just as we are now in a position to sum up its first century.

What the 20th century teaches us is that apparently reliable trends on which people make predictions break down categorically in totally unforeseeable ways. Who in the progressive early 1900s could have predicted the horrors of World War I, the beginning of which was marked by soldiers on horseback and the end of which marked by mechanized trench

warfare where combatants were at risk for instant death from distant unseen forces? Who could have predicted the Russian revolution; the worldwide economic depression; or the rise of fascism, genocide, and World War II with its unprecedented millions of dead, including civilians? Who could have predicted the nuclear terror of my generation or the rise of Pax Americana amidst the sudden, implosive collapse of the Soviet empire?

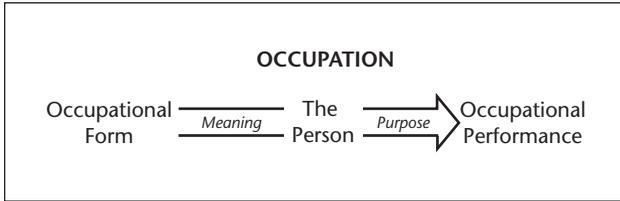
It will be at least as hard for us to predict the 21st century as it was for the first occupational therapists to predict the 20th century. We can do our best to extrapolate current trends into the future, but the trends that are visible now will break down categorically just as the optimistically progressive trends of 1900 broke down over the past century. We will be surprised. Our descendants will be surprised. I put it this way because this is the larger context from which we should view the profession. Only those things will endure that are both fundamental to human nature and adaptable to a changing world. I believe that one of those things is occupational therapy.

The profession of occupational therapy was founded for one reason: To use occupation as a therapeutic method. The original articles of incorporation of the National Society for the Promotion of Occupational Therapy (1917) clearly stated the purposes of this new organization: “the advancement of occupation as a therapeutic measure,” “the study of the effect of occupation on the human being,” and “the scientific dispensation of this knowledge” (p. 1). It is important to note that the founders thought of occupation as a method, not just a goal. They believed that occupation could have therapeutic effects on the human being, and they wanted to document these effects through scientific research.

Mores have changed dramatically since the founding of our profession, and they will change in the future in ways that are unimaginable to us now. When we look at photographs of early occupational therapy (e.g., Howe & Schwartzberg, 1986), we see starched uniforms, serious and even stern facial expressions, military-like decorum, and highly structured crafts that required many sessions to complete. Those early photographs reflect a different era of America and of occupational therapy. It was a different culture, and the therapeutic occupations of those times reflected that culture. In like manner, occupational therapists 100 years from now will look back at the archives documenting today’s occupational therapy and see quaintness in our dress, our mannerisms, and our speech. Yet, they will recognize their essential connectedness to us. Therapeutic occupations change with the times and with the culture, but the underlying idea of occupation as therapy remains constant.

## Defining Occupation

Given our title as *occupational* therapists and given our reason for being, it is ironic that we have not spent much effort in defining occupation. This curious omission has been pointed out by advocates of occupation as therapy (e.g., Christiansen, 1990; Gilfoyle, 1984). Much of my work has focused on the definition of the term *occupation* (Nelson, 1988, 1994, 1996). Occupation is defined as the relationship between an *occupational form* and an *occupational performance* (see Figure 44.1). Occupational performance means the doing. Occupational form means the thing, or the format, that is done. For example, consider the occupation of a boy



**Figure 44.1. Occupation as the meaningful, purposeful occupational performance of a person in the context of an occupational form.**

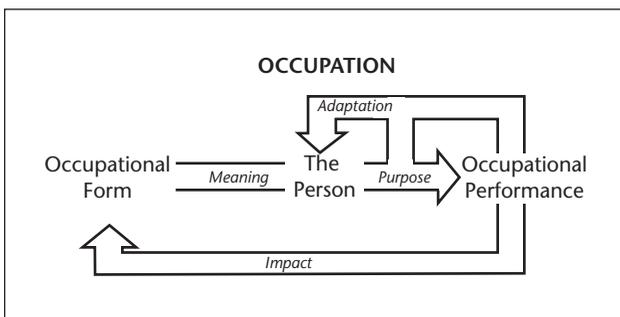
making potato pancakes (latkes) in December during the Jewish holiday of Hanukkah. His occupational form has physical features, such as the way those potatoes soak up oil and fry crispy on the outside, yet a little soggy on the inside. His occupational form also has sociocultural features, including its connection to his religious heritage and that the

chef’s hat he wears once belonged to his grandfather. The handle of the frying pan (part of the occupational form) elicits the occupational performance of grasping. Other aspects of his occupational performance include his speech, gaze, smile, and posture.

Occupational form and performance are objectively observable; we can see and analyze the boy’s environment and movement patterns. But occupation also has subjective, experiential elements that are not directly observable. These subjective aspects of occupation are *meaning* and *purpose*. Meaning is the person’s active interpretation of the occupational form. Meaning has to do with making sense of things perceptually; for example, the boy has a basic awareness that he is not too close to the fire. Meaning also has to do with interpreting the symbols in his occupational form, for example, the words of others and the idea of Hanukkah as a playful holiday. Meaning is also affective: The boy is having fun.

After meaning is present (i.e., the person makes sense of the occupational form), then purpose is possible. Purpose is the person’s goal orientation; it is what the person wants or intends. For example, what does the boy making latkes want? Does he want to make his sister laugh? Does he want to make tasty latkes that he can douse with applesauce and eat or share with his family? Does he want to participate in a family tradition? At any given moment, a human being typically has multiple purposes—some immediate, such as wanting to hold onto the spatula, and some long term, such as wanting to belong within a family. It is characteristic of an occupational approach to consider both the immediate and the

ultimate purposes of the person engaged in occupation.



**Figure 44.2. Occupation depicted with the occupational dynamics of impact and adaptation.**

Occupation influences the world around the person (see Figure 44.2). This influence is called *impact*. The human being is not just a passive respondent who is always under environmental control. The person can affect his or her own future occupational forms. The boy in the example actively changes his occupational form: The latkes are

cooked and the kitchen is somewhat of a mess. The cooking occupation sets up the next occupation—eating.

Another dynamic of occupation is that a person can literally change his or her own nature by engaging in occupation. This is called occupational *adaptation*. Active doing, or occupation, can lead to changes in sensorimotor abilities, cognitive abilities, and psychosocial abilities. As we do, so we become. For example, consider the occupation of a healthy 8-month-old boy playing peek-a-boo with his mother. The boy's occupational form includes a piece of cloth first placed over his face and later over his mother's face. By putting the cloth over her own face, the mother gives the boy an opportunity to have an impact through active occupational performance. He is rewarded by her smiling face and her animated talk when the cloth is removed. There is an established game that is present in the occupational form: Our culture makes available to us the game of peek-a-boo. The boy's occupational performance involves complex patterns of reaching, grasping, trunk rotation, posture, laughing, facial expression, and prespeech sounds. This occupational form is meaningful to the boy perceptually, symbolically, and affectively. He is full of purpose as he tries to reestablish eye contact with his mother by attempting to remove the cloth from her face. We can infer multiple sensorimotor adaptations, such as posture, reach, and grasp, but perhaps more importantly, there are cognitive and psychosocial adaptations. For example, the boy is learning the rules of reciprocal play. Additionally, object permanence is being established, and the boy is learning that important things, like mother, do not go away just because they cannot be seen temporarily.

Brief occupations such as these are the dynamics that while interacting with physiological maturation power human development. These brief occupations are nested within higher level occupations. Indeed, large roles in life are occupations that consist of thousands of brief occupations. For example, consider the reciprocal occupations of a father and daughter on a roller coaster at an amusement park. The man is smiling, however terrified. The girl raises her hands in adolescent bravado. For the girl, the roller-coaster ride is nested within a series of amusement park occupations over many years from the merry-go-round of her toddlerhood to the ultimate goal of going to the amusement park with friends, including boys (no parents needed, thank you). The ride on the roller coaster is also nested within all the summer and family vacations of the girl's life. Given past adaptations, she is ready to go on to new occupations and adventures. From the father's point of view, his daughter is an immediate part of his occupational form, but he would not be there on that screaming roller coaster with his 48-year-old vestibular system if it were not because this occupation is integrally connected to all the occupations of fatherhood. The artful interlocking of successive levels of a person's occupations, bound together by corresponding levels of purpose, connects the present moment to the life span. It would be just as reductionistic to ignore brief moments of occupation as it would be to ignore occupational roles that span decades. We cannot really understand the long-term occupations without understanding the short-term occupations that make them up and vice versa.

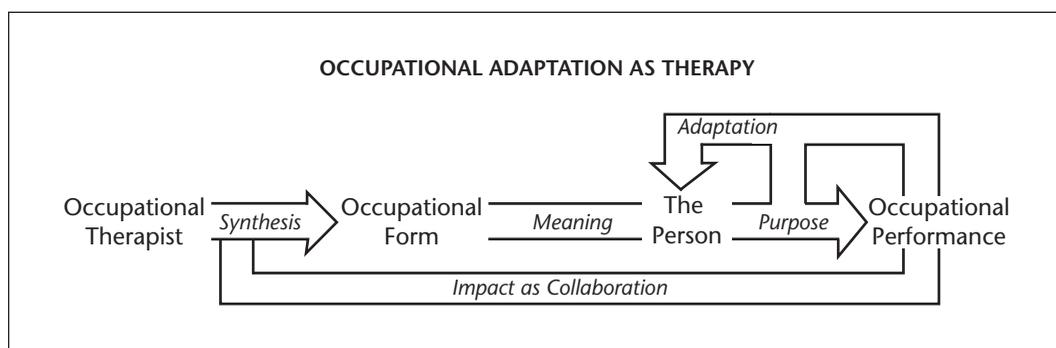
Occupational adaptation marks every age of the developing person. Consider the occupations of happy elderly newlyweds singing at a microphone. Their occupational form is the

small town wedding celebration. In the basement hall of the American Legion with Old Glory in the background and long wooden tables decorated with balloons and banners, the newlyweds take their turn at the microphone. More than 200 people are present, including new in-laws getting to know each other, townspeople discussing their views on local events, young children racing through the aisles, and teenagers trying to sneak off to the parking lot. The occupational form of marriage means something profound to each marriage partner. Their purposes are both to sing a pretty good tune (pertaining to the immediate occupation) and to start a life together (pertaining to their long-term occupations). Growing beyond their recent roles as widow and widower, they adapt to new occupational roles. Occupational forms, the gifts of nature and of culture, not only sustain us, but also challenge us to engage in the continuous adaptations that constitute life.

### A Conceptual Framework for Therapeutic Occupation

Given the power of occupation in healthy human development, it makes great sense to have founded a profession on the idea of occupation as therapy. We as a profession believe that a person can affect the quality of his or her life through occupation. We also believe that the person can be helped through this process by another person—an occupational therapist.

At the Medical College of Ohio, we advocate a Conceptual Framework for Therapeutic Occupation (CFTO; see Figure 44.3). The occupational therapist understands the potentials of various occupational forms and is willing to collaborate in synthesizing occupational forms that are meaningful and purposeful to the person. The occupational therapist hopes and predicts that the occupational form will be perceptually, symbolically, and emotionally meaningful to the person; that the occupational form and the meanings the person actively assigns to it will result in a multidimensional set of purposes (when therapy is best, the person is full of purpose); and that the person will engage in a voluntary occupational performance.

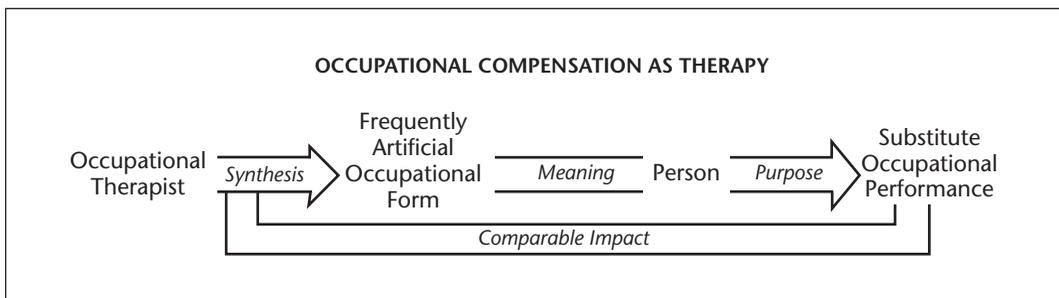


**Figure 44.3. A Conceptual Framework for Therapeutic Occupation (for therapeutic adaptation).** The occupational therapist collaboratively synthesizes an occupational form and makes a prediction concerning the person’s meaning, purpose, occupational performance, and adaptation.

Consider the occupation of an older man who has had a stroke on the right side of his brain that led to left hemiparesis, perceptual problems, and left neglect. In the rehabilitation hospital, he was continuously told to do things with his left hand—"Use your left hand." "Look at your left hand." "Watch out for your left hand."—but he did not understand why until he hurt it in the spokes of his wheelchair. The man's therapeutic occupational adaptation occurs in the occupational therapy bathroom where he is given a comb in front of a mirror. Here the occupational form is full of salient cues for what is expected. Though there are many cues, the situation as a whole suggests a unified response: It is time to comb hair. The occupational form is immediately meaningful to him, words are really not necessary. He knows that the water should be turned on, so he independently does so. He combs his hair in his accustomed way; that is, his left arm rises in synchrony and coordination with his right hand as he straightens his hair. Embedded in this occupation are left shoulder flexion and external rotation accompanied by elbow flexion with wrist, hand, and finger control. This coordinated pattern of movement takes place outside his visual range, hence guided by proprioceptive input. This occupation is an excellent intervention for his motor control, left neglect, and problems of body scheme. Of course, a single occupation does not result in dramatic gains, yet dramatic gains are impossible without a series of therapeutic occupations like this one.

Sometimes the person's problem is resistant to occupational adaptation. Hence, compensatory occupation is the goal (see Figure 44.4). In compensation, the therapist collaborates with the person in synthesizing an atypical or alternative occupational form. As always, the therapist hopes and predicts that the occupational form will be meaningful and purposeful. However, in compensation, the goal is to have a successful impact as a result of a substitute occupational performance or as a way around the problem.

Consider an older man who is holding his cafeteria tray with a myoelectric prosthesis. The prosthesis is an atypical part of an otherwise typical occupational form. However, the prosthesis has meaning to the man (he knows how to operate it), and it has purpose to him (he wants to operate it). The substitute occupational performance is that he contracts or



**Figure 44.4. A Conceptual Framework for Therapeutic Occupation (for therapeutic compensation).** The occupational therapist collaboratively synthesizes an occupational form (often somewhat atypical socioculturally). The resulting occupational performance substitutes for the typical way of doing things but leads to a comparable impact.

relaxes the remaining segments of his upper arm muscles to control the device. The comparable impact is that the tray is held while he uses his dominant right hand to scoop the food. This is successful occupational compensation. Frequently, compensation depends on prior adaptations or learning how to use the compensatory device. In this example, the role of the occupational therapist was to help the man learn how to manipulate the prosthetic elbow and wrist joints and how to match his muscle contractions to the electronics of the prosthesis so that objects could be picked up without dropping or crushing them. Hence, adaptations led to successful compensations.

Occupational adaptation and adaptational compensation are different but dynamically interacting processes. Both depend on *occupational synthesis*, or design, of forms that are meaningful and purposeful to the person. Occupational synthesis is what we occupational therapists do for a living. Our specialty is to know about occupational forms in all their variety and to perceive the special capabilities of persons so that a therapeutic match can be made. Sometimes this involves highly naturalistic, everyday forms. But often, there is an element of simulation involved. Consider a boy with cerebral palsy whose occupational form involves virtual reality equipment and a new power wheelchair with an unfamiliar joystick. The meaningfulness and purposefulness of the occupational form to him can be inferred from his occupational performance: He manipulates the joystick in a sustained way and his gaze is set on the feedback device. His occupational adaptation is his learning how to operate the joystick that will control his wheelchair. This will provide him with compensatory mobility in the future.

The virtual reality in this example is “high tech,” but we occupational therapists have always used virtual reality, or simulation, whether high tech or low. For example, the occupational therapy kitchen is a treatment area that simulates the homes of many patients while providing the possibility of special safety features and assistive devices. In some cases, the occupational therapy kitchen provides the ideal location; in others, a home visit would be more therapeutic. Much of occupational therapy clinical reasoning and program development depend on judgments about the suitability or unsuitability of simulated versus naturalistic occupational forms. Simulation can involve great creativity and technology, as with virtual reality or electronic work simulators. But the naturalistic occupational forms provided by our culture are the starting points for our ingenuity.

## **The Flexibility of Therapeutic Occupation: Diverse Models of Practice**

Therapeutic occupation, the common core of occupational therapy, is a robust construct capable of accommodating many different approaches to intervention. Mosey (1970) introduced the term *theoretical frame of reference* to describe systematic guidelines for occupational therapy practice that are grounded in theoretical statements about the nature of the person and his or her relations to the world. Others, including Kielhofner (1992), have used the term *conceptual model of practice* to denote the diversity of theory-based approaches to occupational therapy.

My idea of model of practice has two main parts: (a) a theoretical base describing healthy and unhealthy occupation and (b) principles and techniques for occupational syntheses. The

theoretical base draws from one or more disciplines. It is a coherent description of the potentials and pitfalls of human occupation, including the nature of the person, the role of occupational forms, the types of meanings and purposes experienced by the person, and the dynamics of successful and unsuccessful occupational performances. Basic research is cited as available. The second part of a model of practice provides principled yet practical guidelines for occupational syntheses that are consistent with the theoretical base. How does the therapist conduct occupational syntheses in the evaluation process? How does the therapist use occupational analysis in the goal-setting process? How does the therapist collaborate with the person in synthesizing occupational forms for adaptation or compensation? Applied research is cited as available.

There currently are many models of practice in occupational therapy. Some are more carefully worked out than others; all are works in progress. Consideration of selected occupational therapy models of practice from the past can enhance appreciation of today's diverse models of practice. In discussing these models, I will apply the same occupational terminology introduced earlier in this article (e.g., *occupational form*, *occupational performance*) to the diverse ideas expressed by various authors. I believe that this terminology provides a systematic way to compare and contrast occupational therapy models of practice.

### **Slagle's Habit Training Model of Practice**

Slagle (1922) was a proponent of one of the first models of practice in occupational therapy. She drew from many different theoretical sources, including John Dewey's Chicago-school philosophy of pragmatism; William James's psychology of attention; Ruskin's arts-and-crafts movement; the Society of Friends's moral treatment; and Adolph Meyer's ideas about holism, mental hygiene, and use of time. Slagle theorized that habit reactions largely constitute the lives of most people. The healthy person engages each day in a rich succession of habit occupations—a balance of productive work, self-reliance, rest, and activation of what Slagle called the "play spirit" (p. 16). Underlying all habits is the necessity for attention; indeed attention itself is a habit that can be built.

Unlike the well-organized habits of healthy persons, the habits of persons with mental disorders are deteriorated and disorganized. Attention drifts restlessly and irrelevantly. Neither the joy of productivity nor the joy of play is experienced. Grandiosity on the one hand and passivity on the other are poor substitutes for actual occupation. Given this theoretical base of healthy and unhealthy occupation, what kinds of occupational syntheses are called for in the Slagle model of practice? The main occupational form that Slagle described was a 24-hour per-day schedule that provided a balance of self-care, physical exercises, work, and play (Kidner, 1930). Specifically noted were instructional periods for self-care (e.g., shoe lacing, teeth cleaning, toileting). Work occupations were to be individually graded from simple to complex. Stimulating music with clearly evident rhythm was recommended to accompany the physical exercises. Moving pictures, folk dancing, storytelling, and simple competitive games rounded out the day. After the basic habit occupations were attained, the patient could progress to the *occupational center*, also called the *curative workshop*. Here patients engaged daily in major crafts or preindustrial groups that

required sustained attention over many sessions. The developmental structure of the discharged patient was enhanced by adaptations in the attentional mechanisms and habit reactions.

### **Baldwin's Model of Practice for the Restoration of Movement**

Another early model of practice focused on different aspects of the developmental structure from those focused on by Slagle. Baldwin's (1919) model of practice was designed to restore movement abilities in young soldiers wounded in World War I and drew into occupational therapy concepts from kinesiology, biomechanics, and psychology. He detailed the relationships between various occupational forms and joint range of motion, strength, and endurance. He saw coordination as a high-level skill involving complex series of movements across several joints, and he believed that this high-level skill is inextricably linked to everyday occupations. Movement skill was viewed not just in terms of immediate learning but also in terms of what can be "transferred to another occasion or to other types of movements" (p. 7). Although he focused on the patient's motor abilities, Baldwin also cited "interest," "attention," "initiative," "inspiration," "optimism," and "cheerfulness" (pp. 6–9) as factors that affect the overall quality of the patient's occupations. Baldwin specifically identified social factors that typically inhibited the development of self-responsibility among disabled veterans, including the military's discouragement of the initiative typical of civilian life and the public's misdirected sympathy. Baldwin also considered the patient's intelligence and vocational aptitude when synthesizing therapeutic occupational forms.

Given this view of the person's developmental structure, the main guideline for occupational synthesis was to provide occupational forms that naturalistically challenge the identified problems of range, strength, endurance, and coordination. In Baldwin's (1919) own terms:

Occupational therapy is based on the principle that the best type of remedial exercise is that which requires a series of specific voluntary movements involved in the ordinary trades and occupations, physical training, play, and the daily routine activities of life. (p. 5)

Occupational forms were analyzed in terms of their typical challenges for the purposes of grading from easy to hard and providing options to different patients, depending on their interests. The end-products, or the impacts, of the work were thought to enhance meaning and purpose; impact also provided direct feedback about the patient's progress. Baldwin favored the use of everyday occupational forms, including, but not restricted to, crafts. The advantages of naturalistic occupational forms were (a) the allowance for personal initiative, (b) the incentives provided for sustained effort, (c) the development of coordination, (d) the transfer of skills, and (e) the opportunity for membership in a social group of fellows working on parallel projects. Baldwin was a strong proponent of research that documented the effects of everyday occupational forms on motor abilities. Much of my research today (e.g., Nelson et al., 1996) investigates principles identified in Baldwin's model of practice that was described more than 75 years ago.

## **Other Early Models of Practice**

It is important to realize that those who helped found the profession espoused different approaches to the use of therapeutic occupation. Each model of practice had its own conceptualization of healthy and unhealthy occupation, and each had its guidelines for synthesizing occupational forms. For example, Tracy (1910) presented a model for bedside occupations for hospitalized patients. The focus was on preventing the negative psychosocial consequences of bedrest so that the patient could be a full partner in his or her medical treatment. Synthesized occupational forms varied depending on the age of the patient, the nature of the disability, and interest. It is interesting to note that all three of the authors cited so far included calisthenics as a potentially valuable type of therapeutic occupation.

A fourth example of an early model of practice in occupational therapy is Hall's work cure for persons with what was then called neurasthenia. In a letter from Hall (1917) to William Rush Dunton, Hall expressed expertise in only one area of what he called therapeutic occupations. Is this not an early expression of specialization by model of practice while remaining cognizant of one's integral link to other models through the organizing framework of therapeutic occupations? Another early letter, however, makes clear that proponents of different models did not always accept or appreciate each other's differences. In a letter to Dunton, Barton (1916), the first president of the National Society for the Promotion of Occupational Therapy and an opponent of Hall's model of practice, expressed the hope that Hall "not put cyanide in our tea" (p. 2) to avenge his exclusion from the deliberations of the charter officers of the society. This facetious remark reflects an ongoing struggle among adherents of different approaches to the use of therapeutic occupation.

## **The Psychodynamic Model of Practice**

How flexible is the concept of therapeutic occupation? Let us consider the change that accompanied American psychology and psychiatry in the 1930s and 1940s when the Freudians advocated a new and controversial view of the person. At that time, Fidler (1948), who has become one of the most influential leaders in the history of the profession, proposed the adoption of a psychodynamic approach in occupational therapy. How do dynamic theorists view the person and occupation, and given this viewpoint, what kinds of occupational forms are synthesized for therapy? In this model of practice, the most important meanings and purposes underlying occupation are unconscious reflections of biological drives. These powerful libidinal and aggressive impulses are theorized to be the products of psychosexual development in early childhood. With maturation, the ego defends itself against anxiety via a variety of unconscious mechanisms, some of which are relatively adaptive and some maladaptive.

Given this view of the occupational structure of the person, the early stages of occupational therapy involved a close, nonthreatening match between carefully selected occupational forms and individual personality. For example, the patient who is unconsciously aggressive is provided with clay to pound or with wood to cut, and the person who is compulsively neat is provided with an occupational form such as weaving, which requires much

repetition and involves little waste. Over time, the therapist gradually introduces occupational forms that facilitate relatively mature defense mechanisms.

### **Humanistic Models of Practice**

An illustration of how the profession can accommodate new models of practice can be seen in Fidler's ongoing developments. We can compare and contrast the Fidler and Fidler (1978) article, "Doing and Becoming: Purposeful Action and Self-Actualization," with the Fidler (1948) psychodynamically inspired article we have just discussed. The title of Fidler and Fidler's article indicates the sweeping changes occurring in the 1970s in American psychology and psychiatry. Humanism and existentialism were discovered and adopted as philosophical positions. Instead of conceptualizing the person as conflict laden due to unconscious drives, as in Freudianism, the humanist views the person as a consciously choosing, self-determining being with created values and interests. The person is looked on optimistically in terms of his or her ability to change self or to adapt via occupational performance. Self-actualization is viewed as a person's highest achievement.

The ideas of humanism have strongly influenced many leaders within the profession, including Reilly (1962), Yerxa (1967), and Kielhofner (1995). Kielhofner's Model of Human Occupation conceptualizes the person's occupations in terms of personal causation, values, interests, internalized roles, and habit patterns in addition to many different skills. Recently influenced by dynamic systems theory, Kielhofner currently emphasizes the volitional processes of attending, experiencing, and choosing, as well as the processes underlying changes in roles and habits. The person is the creator of a life story, a narrative. Given this viewpoint of the person, Kielhofner's occupational forms emphasize naturalistic options and the opportunity for success. Naturalistic options in the occupational form make choices with high levels of symbolic meaning possible. Intrinsic purpose in occupation is most highly valued. The occupational therapist's verbal responsiveness is also a critical aspect of the occupational form because the client and therapist collaboratively synthesize occupational forms. This model of practice has an optimistic viewpoint of the person's ability to adapt and take control of his or her own life, regardless of residual impairments.

### **The Sensory Integrative Model of Practice**

Humanism was not the only great idea influencing Western civilization in the 1960s and 1970s. Another set of ideas with a profound effect on the development of occupational therapy models of practice has come through the advent of neuroscience. Consider Ayres's (1972) sensory integrative model. As with all the other occupational therapy models of practice we have and will discuss, most of the foundational ideas for sensory integration were taken from sources outside occupational therapy. Ayres conceptualized the person in neurological terms. The first words of her classic book were: "Learning is a function of the brain; learning disorders are assumed to reflect some deviation in neural function" (p. 1). In Ayres's original work, the brain is conceptualized phylogenetically and hierarchically, with higher level cognitive centers in the cerebrum that depend on lower level centers,

especially those governing somatosensory input, including vestibular, tactile, and proprioceptive sensation. Ayres hypothesized that many children with learning disorders do not integrate somatosensory input with visual and auditory processing. She also hypothesized that children have an inner drive for mastery in occupation.

Given this conceptualization of the developmental structure, Ayres (1972) created some of the most fascinating occupational forms in the history of our profession: rolling and tumbling forms such as scooter boards and carpeted barrels that support or envelop the child while eliciting somatosensory meanings and bolsters, nets, and swings that hang from the ceiling and provide vestibular input in the occupational context of a game. These occupational forms that elicit whole-body occupational performances are prerequisites to the highly structured occupational forms of education, which assume adequate visual and auditory comprehension necessary for advanced cognition. Like humanistic models of practice, this neurologically based model of practice is optimistic about the person's ability to adapt via occupational performance.

### **Allen's Model of Cognitive Disabilities**

A very different model of practice is also rooted in a neuroscientific conceptualization of the person. In Allen's (1985) model of cognitive disabilities, certain neurological disorders are considered intractable. Although the person's interests and sensorimotor abilities are considered, the focus of this model is on cognitive levels, which are viewed hierarchically from an unresponsive coma state to an advanced level of deductive reasoning. Given that progress from one cognitive level to the next cannot occur through occupation (but might occur in some disorders through the physiological healing of the brain), the emphasis in this model of practice is on evaluation and compensation. What kinds of occupational forms are used? The Allen Cognitive Levels test uses selected crafts (e.g., various forms of leather lacing) to challenge cognition. Crafts are readily recognizable in our society yet are not threatening in the way that many tests are. The materials provide definite structure across space and time, and the craft product (an impact) is an objective indicator of the quality of occupational performance. Hence, the occupational therapist can monitor changes along the cognitive dimension tested as the brain heals. In addition, the occupational therapist can synthesize compensatory occupational forms designed to match the patient's cognitive level. For example, the person who learns only by trial and error will need supervision for safety's sake in everyday occupational forms.

### **Toglia's Multicontext Approach to Perceptual Cognitive Impairments**

An emerging model of practice that posits the adaptational capacity of persons with neurological impairment has been put forward by Toglia (1991). Drawing on knowledge from modern neuropsychology, Toglia hypothesized that metacognition and cognitive processing strategies can be enhanced through a variety of naturalistic occupational forms—a multicontext approach that uses everyday situations as the crux of therapy. Everyday situations from the supermarket to the bus line provide similar cognitive challenges yet provide sufficient variations for generalized learning to occur. Consistent with

occupational therapy history, Toglia suggested that the everyday world of our communities can be the occupational therapist's clinic. As we encounter our everyday occupational forms, so we become.

### **Motor Control and Motor Learning Models of Practice**

One of the fascinating events of the past 10 years has been the change in focus within the motor control models of practice. One way of describing this revolution is that theorists and therapists are focusing more on occupational synthesis. In the past, the emphasis was on the patient's physiology and movements (e.g., muscle tone, symmetry, isolation of movement patterns). While remaining sophisticated about the patient's physiology, therapists today are also becoming more sophisticated about the other half of the therapeutic equation: the occupational forms that the patient needs in order to engage in active occupational performance. Symbolic of this revolution is Trombly's (1995) Eleanor Clarke Slagle Lecture in which she cited research, theory, and practical experience in favor of occupational forms that are meaningful and purposeful to the person. Whether guided by the neurodevelopmental model of practice (Levit, 1995) or a contemporary approach drawing from dynamic systems theory (Mathiowetz & Haugen, 1995), therapists today are synthesizing naturalistic occupational forms of work, play, and self-care, with the active collaboration of the patient in the choice of those forms.

### **Selected Other Models of Practice**

To suggest the tremendous range of potential applications of our core concept of therapeutic occupation, I will briefly mention a few of the many other occupational therapy models of practice. Occupational models of practice are being refined for persons with Alzheimer's disease and their caregivers (American Occupational Therapy Association [AOTA], 1994), and some models are being developed for the handwriting problems of schoolchildren (Amundson, 1992). Als's conceptualization of the premature infant is compatible with an occupational therapy model of practice geared toward both the emerging occupations of the infant and the occupations of parents (Vergara, 1993). A fourth area in which the special skills of occupational therapists are needed is hospice care (Pizzi, 1993), where meaningful and purposeful occupation is a reflection of the value placed on human life. Although these are but a few samples of the many areas in which therapeutic occupation is contributing to quality of life, my experience tells me that creative occupational therapy practitioners will continue to develop new models of practice that meet the real needs of real persons for therapeutic occupations—therapy by doing.

### **Beyond Direct Service Models**

A commitment to the use of occupation as the method of occupational therapy does not commit us to direct service models as opposed to educational models or consultative models. The occupational therapist can play an essential and cost-effective role in the collaborative synthesis of occupational forms, even though the therapist will not be physically present when the person engages in the occupational form. Because the therapist has

expertise in occupational forms—their physical and sociocultural complexity—he or she can advise the daughter of a woman with Alzheimer's disease about least restrictive environments (AOTA, 1994), a teacher or nurse about proper positioning (Dunn & Campbell, 1991), or the foreman of a workstation with a high rate of carpal tunnel syndrome about repetitive trauma disorders (AOTA, 1992). Such advice is a collaborative occupational synthesis. For the same reason, a truly occupational model of practice is used when the therapist advises patients with diseases of the hand about occupations in the home, at work, and at play (Kasch, 1990).

## **Occupational Therapy Models of Practice in the Future**

What future roles will the occupational therapist play in the health care system? Readers 100 years from now will no doubt be aware of occupational therapy practice that we cannot dream of today. And I am sure that there will be an occupational therapy reader 100 years from today because of the fundamental power of occupation and its adaptability to new circumstances.

### **Independent Living Movement**

One current trend that may well grow in the future is the independent living movement in which persons with disabilities see themselves as consumers of health care services. As consumers, they make decisions about their lives and rehabilitation with professional help but without the authoritarianism that sometimes accompanies the medical model. This approach is in tune with the principles of occupational therapy (AOTA, 1993; Yerxa, 1994). The problem is not to be thought of as lying in the consumers (their developmental structures), but in the everyday occupational forms they encounter, such as barriers to restaurants, workstations, and fields of play. Given this philosophy, the occupational therapist emphasizes collaborative occupational synthesis and compensatory strategies from ramps to robots and from social acceptance to political power. The consumer who takes control of his or her life within an insensitive society could not do better than to have an occupational therapist as an advocate.

### **Technology**

The independent living movement dovetails nicely with another identifiable trend for the future: new technologies that promote successful and personally satisfying occupation. As Mann and Lane (1991) pointed out, the occupational therapist “can—and should—be the professional who takes responsibility for assembling the appropriate assistive technology team” (p. 26). The occupational therapist has the knowledge and experience to take a leadership role in working with the consumer in making the best possible match between the multiple factors in technologically oriented occupational forms and the multiple capacities of the consumer's developmental structure. We need to think of assistive devices as parts of the occupational forms that have meaning and purpose to the person, not as mechanical extensions of a mechanical person.

## **Wellness Models of Practice**

Another trend is the move toward an increased emphasis on wellness, health promotion, and disease prevention. With the brave new world of capitation, managed care, primary care, efficacy, and efficiency, the health care system may at last get serious about wellness. Wellness pays. Nothing could be more positive for the profession of occupational therapy. Theorists within the profession have been preparing us for the advent of a health care system that emphasizes health as opposed to illness (Johnson, 1986; Rosenfeld, 1993). Occupational therapists working with persons who already have disabilities have long emphasized the importance of healthy occupational profiles and disease prevention to their patients, even though those efforts have not always been reimbursable. The wellness models of practice are in place and only await general funding.

## **Models for Public Health**

Another role for the future of occupational therapy is in the solution of some of our society's chronic social and public health problems, such as drugs, violence, unprepared motherhood, unemployment, and homelessness. A problem of special interest for me is the development of an occupational therapy model of practice for the prevention of childhood obesity. Obesity has devastating lifelong consequences, with sensorimotor, cognitive, and psychosocial impairments and impoverished occupational patterns. A comprehensive model of therapeutic occupation needs to be tested for this major problem of public health. Occupational therapy leaders, such as Baum (1991), have found ways to fund occupational models of practice, even in a pessimistic sociopolitical environment where social programs are mistrusted. I call this America's 1990s regression to the social Darwinism of the 1890s. But sooner or later, the profession of Eleanor Clarke Slagle will provide occupational models of practice for homeless people with schizophrenia and occupational models of practice for persons in so-called nursing homes. (Let us call them homes for therapeutic occupation!) The mark of a great civilization is not its store of consumer goods but the meaningfulness and purposefulness of the everyday occupations of all its citizens.

## **Hospital-Based Models**

I believe that occupational therapy will continue to play an essential role in the acute care hospital and in other medically related facilities from the rehabilitation hospital, to subacute sites, to extended care facilities, to the facilities of the future. It is true that hospitals are downsizing, and patients are being discharged more and more quickly. It is also true that the ideal health care system of the future will promote wellness as its highest goal. Nevertheless, people will continue to become ill; they will continue to go to the hospital, however downsized, for acute care. Many of these people will continue to need an occupational approach at one or more stages of their illness and recovery (Torrance, 1993). With increasing technology and quicker discharge, the need for therapeutic occupation increases, not decreases. Occupational therapists will be needed to work with patients in problem solving self-care occupations amidst the constraints of the tubes, monitors, and fixators; to activate patients at risk because

of the deleterious effects of bedrest; to help patients and caregivers plan realistically for what the patients will do and for how the patients will live and care for themselves after discharge but before healing; and to assess patients' quality of life before and after hospitalization.

For an example of the importance of therapeutic occupation in an acute care setting, consider a 5-month-old girl born with a neuromuscular disease of unknown etiology. The disease is characterized by the total absence of many of the proximal muscles, including those responsible for respiration. Picture her with multiple intubations for respiration and nutrition and with life-support monitors. The occupational therapist carefully removes her from the crib and bounces her gently while talking to her in high-pitched, rhythmical tones. In response to this occupational form, the infant's adaptations are to learn to use the muscles controlling her vocal cords as she imitates the therapist; to learn to use the remaining muscles in her left arm as she grabs the therapist's keys; and most of all, to begin to learn that she too has a legitimate place in the human family. The therapist next places a piece of cloth playfully over the child's face, as in our prior example of the importance of peek-a-boo in healthy development. Like the healthy infant, this baby also removes the cloth and laughs. Despite the high technology setting, this baby also needs to encounter the occupational form of peek-a-boo in order to develop a sense of self and a sense of other. I believe that occupational models of practice will be needed for the acute care hospital for patients at all points on the life span as much as they are needed for community-based care.

### **Models of Practice and the Great Ideas of the 20th Century**

Therapeutic occupation is a remarkably powerful yet flexible idea. Consider all the different philosophies and branches of science that have washed across the 20th century and that have become the theoretical bases of occupational therapy models of practice: the moral treatment initiated by members of the Society of Friends; the arts-and-crafts movement initiated by the British socialist Ruskin as an antidote to the negative effects of industrialism; the philosophy of pragmatism; the holistic medicine of Meyer; James's psychology of attention; principles of kinesiology and biomechanics; the dynamic theories of the Freudians, neo-Freudians, and ego psychologists; behaviorism and learning theory; developmental theory; humanism and existentialism; neuroscience and neuropsychology and their many schools; efficacy and competency theory; systems theory and dynamic systems theory; the social psychology of groups; ecological psychology; motor learning and motor control theories; cultural anthropology and ethnography; and narrative analysis. (For discussions of these topics and their influences on occupational therapy models of practice, see Breines, 1995; Christiansen & Baum, 1991; Kielhofner, 1992.) These schools of thought reflect many of the majestic ideas in the intellectual history of the 20th century. Even though every one of them originated from outside the occupational therapy profession, each has contributed essential theory to our models of practice. Across every model of practice, the core of therapeutic occupational synthesis can be identified: form, meaning, purpose, performance, evaluation, adaptation, and compensation. This robust flexibility at the core of our profession is the basis for my saying that therapeutic occupation will flourish in the 21st century.

## Two Recommendations

### Research

My first recommendation is research—research for occupational therapists conducted by occupational therapists and those who understand occupation as therapy. Our primary focus should be to examine the power of occupation as therapy. My vision for the 21st century is that occupational therapy will take its rightful place among the major professions in our society. The powers and complexities of occupation justify the sanctioning of a major profession. This will be especially true if the society of our descendants devotes increased attention to the actual occupations of daily life, to the meanings of life, and to the qualities of existence. Should there not be a Nobel prize for occupational therapy?

But to be a major force in research, we must examine our basic principles in highly systematic ways—ways that are accepted by the larger research community. If we do not examine the great ideas of occupational therapy, some other group will. For decades, occupational therapists have used common, everyday occupational forms and hands-on doing to enhance what Dunton (1945) called the “mental processes of reasoning or judgment or remembering” (p. 11). Recently, cognitive researchers, mainly psychologists, have developed a body of knowledge about the effects of subject-performed tasks (SPTs) on human cognition (e.g., Backman, 1985). The basic idea of SPTs is that hands-on doing, with its added sensory input and opportunity for feedback, is a greater cognitive stimulant than demonstration or other teaching techniques that do not involve hands-on experience. The problem is that the cognitive psychologists pursuing this line of research have not cited occupational therapy authors, who have advocated this principle since the beginning of the profession. Our problem here is that we have not done the research necessary to establish our special expertise in the area of hands-on doing, or occupation.

In like manner, we are only beginning to do the research that establishes our expertise in the area of occupationally embedded movement. Carr and Shepherd (1987) have written eloquently and at length about how everyday situations, such as a glass of water, can elicit therapeutic patterns of movement, such as a good hand path, in patients with neuromuscular disorders. However, these authors, neither of whom are occupational therapists, do not once cite occupational therapy or its history of using everyday occupational forms to promote therapeutic patterns of movement.

My point is that persons from other professions are coming late to the table and claiming credit for some of the great ideas of occupational therapy. These ideas deserve the most careful philosophical and scientific scrutiny. As occupational therapists, we need to own these ideas while enlightening other disciplines as to their usefulness.

Equally needed are basic research examining the nature of occupation and applied research examining models of practice. Academically respected quantitative and qualitative research methodologies should be used. One approach to research in occupational therapy is what I have called the experimental analysis of therapeutic occupation (Nelson, 1993). Here, occupational forms are contrasted to each other in terms of participants' occupational performances, impacts, adaptations, or reported meanings and purposes. A different approach,

termed *occupational science*, has been proposed by Clark et al. (1991). These authors have recommended qualitative methods for studying the multiple dimensions of naturally occurring occupations. It is critical that the profession encourage different types of inquiry, at least until there is a broad consensus that a single type of inquiry satisfactorily deals with all the research problems of the profession. I predict that no such consensus will ever develop.

To support the research enterprise, funding will be essential. A specific goal of the AOTA should be the establishment of study sections specifically devoted to occupational therapy research in federal grants management agencies, as is the case with nursing. Only those with considerable knowledge of the profession of occupational therapy can appreciate and nurture the full potential of occupational therapy knowledge. In the interim, the AOTA and the American Occupational Therapy Foundation, which is to say all of us, should make special efforts to support research that is specifically occupational. A priority is the further development of doctoral programs devoted to the development of occupational therapy knowledge. More than anything else, a sound doctoral program is a socialization experience toward a new identity as a scholar in a particular field. Although scholars of diverse backgrounds have made great contributions to knowledge in occupational therapy, a true profession requires the intense engagement at its core, which is expected in doctoral programs devoted to the development of occupational therapy knowledge.

### **Occupation, Not the A Word**

My second recommendation is for all of us to embrace and own the idea of occupation as therapy. Wilma West (1984) not only urged us to use the term *occupation* with pride, but also wrote that the term *occupation* "is infinitely more expressive and encompassing than 'purposeful activity'" (p. 22). Nothing is more important to this profession. We are called *occupational* therapists, and the essence of our profession is the use of occupation as a therapeutic method. In contrast, the term *activity* lacks the connotation of intentionality. The term *activity* denotes motion, for example, *volcanic activity*, *molecular activity*, and *gastric activity*, not occupation that is replete with meaning and purpose.

Another major problem with the use of the word *activity* is that we confuse the public. Slagle (1922) wrote about her "system of occupational analysis" (p. 16). Neither she nor we need to say activity analysis. If the essence of our profession is activity, then why are we not called activity therapists (Darnell & Heater, 1994)? We need to be able to explain occupation and things occupational to many different audiences from fellow professionals to payers, from persons with immaturities to persons with various disabilities, from journalists to the arts media, and from our students to ourselves. If we explain clearly that occupational therapy involves the active doing of things (occupations) for the sake of enhanced health, our public relations problem and our so-called identity problem will disappear immediately. We have the power to influence standard usage. There are more than 50,000 of us in this country and tens of thousands more in other English-speaking countries. If we are clear and forthright about the essential nature of our service—the use of occupation as method—then society will accommodate us. New words and new professions come into the language system all the time. This problem is entirely within our control.

Over time—keep in mind that we are talking about the next century—society and fellow health care professionals will adopt new terms that are related to what we call occupation. For example, since the founding of occupational therapy the terms *rehabilitation*, *allied health*, *deinstitutionalization*, *function*, *functional outcomes*, and *inclusion* have come into favor for very good reasons. As occupational therapists, we need to promote the good that is represented in these terms. Yet, we need to resist the temptation to redefine ourselves with every new trend in health care. We are not rehabilitation professionals—we are occupational therapists whose mission is much more basic and enduring than even the rehabilitation movement. Nor are we functional therapists or functional outcomes therapists. The term *function* is reflective of the mechanistic, business-oriented climate of these times. Automobiles function, toasters function, and livers function. Human occupation is far richer than the term *function* can possibly connote. In our era, every health professional from the surgeon to the dietitian must document so-called functional outcomes if they are going to be paid. What makes us unique is not that we document functional outcomes but that we use occupation as the method to achieve positive outcomes.

We are *occupational* therapists, and we are aptly named. Indeed we are named more aptly than many of the professions with which we work. We need to explain this clearly and assertively to the world, but a good starting point will be to explain this clearly and assertively to each other. Occupation as therapy is inclusive enough for all the occupational therapy models of practice. There is no reason to be afraid of cyanide in the tea.

## Conclusion

To summarize, occupation is a powerful force in the development of the human being. The essence of our profession is the use of occupation as therapy whose core flexibly accommodates various past, present, and future models of practice drawn from historically important theories that originated outside the profession. I proposed a CFTO, including definitions of occupational form, occupational performance, developmental structure, meaning, purpose, impact, adaptation, compensation, and occupational synthesis. The CFTO highlights the core of therapeutic occupation across diverse models of practice and provides an analytical method for comparing and contrasting different models of practice.

Basic and applied research that investigate principles of occupation are necessary not only for the standing of the profession among other disciplines, but also for the sake of our own integrity. The ultimate statement of pride and confidence in the profession will be the full adoption of the term *occupation* in the language of the profession, with each occupational therapist taking personal responsibility for explaining to the world why we are called occupational therapists.

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This lecture included audiovisual themes that cannot be reproduced in article format; therefore, this article makes use of examples and explanations suited for the printed page as opposed to the lecture stage.

## References

- Allen, C. K. (1985). *Occupational therapy for psychiatric diseases: Measurement and management of cognitive disabilities*. Boston: Little, Brown.
- American Occupational Therapy Association. (1992). Statement: Occupational therapy services in work practice. *American Journal of Occupational Therapy*, 46, 1086–1088.
- American Occupational Therapy Association. (1993). Statement: The role of occupational therapy in the independent living movement. *American Journal of Occupational Therapy*, 47, 1079–1080.
- American Occupational Therapy Association. (1994). Statement: Occupational therapy services for persons with Alzheimer's disease and other dementias. *American Journal of Occupational Therapy*, 48, 1029–1031.
- Amundson, S. J. C. (1992). Handwriting: Evaluation and intervention in school settings. In J. Case-Smith & C. Pehoski (Eds.), *Development of hand skills in the child* (pp. 63–78). Rockville, MD: American Occupational Therapy Association.
- Ayres, A. J. (1972). *Sensory integration and learning disorders*. Los Angeles: Western Psychological Services.
- Backman, L. (1985). Further evidence for the lack of adult age differences on free recall of subject-performed tasks: The importance of motor action. *Human Learning*, 3(1), 53–69.
- Baldwin, B. T. (1919). *Occupational therapy applied to restoration of movement*. Washington, DC: Commanding Officer and Surgeon General of the Army, Walter Reed General Hospital.
- Barton, G. E. (1916, December 20). *Letter to W. R. Dunton, Jr.* (Available from the American Occupational Therapy Archives, Box 1, File 12, Wilma L. West Library, 4720 Montgomery Lane, Bethesda, MD 20814)
- Baum, C. (1991). Professional issues in a changing environment. In C. Christiansen & C. Baum (Eds.), *Occupational therapy: Overcoming human performance deficits* (pp. 804–817). Thorofare, NJ: Slack.
- Breines, E. B. (1995). Understanding 'occupation' as the founders did. *British Journal of Occupational Therapy*, 58, 458–460.
- Carr, J. H., & Shepherd, R. B. (1987). A motor learning model for rehabilitation. In J. H. Carr & R. B. Shepherd (Eds.), *Movement science: Foundations for physical therapy in rehabilitation*. Rockville, MD: Aspen.
- Christiansen, C. (1990). The perils of plurality. *Occupational Therapy Journal of Research*, 10, 259–265.
- Christiansen, C., & Baum, C. (Eds.). (1991). *Occupational therapy: Overcoming human performance deficits*. Thorofare, NJ: Slack.
- Clark, F. A., Parham, D., Carlson, M. E., Frank, G., Jackson, J., Pierce, D., Wolfe, R. J., & Zemke, R. (1991). Occupational science: Academic innovation in the service of occupational therapy's future. *American Journal of Occupational Therapy*, 45, 300–310.
- Darnell, J. L., & Heater, S. L. (1994). The Issue Is—Occupational therapist or activity therapist—Which do you choose to be? *American Journal of Occupational Therapy*, 48, 467–468.

- Dunn, W., & Campbell, P. H. (1991). Designing pediatric service provision. In W. Dunn (Ed.), *Pediatric occupational therapy* (pp. 139–159). Thorofare, NJ: Slack.
- Dunton, W. R., Jr. (1945). *Prescribing occupational therapy* (2nd ed.). Springfield, IL: Charles C Thomas.
- Fidler, G. S. (1948). Psychological evaluation of occupational therapy activities. *American Journal of Occupational Therapy*, 2, 284–287.
- Fidler, G. S., & Fidler, J. W. (1978). Doing and becoming: Purposeful action and self-actualization. *American Journal of Occupational Therapy*, 32, 305–310.
- Gilfoyle, E. M. (1984). Eleanor Clarke Slagle Lectureship, 1984: Transformation of a profession. *American Journal of Occupational Therapy*, 38, 575–584.
- Hall, H. J. (1917, February 23). *Letter to W. R. Dunton, Jr.* (Available from the American Occupational Therapy Archives, Box 2, File 15, Wilma L. West Library, 4720 Montgomery Lane, Bethesda, MD 20814)
- Howe, M. C., & Schwartzberg, S. L. (1986). *A functional approach to group work in occupational therapy*. Philadelphia: Lippincott.
- Johnson, J. A. (1986). *Wellness: A context for living*. Thorofare, NJ: Slack.
- Kasch, M. (1990). Acute hand injuries. In L. W. Pedretti & B. Zoltan (Eds.), *Occupational therapy practice skills for physical dysfunction* (pp. 477–506). St. Louis, MO: Mosby.
- Kidner, T. B. (1930). *Occupational therapy: The science of prescribed work for invalids*. Stuttgart, Germany: Kohlhammer.
- Kielhofner, G. (1992). *Conceptual foundations of occupational therapy*. Philadelphia: F. A. Davis.
- Kielhofner, G. (1995). *A model of human occupation: Theory and application* (2nd ed.). Baltimore: Williams & Wilkins.
- Levit, K. (1995). Neurodevelopmental (Bobath) treatment. In C. A. Trombly (Ed.), *Occupational therapy for physical dysfunction* (4th ed., pp. 446–462). Baltimore: Williams & Wilkins.
- Mann, W. C., & Lane, J. P. (1991). *Assistive technology for persons with disabilities: The role of occupational therapy*. Rockville, MD: American Occupational Therapy Association.
- Mathiowetz, V., & Haugen, J. B. (1995). Evaluation of motor behavior: Traditional and contemporary views. In C. A. Trombly (Ed.), *Occupational therapy for physical dysfunction* (4th ed., pp. 157–185). Baltimore: Williams & Wilkins.
- Mosey, A. C. (1970). *Three frames of reference for mental health*. Thorofare, NJ: Slack.
- National Society for the Promotion of Occupational Therapy. (1917, March 15). *Certificate of Incorporation of the National Society for the Promotion of Occupational Therapy*. (Incorporated in the District of Columbia and notarized by James A. Rolfe in Clifton Springs, New York)
- Nelson, D. L. (1988). Occupation: Form and performance. *American Journal of Occupational Therapy*, 42, 633–641.
- Nelson, D. L. (1993, June). The experimental analysis of therapeutic occupation. *Developmental Disabilities Special Interest Section Newsletter*, 16(2), 7–8.
- Nelson, D. L. (1994). Occupational form, occupational performance, and therapeutic occupation. In C. B. Royeen (Ed.), *AOTA self-study series: The practice of the future: Putting occupation back into therapy, lesson 2* (pp. 9–48). Rockville, MD: American Occupational Therapy Association.
- Nelson, D. L. (1996). Therapeutic occupation: A definition. *American Journal of Occupational Therapy*, 50, 775–782.
- Nelson, D. L., Konosky, K., Fleharty, K., Webb, R., Newer, K., Hazboun, V. P., Fontane, C., & Licht, B. (1996). The effects of an occupationally embedded exercise on bilaterally assisted supination in persons with hemiplegia. *American Journal of Occupational Therapy*, 50, 639–646.

- Pizzi, M. (1993). Environments of care: Hospice. In H. L. Hopkins & H. D. Smith (Eds.), *Willard and Spackman's occupational therapy* (8th ed., pp. 853–864). Philadelphia: Lippincott.
- Quiroga, V.A.M. (1995). *Occupational therapy: The first 30 years, 1900–1930*. Bethesda, MD: American Occupational Therapy Association.
- Reilly, M. (1962). Occupational therapy can be one of the great ideas of 20th century medicine. Eleanor Clarke Slagle Lecture. *American Journal of Occupational Therapy*, 16, 1–9.
- Rosenfeld, M. S. (1993). *Wellness and lifestyle renewal*. Rockville, MD: American Occupational Therapy Association.
- Slagle, E. C. (1922). Training aides for mental patients. *Archives of Occupational Therapy*, 1, 11–17.
- Toglia, J. P. (1991). Generalization of treatment: A multicontext approach to cognitive perceptual impairment in adults with brain injury. *American Journal of Occupational Therapy*, 45, 505–516.
- Torrance, M. (1993). Acute care occupational therapy. In H. L. Hopkins & H. D. Smith (Eds.), *Willard and Spackman's occupational therapy* (8th ed., pp. 771–783). Philadelphia: Lippincott.
- Tracy, S. E. (1910). *Studies in invalid occupation: A manual for nurses and attendants*. Boston: Whitcomb & Barrows.
- Trombly, C. A. (1995). Occupation: Purposefulness and meaningfulness as therapeutic mechanisms. 1995 Eleanor Clarke Slagle Lecture. *American Journal of Occupational Therapy*, 49, 960–972.
- Vergara, E. (1993). *Foundations for practice in the neonatal intensive care unit and early intervention: A self-guided practice manual*. Rockville, MD: American Occupational Therapy Association.
- West, W. L. (1984). A reaffirmed philosophy and practice of occupational therapy for the 1980s. *American Journal of Occupational Therapy*, 38, 15–23.
- Yerxa, E. J. (1967). Authentic occupational therapy. 1966 Eleanor Clark Slagle Lecture. *American Journal of Occupational Therapy*, 21, 1–9.
- Yerxa, E. J. (1994). Dreams, dilemmas, and decisions for occupational therapy practice in a new millennium: An American perspective. *American Journal of Occupational Therapy*, 48, 586–589.