Two recurring issues in occupational therapy are a holistic approach to the care of patients and the scientific basis of our treatment methodologies. These issues have become part of the history and philosophy of occupational therapy through the contributions of Bird T. Baldwin at the beginning of this century. Baldwin (1875–1928) was a psychologist who served as Chief Psychologist and Director of Occupational Therapy at Walter Reed General Hospital in Washington, DC, between 1918 and 1919. At that time, Baldwin considered occupational therapy to be a branch of psychology with remedial and practical applications. In addition, “the differentiation between occupational therapy and vocational rehabilitation had not been made” (Reed, 1984, p. 282). The occupational therapy department was founded toward the end of World War I, when many veterans returned from active duty with new and complex rehabilitative needs.

In the occupational therapy department at Walter Reed, Baldwin and the reconstruction aides working under him looked beyond their patients' physical needs and applied a multifaceted, comprehensive approach to rehabilitation that still has relevance. According to Baldwin (1919b), the purpose of occupational therapy “is to help each patient find himself and function again as a complete man physically, socially, educationally, and economically” (p. 447).

In modern terms, Baldwin's approach may be deemed holistic. According to the Nurse's Reference Library (1983), holistic health care refers to “the system of comprehensive total patient care that considers the physical, emotional, social, economic, and spiritual needs of the person; the responses to the illness; and the impact of the illness on the person's ability to meet self-care needs” (p. 457). In occupational therapy today, the term biopsychosocial is used to refer to a similar model of health. According to this model, health is “the result of the interaction of biological, psychological and sociocultural factors” (Reed, 1984, p. 61).

Baldwin also was a proponent of the scientific method. Before his assignment to Walter Reed, he taught at the University of Texas and at Swarthmore College in Pennsylvania where he studied various measurement techniques and looked for correlations between physical and intellectual growth. His interest in developing and applying standardized measurement techniques would reappear in his direction of the Walter Reed occupational therapy department.

From Walter Reed, Baldwin moved to the Iowa Child Welfare Research Station at the State University of Iowa where he studied, among other things, the relationship between physical and mental growth and the influences of heredity and environment on development.
Possible Influences on Baldwin

In his integration of holism and empiricism Baldwin seems to have been influenced by one of his professors, William James. In a 1911 publication on James’s contributions to education, Baldwin (1911b) wrote, “Among the most important presuppositions underlying his educational psychology are those of the relation of mind and body, where he theoretically accepts the view of the interaction of one with the other” (p. 374).

Baldwin (1911b) pointed out that James promoted “an empirical attitude which rejects bare abstractions in education and looks toward consequences and differences” (p. 381). He praised James for this approach, which he thought shed scientific light on practical problems.

John Dewey (1916), another renowned educator, may also have influenced Baldwin. Baldwin wrote a number of literature reviews, frequently selecting publications with holistic slants. One such publication was Dewey’s “Significant Book,” which included discussions on “education from the social, the biological and the disciplinary point of view, as well as the values of different types of education and theories of knowledge and morals” (Baldwin, 1917, p. 341).

In 1911, when considering intellectual impairments, Baldwin (1911a) asked, “Is Mendel’s law which has been proved for plants and animals applicable to humans?” (p. 84). (Mendel’s law established certain principles of heredity, which provided the foundation for modern genetics and the current chromosome theory of heredity.) In looking for a biological basis for intellectual impairments, Baldwin united mind-body concepts in an empirical pragmatic framework. He also noted research that attempted to correlate physical size and intelligence. In one of his own studies, Baldwin (1911a) measured the intelligence of mentally retarded children using the “Binet and Simon tests” (p. 90). During his career, Baldwin criticized these tests’ basic tenets and applications. Some of their subtests, for example, those focusing on drawing, motor control, and stereognosis, are found in occupational therapy settings today, but they do not carry the pejorative and narrow interpretations to which Baldwin objected.

Baldwin changed his focus from persons with mental retardation to normal adolescents at the time he transferred from the University of Texas to Swarthmore College. His holistic outlook was still evident as revealed in his commentary on child age. “For the purpose of psycho-educational analysis,” he wrote, “it should be recognized that a child has five parallel or interrelated ages: a chronological age, a physiological age, a mental age, a pedagogical age, and a moral age” (Baldwin, 1914a, p. 559). Baldwin did not feel that these ages necessarily developed simultaneously. In 1914, he published an extensive study of physiological growth and school progress and recommended that physiological age rather than chronological age become the criterion for school grade placement and marking. He also recommended that physiological age criteria augment the “Binet measuring scale” as it was called at the time (Baldwin, 1914b, p. 97).

The Scientific Method

Baldwin (1915) had a strong commitment to the scientific method. In a literature review on educational psychology, he addressed the difficulties involved in maintaining a scientific approach while working with humans:

Science is a body of generalized knowledge and the treatment is, aside from the discussion of laboratory methods, anthropological in method. The fine arts evoke inner reactions that are extraordinarily difficult to analyze and control and this in a measure explains their vagueness and consequent neglect in schools. (p. 382)

Baldwin made numerous references to the application of standardized tests in his quest for an empirical understanding in studies of normal and learning-disabled as well as delinquent children and adolescents. He also thought that applying the tools of psychology to the educational process could help make the educational process more scientific. (Thorndike, perhaps the most influential researcher in education at that time, was also struggling with this issue.) Baldwin was certainly correct in assuming that the introduction of norms and measuring scales could aid educators in formulating objectives and measuring achievement at various levels. During Baldwin’s presence at Walter Reed, measurement devices and activity analysis were applied in corrective shops to “isolate, classify, repeat and to a limited degree standardize and control the type of movements involved in particular occupational and recreational operations” (Baldwin, 1919c, p. 5).

Baldwin and Occupational Therapy

Between 1918 and 1919, Baldwin served as a major in the Sanitary Corps of the United States Army at Walter Reed General Hospital. In February 1918, a small carpentry shop at Walter Reed was instituted for use by patients under the direction of a local carpenter. The work in this shop proved to be a morale booster for patients. Shortly thereafter, reconstruction aides were appointed to an orthopedic ward to teach weaving. “From this small beginning the activities broadened to include both remedial and palliative courses” (Standalee, 1946, p. 150). The focus of the reconstruction aides’ efforts shifted from diversionary activities to more purposeful ones. By April of that year, funds
for shop equipment and for an educational director were secured. Apparently, the value of the reconstruction aides’ work had become evident.

In late April of 1918, Baldwin was assigned to the hospital; this made him the first psychologist to serve on a hospital staff. “He undertook the task of organizing a department of occupational therapy for soldiers with physical injuries” (Reed, 1984, p. 278). “By the later part of the summer, the department of occupational therapy was not only stimulating patient interest, ... it was serving as a training and demonstration school for other hospitals” (Baldwin, 1919d, p. 372). The department also served as a laboratory for experimenting with pedagogical methods, equipment standardization, and personnel training. There was a rapid turnover of patients, and the department thrived.

An Early Definition of the Purpose of Occupational Therapy

From a one-room carpentry shop, the occupational therapy department burgeoned into seven workshops situated in five buildings. The activities included mechanics, electronics, drafting, woodworking, arts and crafts, weaving, and physical education. Such variety assured that each individual’s unique needs could be addressed. These activities reflected Baldwin’s interest in a holistic approach and the scientific method.

The various subdivisions tended to the numerous aspects of patient care. The general aims were curative and vocational, with much overlap between the two. Curative referred to “functional restoration” and vocational to “the acquisition of habits of industry” (Baldwin, 1919b, p. 447). The curative workshop setting enabled patients to produce tangible products (which reflected their efforts in occupational therapy) while participating in social interactions. “[The patient] is thus brought to full realization of his social fitness and economic usefulness—a factor which is of inestimable value in encouraging and inspiring him” (Baldwin, 1919d, p. 372).

In the workshops, finding an activity that would provide the required motions in the appropriate manner was of paramount importance. Activity analysis ensured that optimal curative goals, such as functional independence, were attained. Vocational goals were also set. An activity that could provide both physical and vocational skills was considered ideal. When physical goals were unnecessary, vocational goals took priority. An activity with a “vocational outlook was assigned in accordance with the patient’s choice and the recommendation of the vocational advisor” (Baldwin, 1919b, p. 447).

When patients could not return to their former vocations, avocational interests were considered. Baldwin believed that purposeful activity, which he thought helped the total person, was superior to exercise, which he thought addressed solely the bodily aspect of an injury. Being aware that physical dysfunction affects more than a person’s physical being, Baldwin was interested in rehabilitating the whole person, not merely an extremity.

Baldwin considered it to be the role of occupational therapy to look toward both the mental and physical well-being of the patient. He claimed that occupational therapy activities should require “a series of specified voluntary movements involved in the ordinary trades and occupations, physical training, play or the daily routine activities of life” (Baldwin, 1919a, p. 280). He believed that a patient’s morale was the single most important influence upon his or her convalescence. Enthusiastic rehabilitation aides and measurement records showing progress helped boost patients’ morale during plateaus in their convalescence. Besides being morale boosters, measurement techniques also kept physicians abreast of patients’ progress.

A Need for Measurement and Evaluation

Because no apparatus existed to measure range of motion, Baldwin devised his own. Using a different device for each joint, the instruments he had fabricated in the curative workshops measured the range of motion of any joint of the body. He outlined measurement protocols that controlled variation for accurate replication. Had time permitted, he probably would have liked to standardize his methods and obtain norms. Spring balance scales, formerly used to test the muscle strength of patients with infantile paralysis, were used to measure muscle strength. Splint wearing was recommended for patients who risked stretching flaccid or weak muscles during activity.

Initial evaluations recorded at the Walter Reed Department of Occupational Therapy reflected Baldwin’s holistic approach. Range of motion and strength measurements were augmented by “the patients’ social, educational and vocational history, an intelligence rating and further psychological examinations which emphasized motor coordination” (Baldwin, 1919b, p. 447). “Examinations and tests were not ends in themselves, but merely means for determining the disabled soldier’s capacities and possibilities for remedial training” (Baldwin, 1919a, p. 275).

Despite the department’s success, patient census declined, and by the autumn of 1918, cutbacks in personnel began. On April 17, 1919, 1 year after his appointment, Baldwin’s assignment to Walter Reed was terminated.

At the Iowa Child Welfare Research Station, where he worked next, Baldwin continued his empirical research on physical and mental growth and development (Baldwin, 1925a, 1925b, 1928a, 1928b).

The American Journal of Occupational Therapy

259
Although some of Baldwin's assumptions evolved as products of the time in which he lived, his empirical search for mind-body connections is noteworthy. Subsequent research on topics such as anaeclitic depression support the existence of such a connection.

Until his death in 1928, Baldwin tenaciously retained his holistic approach while looking at the interaction of mind and body in human growth and development. He called for scientific research to investigate these interactions and remained dissatisfied with the intelligence measures of his time because, among other drawbacks, they lacked norms and failed to address affect.

Discussion and Conclusion

Although half a century has passed since Baldwin's death, aspects of his work are still relevant to the practice of occupational therapy. Baldwin used the scientific method in combination with the holistic approach to treat the war wounded. Throughout his career, he used standardized evaluation and treatment methods when they existed and created them when they did not. He was aware of the shortcomings of many subjective evaluation techniques of his day. He also believed in the connection between mind and body and thought that ignoring this connection limited the value of evaluation measures.

We can learn from Baldwin’s example. We can use objective evaluations that are valid and reliable rather than subjective evaluations that are not. We can apply the scientific method in examining our treatment methods. We know that human beings are made up of social, psychological, physical, and spiritual elements and that when one of these elements is dysfunctional, the others are affected. By acknowledging this interconnection of mind and body, we can focus our treatments on the total person rather than on isolated physical or psychiatric symptoms.

Acknowledgments

I thank Professor Maureen H. Fleming, of Tufts University, for her guidance and inspiration.

This paper is based on a presentation made in April 1987 at the 67th Annual Conference of the American Occupational Therapy Association in Indianapolis.

References