HANDBOOK OF EARLY CHILDHOOD INTERVENTION

SECOND EDITION

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Early Childhood Intervention:

A Continuing Evolution

SAMUEL J. MEISELS AND JACK P. SHONKOFF

Children are the touchstone of a healthy and sustainable society. How a culture or society treats its youngest members has a significant influence on how it will grow, prosper, and be viewed by others. In the words of the Carnegie Corporation's 1996 report, entitled *Starting Points: Meeting the Needs of Our Youngest Children*, it is these children

whose boundless energy is matched only by their curiosity and creativity, whose agility is the envy of their parents and teachers, [and] whose openness and expressiveness are always remarkable and occasionally breathtaking. Watching them, it is easy to believe that they can do anything they want to do, be anyone they want to be; it is easy to summon the optimism that yet a new generation is rising to fuel this nation's historical belief in endless possibility. (p. 3)

Nevertheless, not all children are born healthy; not all children have access to good nutrition, adequate health care, and acceptable housing; not all children are raised by parents who can comfort, nurture, and challenge them appropriately; and not all children are born free of disabilities or other biological vulnerabilities. It is the mission of early childhood intervention to help young children and their families to thrive. The fundamental challenge that faces early intervention services is to merge the knowledge and insights of scholars and practitioners with the creative talents of those who design and implement social policy initiatives and to invest the products of this alliance in the future of our children and thereby in the well-being of our society as a whole.

The mandate to provide support and to intervene on behalf of infants and young children – especially those who are vulnerable, disabled, or at risk - appears, at first glance, to be a straightforward goal. One would think that a child with a disability, or one whose early life experiences are dominated by the material deprivations of poverty or by the caregiving of an overwhelmed, isolated, or abusive parent, would be the uncontested beneficiary of adequately funded public services. Indeed, many researchers and advocates have proposed that the allocation of resources for this most vulnerable and disenfranchised population group should be based simply on its moral imperative (e.g., Caldwell, 1986; Children's Defense Fund, 1998; Edelman, 1987; National Commission on Children, 1991; Schorr, 1988; Turnbull & Turnbull, 1985). Moreover, evidence is emerging that an "investment" in the health and development of young children will also return monetary dividends in the subsequent, decreased need for special education, custodial care, welfare support, and incarceration for delinquent behavior (Barnett, 1985; Barnett, this volume; Council of Economic Advisers, 1997; Karoly et al., 1998; Warfield, 1994; Zigler, Taussig, & Black, 1992).

Despite its intrinsic appeal, however, early child-hood intervention has not been embraced uniformly or supported consistently. It has endured battles over the delineation of its goals and objectives (Casto & White, 1993; Clarke & Clarke, 1976; Ferry, 1981; White, Taylor, & Moss, 1992), specification of program models and methods (Anastasiow & Mansergh, 1975; Meisels, Dichtelmiller, & Liaw,

1993), and selection of service providers and recipients (Bricker & Slentz, 1988; Gallagher, Malone, Cleghorne, & Helms, 1997; Neuman, Hagedorn, Celano, & Daly, 1995). It has tried to respond to the challenge to document its effectiveness while struggling with the methodological and logistical constraints of inadequate outcome measures, unavoidable sample attrition, limited funds to sustain long-term longitudinal studies, and ethical barriers to the maintenance of untreated control groups of children with documented problems (Meisels, 1985a; Shonkoff, 1992; Shonkoff & Hauser-Cram, 1987; Shonkoff, Hauser-Cram, Krauss, & Upshur, 1988).

The history of early childhood intervention in the United States illustrates the power of an idea and set of practices that continue to evolve over time. Whereas its early roots were established in a variety of fields that have converged over the past four decades, its theoretical foundation continues to grow and mature from both its successes and disappointments. On the threshold of the twenty-first century, the concept of early childhood intervention faces a formidable array of political, practical, and theoretical challenges and opportunities. Its antecedent pathways and their links to the tasks of the present and the future are the focus of this chapter.

The chapter is divided into four sections. The first explores the diverse origins of the field of early childhood intervention prior to the 1960s. The second section provides an overview of the dramatic advances of the past four decades. The third focuses on the provisions of the landmark federal special education law that mandates comprehensive family-centered services for young children with developmental disabilities and delays. Finally, the chapter closes with an examination of the conceptual and programmatic challenges facing the field at the beginning of the twenty-first century.

HISTORICAL ROOTS AND EARLY FOUNDATIONS

The overall framework of contemporary early child-hood intervention has evolved from multiple sources. This section focuses on the historical contributions of four related domains: early childhood education, maternal and child health services, special education, and child development research.

Early Childhood Education

The intellectual roots of early childhood education can be traced to the relatively recent historical recognition of childhood as a unique period of life and to the writings of the European philosophers of the seventeenth and eighteenth centuries (Aries, 1962). Comenius (1592-1670) characterized the "School of the Mother" as the most appropriate vehicle for education in the first six years of life and advocated that the child learn "spontaneously ... in play whatever may be learned at home" (Eller, 1956, p. 116, cited by Clarke-Stewart & Fein, 1983). John Locke (1632-1704) popularized the notion of the tabula rasa, suggesting that children from birth are a blank slate, thereby challenging the commonly held concept of genetically predetermined behavior and competence. Jean-Jacques Rousseau (1712–78), an even stronger advocate of a child's unspoiled nature, urged a laissez-faire approach to the early childhood years to allow for the natural unfolding of individual talents. These views were largely echoed by the nineteenth-century educational experiments of Tolstoy (1967) and by those of A. S. Neill (1960) and other school reformers in the latter half of the twentieth century. In contrast to the humanistic child development attitudes of eighteenth- and nineteenth-century Europe, child-rearing practices in the American colonies during the seventeenth and eighteenth centuries were dominated by a harsh Puritan influence, which focused on spiritual salvation and advocated rigid discipline in early education to counteract the innate "sinful" tendencies of young children (Greven, 1973; Wishy, 1968).

classes, which were based on a philosophy grounded in traditional religious values and in a belief in the importance of learning through supervised play, were established in Germany by Friedrich Froebel in the early 1800s (Brosterman, 1997). During the latter half of the nineteenth century, these ideas were transported across the Atlantic and stimulated the proliferation of experimental programs throughout the United States (Cuban, 1992). Shortly after the first public school kindergarten was established in St. Louis in 1872, the National Education Association made an official recommendation that kindergarten become a regular part of the public school system (Peterson, 1987).

The interactive influences of industrialization, urbanization, and secularization provided the social context in which the kindergarten movement developed in the nineteenth-century United States. With much early support coming from private agencies and philanthropic groups, advocates of formal kindergarten programs emphasized the potential benefits for poor children and focused particularly on recent U.S. immigrants and those who were living in urban slums (Braun & Edwards, 1972; Cremin, 1988).

Within a few decades of its early popularization in the United States, however, the kindergarten movement was beset with a series of battles over goals and curricula. Traditionalists remained loyal to the philosophy of Froebel and defended their value-driven educational practices. In contrast, reformists worked to liberalize the kindergarten experience and looked beyond its moralistic foundation to the emerging discipline of child psychology for more empirically derived principles based on the systematic observations, data collection, and analyses of early child development researchers (Hill, cited in Braun & Edwards, 1972). During the early 1900s, G. Stanley Hall's developmental approach to early childhood curriculum and John Dewey's pragmatic emphasis on the functional purposes of education were particularly influential.

As research about the developmental process progressed, and as social and political forces shifted, sharp disagreements over the goals of kindergarten persisted throughout the twentieth century (Bredekamp & Copple, 1997; Hirsch, 1996). Its primary objectives alternated between an emphasis on early academic achievement and an emphasis on social and emotional development, including exploration and discovery of the world. Although publicly supported kindergarten programs are not yet mandated in all parts of the country, kindergarten is considered a standard component of the American education system and has become instrumental in introducing child development ideas to the educational mainstream.

NURSERY SCHOOLS. Similar to kindergartens, nursery schools originated in Europe. In 1910, Rachel and Margaret MacMillan established the first nursery school in London, which began as a health clinic that was later expanded into an open-air

school. This experimental program was designed to provide comprehensive prevention-oriented services to meet young children's social, physical, emotional, and intellectual needs. Unlike the religious orientation of Froebel's kindergarten, the MacMillans' curriculum was based on secular social values and focused on the development of self-care, individual responsibility, and educational readiness skills (Peterson, 1987).

While the MacMillans developed their model of early medical–educational intervention in England, Maria Montessori opened the first nursery school in the slums of Rome. Montessori, a physician and former director of an institution for children with mental retardation, applied the methods she had developed for training children with intellectual impairments to the preschool education of nondisabled, urban, poor children. The Montessori method departed significantly from traditional early childhood curricula in its emphasis on individualized self-teaching by children within a carefully prepared classroom environment (Elkind, 1967).

The initial introduction of the Montessori approach to preschool education in the United States had minimal impact, as it was lost amidst the battles then being waged among the Froebelian conservatives, the liberal-progressive adherents of the philosophy of Dewey, and the newly emerging "American" positivism championed by such prominent psychologists as Thorndike and Kilpatrick (Braun & Edwards, 1972). Consequently, interest in the Montessori method remained essentially dormant in the United States until the 1960s. The rise in its popularity in the latter half of this century, however, has been greatest among the middle classes, rather than among those who work with poor or disabled children - the populations for whom the method was originally designed (Peterson, 1987).

The nursery school movement first gained popularity in the United States in the 1920s, based upon an adaptation of the MacMillans' model that attached a great deal of importance to parent involvement within the school program. In contrast to the kindergarten focus on school readiness, early nursery school programs were designed to nurture exploration and to facilitate social–emotional development. By the early 1930s, approximately 200 nursery schools existed in the United States, half of which were associated with colleges and

universities, including some of the most productive child development laboratories in the country. The remaining programs were operated as private schools or were sponsored by child welfare agencies (Peterson, 1987).

During the Depression of the 1930s, the number of nursery schools increased dramatically as federal relief programs were developed to subsidize unemployed teachers. With the onset of World War II, the need for women to work in defense plants led to further expansion of the schools and to the establishment of federally supported day care centers under the Lanham Act of 1940 (Morgan, 1972). Prior to this period, child care services were utilized primarily by the working poor. The employment of large numbers of middle-class women to support the war effort blurred the distinctions between day care programs and nursery schools. After the war ended, however, federal support for child care terminated, large numbers of women left the workforce to raise families, and many programs closed. Without public resources, nursery schools drifted from their early mission of serving poor children and became increasingly available only to those who could afford private tuition.

In recent years, as women have chosen or been compelled by circumstances to combine both child rearing and employment outside the home, the distinctions between child care programs and nursery schools have become blurred once again (see Kamerman, this volume). In this social context, the debate about the balance between "care" and "education" in the early preschool years has resumed with considerable intensity (see Barnett & Frede, 1993; Hauser-Cram, Pierson, Walker, & Tivnan, 1991; Kahn & Kamerman, 1987; Kamerman & Kahn, 1995; Provence, Naylor, & Patterson, 1977).

SUMMARY. An examination of the historical roots of early childhood education in the United States tells us much about our enduring traditions and changing values. First, it reveals a willingness to explore ideas that were developed in other societies and a determination to adapt them to our own perceived needs. Second, it emphasizes the extent to which the interests of young children and their families are always addressed within the constraints of concurrent political and social demands. Third, it highlights the degree to which early childhood

programs have alternatively been developed to meet the needs of poor children or middle-class children and their families. Finally, it underlines the extent of inevitable overlap that exists among the generic health, educational, and social needs of all young children regardless of socioeconomic status.

Early childhood intervention services have been influenced significantly by our history of education for young children prior to traditional school entry. The central features of these early programs that have become firmly embedded in current intervention efforts include a child-centered curriculum focus; an emphasis on early socialization of the child outside of the family; an enhanced understanding of child development and the practical applications of developmental theory; and a belief in the importance of the early years as a foundation for later social, emotional, and intellectual competence. This conceptual legacy, in conjunction with the wealth of materials, resources, and techniques that have been refined over the years, is woven throughout the dayto-day activities of contemporary early intervention programs.

Maternal and Child Health Services

In much the same way that the industrialization and secularization of the nineteenth century provided fertile ground for the development of new concepts in early childhood education, persistently high mortality rates among young children promoted greater concern for their physical health. In fact, many pediatric authorities in the late 1800s urged a de-emphasis on educational stimulation before five years of age to prevent the diversion of "vital forces" from activities that promoted physical well-being (Griffith, 1895; Holmes, 1857). In a classic textbook, one of the most prominent pediatricians at the turn of the century wrote:

Great injury is done to the nervous system of children by the influences with which they are surrounded during infancy, especially during the first year... Playing with young children, stimulating to laughter and exciting them by sights, sounds, or movements until they shriek with apparent delight may be a source of amusement to fond parents and admiring spectators, but it is almost invariably an injury to the child... It is the plain duty of the physician to enlighten parents upon this point, and insist that the infant shall be kept quiet, and that all such playing and romping as has been referred to shall, during the first year at least, be absolutely prohibited. (Holt, 1897, p. 5)

THE CHILDREN'S BUREAU. In 1912, in an attempt to address the widespread problems of high infant mortality, poor physical health, and exploitation of working children, Congress established a Children's Bureau in the Department of Labor "to investigate and report . . . upon all matters pertaining to the welfare of children and child life among all classes of our people" (quoted in Lesser, 1985, p. 591). In its first annual report, the Bureau acknowledged its responsibility to serve all children but noted that particular attention would be focused on "those who were abnormal or subnormal or suffering from physical or mental ills" (Bradbury, 1962, cited in Lesser, 1985, p. 591). On the basis of a decision to emphasize the concept of prevention, and having addressed the issue of infant mortality as the object of its first investigation, the Children's Bureau proceeded to conduct early studies in such subject areas as day care, institutional care, mental retardation, the health of preschool children in selected cities, and the care of "crippled children" (Lesser, 1985).

As the first official acknowledgment of a federal responsibility for children's welfare, the establishment of the Children's Bureau provided a foundation for governmental data collection and federal grants to promote the health and development of the nation's most vulnerable children. In its earliest studies, the Bureau highlighted striking correlations between socioeconomic factors and infant and maternal deaths. These data established a firm justification for programs supported by the Sheppard-Towner Act during the 1920s that increased public health nursing services and stimulated the creation of state child hygiene divisions and permanent maternal and child health centers throughout the country (Steiner, 1976).

Although the development of programs for children with disabilities progressed more slowly than services for those who were poor, data collected by the Children's Bureau through its state surveys served to highlight marked unmet needs in this area as well. Consequently, the 1930 White House Conference on Child Health and Protection recommended that federal funds be made available to each

of the states to establish programs for "crippled children" that reflected cooperation among medical, educational, social welfare, and vocational rehabilitation agencies to provide a comprehensive array of diagnostic and treatment services (Lesser, 1985).

TITLE V. When the Social Security Act was enacted in 1935, the importance of a federal responsibility for the well-being of children and their mothers was reinforced explicitly. Title V of this landmark legislation contained three major components that established the framework for resource allocation and program development that has influenced national health policy for children and families over the succeeding half century (see Magee & Pratt, 1985).

Part I (Maternal and Child Health Services) authorized financial assistance to states to develop services designed to promote the general health of mothers and children, with special emphasis on program initiatives for rural and economically depressed areas. The most common activities supported by such funds included prenatal care, well-baby clinics, school health services, immunization programs, public health nursing, nutrition services, and health education.

Part II (Services for Crippled Children) created the first federal program in which state funds were matched by federal funds in the provision of medical services to a targeted patient group. The law was clear in its intent to develop a comprehensive service system, including case finding, diagnosis, treatment, and follow-up care. The prevention of "crippling" diseases and the amelioration of secondary handicaps were highlighted as central goals, and each state was required to promote cooperative efforts between health and welfare groups to achieve such ends. The definition of crippled children was left to the states and, although more than three-quarters of those who received services in the 1930s and 1940s had orthopedic problems, by the mid-1950s that proportion had dropped to less than 50% as increasing numbers of children with other chronic disabilities (e.g., heart disease, seizure disorders, and so forth) were identified.

Part III (Child Welfare Services) of the Title V program authorized funding to state welfare agencies to develop programs (especially in rural areas) for the care and protection of homeless, dependent, and

neglected children, as well as children considered to be in danger of becoming delinquents (Lesser, 1985).

In 1939, nonmatching Title V funds were appropriated for "special projects of regional and national significance" (SPRANS grants), thus enabling states to develop innovative programs beyond the core of mandated services. Subsequently, these grants provided support for such wide-ranging initiatives as improved care for premature infants, training of professionals, and applied research on children with a wide variety of chronic illnesses and disabling conditions, including sensory impairments, seizure disorders, and congenital heart disease.

EPSDT. In 1965, the Medicaid provisions of the Social Security Act (Title XIX) were signed into law to improve the quality and accessibility of medical services for all those living in poverty. Although designed primarily as a medical reimbursement program to be administered by the states and jointly financed by state and federal funds, Medicaid does include mandated programs that reflect specific federal interest in early childhood intervention for poor children. One of the best known of these efforts is the Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT).

EPSDT was initiated in the late 1960s as part of a national effort to improve the health and welfare of poor children. It mandated the early and periodic medical, dental, vision, and developmental screening, diagnosis, and treatment of all children and youth under 21 years of age whose families qualified for Medicaid eligibility. Recognition of the wide-ranging and apparently preventable problems among the nation's youth was one of the incentives for formulating and enacting this new program (Foltz, 1982). Thus, EPSDT was designed to ensure early identification of such problems and to provide funds for subsequent intervention. Indeed, this program was conceived as an attempt to break the cycle of poverty, to remedy the health consequences of uneven economic circumstances, and to improve poor children's health by providing services designed to have a high payoff in later well-being (Meisels, 1984). Unfortunately, EPSDT's record of success has been uneven, and as it continues into its fourth decade of existence - especially with recent changes in the welfare and Medicaid laws - its effectiveness has been impaired (Foltz,

1982; Margolis & Meisels, 1987; Meisels & Margolis, 1988; Ohlson, 1998).

SUMMARY. Unlike education, which is accepted as a traditional responsibility of state and federal government, health care services in the United States are provided by a complex amalgamation of public and private resources and delivery systems. Thus, any attempts on the part of the federal government to regulate or otherwise influence the organization or delivery of medical services are always met with some degree of organized opposition, noncompliance, or both, in the private sector. In this context, the early history and subsequent growth of publicly supported maternal and child health and crippled children's services are striking. Indeed, within the American political system, there is a persistent, powerful, underlying consensus that the care and protection of children's health is too important to be left to the "wisdom" of the free market, particularly for those who are poor or those who have a chronic disabling condition. The creation in 1997 of the State Children's Health Insurance Program (SCHIP) under Title XXI of the Social Security Act, during a period of marked public resistance to increased government spending, further underscores the political salience of child health concerns. Furthermore, as the single largest federal commitment to child health since the enactment of Medicaid, SCHIP moved beyond the domain of poverty to include the needs of uninsured children of low-income working families. Whether recent changes in health care management and reduced public health and welfare benefits will both have an adverse impact on child health and wellbeing have yet to be seen.

Special Education

The history of special education services for children with disabilities provides a third lens through which we can examine the evolution of early childhood intervention services. In ancient times, young children with physical anomalies or obvious disabilities were often the victims of active or passive euthanasia. During the Middle Ages and in succeeding centuries, individuals with mental retardation were either tolerated as court jesters or street beggars (see Ariès, 1962) or imprisoned or otherwise institutionalized (see Chase, 1980).

Most historical overviews of the field of special education begin with the attempts by Itard, in the late eighteenth century, to teach the "wild boy of Aveyron," using a set of sensory training techniques and what is currently characterized as behavior modification. However, Itard's student, Edouard Seguin, is generally acknowledged as the most important pioneer in this field. As director of the Hospice des Incurables in Paris, Seguin developed a "physiological method of education" for children with disabilities. This method was based on a detailed assessment of individual strengths and weaknesses and a specific plan of sensorimotor activities designed to correct discrete difficulties. Through painstaking observations, Seguin described the early signs of developmental delay and emphasized the importance of early education (Crissey, 1975). As noted earlier, his methods were later adapted by Montessori for the education of poor preschool children in Rome.

Seguin's pessimism about the benefits of special education initiated later in life was complemented by his belief in the critical importance of early intervention. He stated, "If the idiot cannot be reached by the first lessons of infancy, by what mysterious process will years open for him the golden doors of intelligence?" (quoted in Talbot, 1964, p. 62). Seguin was, indeed, one of the first "early interventionists."

RESIDENTIAL PLACEMENTS. Inspired by Seguin's work in Paris, educational programs for persons with mental retardation proliferated throughout the world during the early 1800s. In the latter half of the nineteenth century, residential institutions were built in the United States, and, stimulated by Seguin's immigration to this country, his teaching techniques were incorporated into many of these newly opened facilities. In 1876, the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons was formed, with Seguin as its first president, to provide a mechanism for communication among those interested in the education of persons with mental retardation. (In 1906, the name of the organization was changed to the American Association for the Study of the Feeble-Minded; in 1933, it was changed again to the American Association on Mental Deficiency; and in 1987, the name was changed for the third time to the American Association on Mental Retardation). By the end of the nineteenth century,

residential institutions in the United States were well established, highly invested in the development of teaching strategies, and firmly committed to the integration, albeit in limited form, of persons with disabilities into community life (Crissey, 1975).

In the early decades of the twentieth century, however, residential institutions changed their mission from training and planned social integration to custodial supervision and isolation. Among the forces that influenced this dramatic shift were the activities of such prominent psychologists as Henry Goddard and Louis Terman, who embraced the prejudices of the eugenics movement and employed the newly developed technology of individual intelligence testing to identify specific groups for discrimination, if not systematic exclusion, from American society (Chase, 1980). Data providing "scientific validation" of the link between mental retardation and criminal behavior were disseminated, and intelligence test scores were used to justify the legislation of racist immigration restrictions and compulsory sterilization procedures for the "mentally defective" (Kamin, 1974). The psychology community's harsh rhetoric challenged the early optimism of special education, and residential institutions were transformed into dreary warehouses for neglected and forgotten individuals.

PUBLIC SCHOOL PROGRAMS. In the public schools, the development of special education programs began slowly and served relatively small numbers of children. Children with moderate-to-severe disabilities were either sent to institutions or kept at home, and most children with mild disabilities were simply enrolled in regular classes from which they ultimately dropped out at very high rates. During the Depression and the World War that followed, special education resources for the public schools were curtailed, and greater reliance was placed on already overcrowded and educationally limited residential institutions.

During the postwar period, children with disabilities began to receive more benevolent attention. This renewed interest in the needs of developmentally vulnerable children was stimulated in part by the results of massive testing of military personnel during World War II, which revealed the striking prevalence of young men and women with physical, mental, or behavioral disabilities. This interest was

also stimulated by changes in societal attitudes toward disabled persons, in general, brought about by the large numbers of wounded veterans who returned with physical impairments. In 1946, a Section for Exceptional Children was established within the United States Office of Education, which later (in 1966) became the Bureau of Education for the Handicapped and then (in 1980) the Office of Special Education and Rehabilitation Services. By the late 1950s, state and federal legislation began to promote greater access to special education for wider segments of the population (Hobbs, 1975).

SUMMARY. Shifts in attitudes and practices regarding the education of children with disabilities have been described in evolutionary terms by Caldwell (1973), who identified three major historical periods. The first, labeled "Forget and Hide," refers to the practice in the first half of this century through which children with significant physical or intellectual handicaps were kept out of public view, presumably to avoid embarrassing their families. The second period corresponds to the prevailing attitudes of the 1950s and 1960s and is called "Screen and Segregate." In this period, children with disabilities were tested, labeled, and then isolated once again in special facilities, based on the assumption that they needed protection and could not function independently in the mainstream. Caldwell named the third period "Identify and Help." Beginning in the mid-1970s, with the passage of landmark special education legislation, this stage was marked by efforts to screen for special needs in the early years of life in the hopes of providing appropriate intervention services at as young an age as possible. We might add a fourth evolutionary period to describe the past 15 years in special education services, calling it "Educate and Include." The goals of this period (see Gartner & Lipsky, 1987; Turnbull, Turbiville, & Turnbull, this volume) are to contain the consequences of disabling conditions, prevent the occurrence of more severe disorders, empower the families of children with special needs, and increase the opportunities for all children to reach their full potential by integrating them as fully as possible into regular classrooms and society at large.

Child Development Research

Although fundamental decisions regarding program design and resource allocation are typically motivated by sociopolitical considerations, the evolving conceptual context of early childhood services has been influenced substantially by the scholarly study of the development of young children. Thus, a fourth lens through which the history of early childhood intervention can be examined focuses on the contributions of the academic child development community. Although a comprehensive overview of the history of child development research is beyond the scope of this chapter, a brief mention of several influential theoretical and empirical contributions is essential. In this regard, two critical research themes are addressed: the naturenurture controversy and the importance of the caregiver-child relationship.

THE NATURE—NURTURE DEBATE. Interest in the determinants of competence in young children is a relatively modern phenomenon. Although systematic evaluations of the emerging abilities of infants were conducted by a New Orleans physician in the late nineteenth century (Chaille, 1887), the cataloguing of early achievements and the methods of childhood assessment were not well developed until the early decades of the twentieth century.

The dominant figure in the emerging field of child developmental evaluation was Arnold Gesell, a pediatrician and psychologist. As the director of one of several child study centers supported by the Laura Spelman Rockefeller Memorial Fund, Gesell conducted extensive studies of the skills of normally developing children, the abilities of youngsters with Down syndrome, and the developmental accomplishments of those who were born prematurely or who sustained perinatal injuries (Gesell, 1925, 1929). His observational methods produced a wealth of data that continue to influence to this day the construction of developmental assessment instruments.

Gesell's theoretical orientation was clear, and his impact on the clinical study of children was enormous. He strongly believed in the primacy of biologically determined maturation. He disdained the relative impact of experience on the developmental

process, and he viewed the alteration of this process by early intervention as futile. Gesell's maturational perspective generated a linear model of human development that was used by clinicians to predict long-term outcomes based on the rate of acquisition of specific developmental milestones in early infancy. During the 1950s, this model was linked to the growing recognition of a correlation between adverse perinatal events and later neurodevelopmental disorders, which resulted in the popularization of an influential paradigm of biological determinism known as the "continuum of reproductive casualty" (Lilienfeld & Parkhurst, 1951; Lilienfeld & Pasamanick, 1954).

As the maturationist view of development attracted support during the first half of the twentieth century, its influence was countered by the comparably powerful concepts of behaviorism. The behaviorists believed that, in the absence of significant brain damage, developmental outcomes in children are controlled largely by environmental forces. John B. Watson, an early supporter of the interventionist approach to human development and a prominent psychologist, wrote:

Since the behaviorists find little that corresponds to instincts in children, since children are made not born, failure to bring up a happy child, a well adjusted child – assuming bodily health – falls upon the parents' shoulders. The acceptance of this view makes child rearing the most important of all social obligations. (Watson, 1928, p. 8)

The controversy over the relative impact of nature and nurture on the developmental process in early childhood has been an enduring one. While the maturationists championed the belief in biological determination, the behaviorists advocated the tenets of operant conditioning and environmental manipulation. Each position has had strong support. Yet, when examined in isolation, both perspectives have been found to be quite limited.

With the advent of Piaget's "cognitive revolution" in the 1950s and 1960s (Cairns, 1983), the stage was set for a rapprochement between the polarities of nature and nurture. This was facilitated by a recognition that biological and experiential factors in development mutually influence one another, thereby creating a need to go beyond the traditional

nature—nurture debate. In fact, research findings even led some scholars to adopt the paradoxical position that all behavior is completely inherited as well as completely determined by experience. As Goldberg (1982) noted, "Unless capacities for behavior are inherited, a behavior can never occur (e.g., chimpanzees will never talk regardless of what experiences are provided). But... the actual occurrence of behavior depends on appropriate experience (e.g., a human infant will not learn to speak without hearing the speech of others)" (pp. 35–6). In other words, many researchers began to acknowledge that the distinctions between biological and environmental explanations for developmental outcomes are, if not arbitrary and incomplete, at least ambiguous.

Sameroff and Chandler (1975) articulated one of the most influential conceptualizations of the reciprocal relationship between nature and nurture. In a challenge to the previously popular paradigm of a "continuum of reproductive casualty," they formulated the notion of a "continuum of caretaking casualty" to describe the transactional effects of familial, social, and environmental factors on human development. In Sameroff's (1975) terms, "Although reproductive casualties may play an initiating role in the production of later problems, it is the caretaking environment that will determine the ultimate outcome" (p. 274). For the field of early childhood intervention, acceptance of the transactional model of development meant that biological insults could be modified by environmental factors and that developmental vulnerabilities could have social and environmental etiologies. This focus on the bidirectionality of environmental and biological factors proved to have a major impact on both research and service delivery (Sameroff, Seifer, Baldwin, & Baldwin, 1993).

Concurrent with the growing interest in theories about the transactional nature of the developmental process, some researchers began to emphasize the importance of broader contextual factors to better understand the determinants of a child's growth, development, and learning (Bell, 1974; Bronfenbrenner, 1974; Werner, Bierman, & French, 1971; Werner & Smith, 1977). In a monograph entitled "Is Early Intervention Effective?" Bronfenbrenner (1974) approached these issues not from the point of view of the child in isolation but of

the child in context. He concluded that a common thread linking successful intervention programs is their treatment of children as individuals situated within a family rather than as isolated experimental subjects or narrowly defined targets of nativist or nurturist theories. Contemporary theorists view children as members of multilayered social systems that are often remarkably nurturant but that may also be potentially disturbed or dysfunctional. Therefore, to intervene effectively on behalf of children is to intervene in context, and nothing less is deemed to be sufficient if the goal is to establish meaningful and durable change (Guralnick, 1998; Liaw, Meisels, & Brooks-Gunn, 1995; Ramey & Ramey, 1998).

THE IMPORTANCE OF EARLY RELATIONSHIPS.

As the child development community first began to explore the process through which developmental outcomes could be affected by the child-rearing environment, several investigators began to study the adverse consequences of deprivation in early human relationships. Guided by a psychoanalytic framework, these ground-breaking "natural experiments" first focused attention on the effects of institutionalization on the cognitive and socioemotional development of infants (Provence & Lipton, 1962; R. A. Spitz, 1945). Such studies documented the developmentally destructive impact of the sustained isolation and understimulation typical of life in many orphanages, poorly staffed hospital wards, and other institutional settings. The features of this syndrome, which Spitz (1945) characterized as "hospitalism," included growth retardation, maladaptive social relationships, and health-related problems in young and otherwise normal children. These issues have continued to be studied throughout this century (Fenichel & Provence, 1993).

A complementary set of seminal studies in this area focused on the degree to which the developmental sequelae of early deprivation are modifiable. Beginning with a classic experiment with children institutionalized for mental retardation (Skeels & Dye, 1939), investigators manipulated living arrangements and levels of stimulation for a range of deprived populations and demonstrated that a responsive and stimulating environment could reverse the effects of negative, isolated, and otherwise deleterious experiences in early infancy (Dennis,

1960, 1973; Skeels, 1966). The growing empirical literature generated by such studies highlighted the malleability of early human development, thereby establishing a rationale for intervention within the early years of life (also see Kirk, 1958; Richardson & Koller, 1996; H. H. Spitz, 1986).

On a conceptual level, John Bowlby's work provided a theoretical framework for the empirical findings of the early deprivation studies. With support in the 1950s from the World Health Organization, Bowlby investigated the problems of homelessness and maternal deprivation and examined their consequences for mental health in children. In his classic monograph on maternal and child health, Bowlby (1951) called attention to the critical importance of the mother-child relationship for healthy child development. He subsequently formulated the attachment construct, which then provided a theoretical foundation for researchers studying young children's socioemotional adaptation (Ainsworth, 1969; Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Bretherton & Waters, 1985; NICHD Early Child Care Research Network, 1997; Sroufe, 1983, 1996).

Much of the empirical research that demonstrated the marked influence of the caretaking environment and thereby supported the validity of the transactional model of development emerged from a number of landmark longitudinal studies initiated in the 1950s and 1960s. Two of these investigations focused on the growth and development of large birth cohorts; the others delineated the emerging abilities of young children with specifically defined risk factors.

The Collaborative Perinatal Project of the National Institute of Neurological Diseases and Blindness generated the most extensive longitudinal data on the developmental impact of biological and social risk factors in a birth cohort. A national sample of more than 53,000 pregnant women was enrolled in the study, and researchers followed these women's children after childbirth through the early school years (Broman, Bien, & Shaughnessy, 1985; Broman, Nichols, & Kennedy, 1975; Nichols & Chen, 1981). A second, remarkably rich investigation, known as the Kauai Studies, collected longitudinal data from the neonatal period through adulthood on more than 1,000 children born on the Hawaiian island of Kauai (Werner, Bierman, & French, 1971; Werner

& Smith, 1977, 1982, 1992). Both of these studies documented the significant influence on developmental outcomes of maternal education and the quality of the caregiving environment, except in cases of severe brain damage.

A number of pioneering prospective studies of the development of infants with documented risk factors or diagnosed disabilities were similarly enlightening. Investigations of young children with histories of perinatal anoxia, for example, revealed the extent to which adverse neurological sequelae were often found to be transient, as many at-risk children displayed normal development over the ensuing preschool years (Graham et al., 1962; Graham et al., 1957). Similarly, detailed longitudinal assessments of young children with diagnosed developmental disorders such as Down syndrome and phenylketonuria (PKU) provided reliable databases for assessing individual outcomes, highlighted the extent to which levels of disability varied within diagnostic categories, and demonstrated the limitations of early developmental predictions (Fishler, Graliker, & Koch, 1964; Share, Webb, & Koch, 1961). The data generated by these diverse studies contributed important insights to the growing interest in early intervention services for vulnerable children. The developmental process was found to be complex and transactional, and it was becoming increasingly clear that outcomes are mediated by the mutual effects of both nature and nurture (see Osofsky & Thompson, this volume; Garbarino and Ganzel, this volume; Shonkoff & Marshall, this volume; Werner, this volume).

SUMMARY. During the early decades of the twentieth century, questions regarding child development were framed within relatively simple paradigms reflecting the competing influences of organic endowment and individual experience. Subsequent research on young children extended our knowledge of the essential transactional nature of the developmental process and of the potential benefits of early intervention services. The degree to which the quality of the caregiving environment influences the effects of biological risk factors has provided substantial support for the development of intervention strategies to modify that environment. The design of such interventions has reflected a range of cultural and conceptual perspectives and

has been founded on a wide variety of empirically and theoretically based practices (see Garcia Coll & Magnuson, this volume; Emde & Robinson, this volume; Rutter, this volume; Sameroff & Fiese, this volume; Wolery, this volume). Recent research on early brain development has provided significant insights into the neurobiological substrate of both cognitive and social development in young children, which also have important implications for early intervention (Nelson, this volume; Schore, 1994).

FOUR DECADES OF GROWTH AND DEVELOPMENT

The philosophical and pragmatic roots of early childhood intervention prior to the 1960s emerged from a variety of sources. In each domain - early childhood education, maternal and child health, special education, and child development research interactions between professional expertise and sociopolitical circumstances helped lay a foundation for the educational, psychological, public health, and public policy developments of the past forty years. Consistent themes persisting throughout the early years, despite occasional opposition, are as follows: a belief in society's responsibility to provide care and protection for young children; a commitment to the special needs of children who are particularly vulnerable as a result of a chronic disabling condition or as a consequence of growing up in poverty; and a sense that prevention is better than treatment and that earlier intervention is better than later remediation. These three themes reflect the spiritual foundation of early childhood intervention. They also provide an organizing framework for examining the major initiatives that have unfolded during the last four decades and that are likely to influence the field as it enters the twentyfirst century.

The Sixties: A Broad Agenda with an Ambitious Promise

The 1960s mark the beginning of the modern era in early childhood intervention. It was a time of optimism and creative program development. Public support for investing in human services was broad-based, and resources flowed from the federal government to promote the achievement of

ambitious social goals. Within this context, the convergence of several critical social issues served to frame the agenda for early childhood services. These included President Kennedy's interest in mental retardation, the political impact of the civil rights movement, and President Johnson's commitment to wage war on the sources and consequences of poverty.

Affected by his family's personal experience with mental retardation, in 1961 President John F. Kennedy appointed a presidential commission to explore current knowledge in this area and to develop a national strategy for prevention. In 1963, Public Law 88-156 provided new federal funding under Title V of the Social Security Act for special projects for children with mental retardation. Screening programs for inborn errors of metabolism, such as PKU, and Maternity and Infant Care Projects, implemented to help reduce the incidence of mental retardation caused by childbearing complications, are examples of such projects.

As the decade opened with President Kennedy's interest in the prevention of mental retardation, it closed with President Johnson's commitment to the educational needs of young children with disabilities. In 1968, Public Law 90-538, the Handicapped Children's Early Education Assistance Act, authorized funds to stimulate the development, evaluation, refinement, and dissemination of model demonstration programs for the education of eligible infants, preschoolers, and their parents. Through grants to demonstration programs, and with the initiation of federal support to specialized university teacher-training programs, a new field of study was born.

Closely related to this new discipline of early childhood special education in many of its underlying principles, but distinct and separate in its political beginnings, the concept of early childhood intervention also received considerable support in the 1960s as a potential weapon in the war on poverty. As a result of the efforts of civil rights activists, progressive politicians, and social scientists, Americans became painfully aware of the extent of poverty in the United States and the degree to which the consequences of marked socioeconomic inequalities threatened the nation's well-being (Chase-Lansdale & Vinovskis, 1995; deLone, 1979).

In its analysis of the "poverty cycle," the President's Panel on Mental Retardation echoed the prevailing stereotype of "cultural deprivation" as a major cause of recurrent, multigenerational retardation (Albee, 1968). On the basis of its belief that education was the key to breaking this cycle, the panel recommended the widespread establishment in economically disadvantaged communities of preschool programs designed to foster "the specific development of the attitudes and aptitudes which middleclass culture characteristically develops in children, and which contributes in large measure to the academic and vocational success of such children" (The President's Panel on Mental Retardation, 1963, quoted in Zigler & Valentine, 1979, p. 12; see also Halpern, this volume).

The theoretical rationale to intervene in disadvantaged children's lives emerged from a growing body of evidence questioning previous widely accepted assumptions regarding the immutable genetic determination of intelligence. Supported by the recently published scholarly work of J. McVicker Hunt (1961) and Benjamin Bloom (1964), social activists emphasized the powerful influence of experience on the development of competence in young children and focused on the particular vulnerability and malleability of the first years of life. In the decade of social experimentation that followed, interactions between academic researchers and program developers flourished.

Experimental preschool programs were created in the laboratories of child development researchers and tested in communities across the country Developmental psychologists were ready to change the world; their proposals to structure children's experiences in ways different from those traditionally accomplished by untutored parents at home were made with enthusiasm and optimism. (Clarke-Stewart & Fein, 1983, p. 918)

In 1965, the most far-reaching experiment of the decade, Project Head Start, began as an 8-week pilot program for children in more than 2,500 communities around the country. Originally developed under the auspices of the Office of Economic Opportunity, Head Start flourished under the leadership of Julius B. Richmond, a prominent pediatrician, and Edward F. Zigler, a distinguished academic

psychologist appointed as the first director of the Office of Child Development. Head Start was based on a belief in the crucial impact of early childhood experiences on later development. Its founders assumed that socioeconomically impoverished environments contain biological (e.g., poor health and nutritional status) and experiential (e.g., understimulation and reduced motivation) risk factors that can affect early childhood adversely. They were convinced that compensatory programs in the preschool period could facilitate better school adjustment and performance for children who were disadvantaged by the consequences of poverty and social disorganization (Zigler & Muenchow, 1992; Zigler & Valentine, 1979).

Head Start was conceived as a multidimensional, comprehensive service system designed to strike at the roots of disadvantage for poor families with young children (Zigler, Styfco, & Gilman, 1993). It harnessed the expertise of a broad array of professionals to provide educational, medical, dental, nutritional, psychological, and social services. The program invested a great deal of energy in parent involvement at both the volunteer and the decisionmaking levels and included training programs for low-income adults from the community to facilitate employment mobility. Head Start provided a bold and dramatic model of early childhood intervention that continues to the present day (Peters & Kontos, 1987; Reese, 1985; Takanishi & deLeon, 1994; Zigler & Styfco, 1993). Its insistence on combining health, education, and social services was critical; its provisions for parent participation in both the classroom and on the administrative policy committees were unprecedented in American education policy; and its approach to the client-professional relationship as a vehicle for shared decision making was revolutionary.

The achievements and political resilience of Head Start have been well documented (Hubbell, 1983; Zigler & Muenchow, 1992; Zigler & Valentine, 1979). In its triumphs and in its disappointments, it provides a microcosm of the 1960s. The beneficial effects on children, families, and their communities have been extolled frequently (Lazar & Darlington, 1982). The program has not, however, resulted in the elimination of school failure, welfare dependency, delinquent behavior, or any of the other social consequences of poverty (Vinovskis, 1993; see also

Farran, this volume). Perhaps one of the greatest lessons that Head Start has to teach the field of early childhood intervention is that programs must establish explicit and realistic goals and objectives. The legacy of the 1960s has taught us to be cautious about the promises we make and has served to remind us that there are no magic solutions to complex social problems.

The Seventies: The Political Ascendance of Developmental Disabilities

While much of the creative intervention energies of the 1960s were channeled into the War on Poverty, the 1970s witnessed a greater investment in the needs of children with disabilities. As the social and political upheavals of the previous decade subsided and the nation worried more about the effects of inflation on the middle class than about the effects of poverty on the development of young children, increased attention was focused on the social status and legal rights of persons with handicapping conditions (Gliedman & Roth, 1980).

Federally supported demonstration and outreach projects proliferated at a rapid rate (DeWeerd, 1981; Martin, 1989). Funds from both the Bureau of Education for the Handicapped and the Division of Maternal and Child Health supported multidisciplinary training programs at university-affiliated facilities across the country and produced new cadres of professionals to work with children with disabilities. Early childhood special education became a higher priority as the demand increased for teachers of preschool children with special needs and as state departments of education began to develop guidelines for certification in this new area of specialization (Stile, Abernathy, Pettibone, & Wachtel, 1984).

In 1972, Public Law 92-424 (the Economic Opportunity amendments) mandated that all Head Start centers reserve at least 10% of their enrollment for children with identified disabilities. In 1973, the Division for Early Childhood (DEC) was established as a new entity within the Council for Exceptional Children (CEC), thereby reflecting the sense of a distinct professional identity felt by early childhood special educators. In 1974, the federal government earmarked separate funding for state implementation grants to assist states in the planning and

development of services for infants and preschoolers with disabilities.

In 1975, with the passage of Public Law 94-142 (the Education for All Handicapped Children Act), the right to a free and appropriate public education was established for all children of school age, regardless of the presence of a disability. This landmark legislation mandated the development of individualized education plans (IEPs) based on the results of a nondiscriminatory assessment; specified requirements for parent involvement in the construction of such plans; spelled out principles of due process for both children and parents in the planning and implementation of educational services; and articulated requirements that IEPs be carried out in the least restrictive environment (Hobbs, 1975; Singer & Butler, 1987). Although the P.L. 94-142 provisions did not require states to offer services for infants, toddlers, or preschoolers with disabilities, the new federal law endorsed the importance of such services and provided financial incentives for states to serve children as young as 3 years of age. During this period of cautious interest in infant intervention, the National Center for Clinical Infant Programs (renamed Zero To Three: The National Center for Infants, Toddlers, and their Families in the 1990s) was founded in order to focus the nation's attention on the needs of the very youngest children and their families.

Complementing their achievements in the area of public education, advocates for persons with disabilities borrowed some of the strategies used so successfully by civil rights groups during the 1960s and brought their message to both the Congress and the court system in a battle to end discrimination on the basis of disability in all aspects of society (Gliedman & Roth, 1980). The first federal civil rights law specifically directed toward the rights of persons with disabilities (Public Law 93-112, the Vocational Rehabilitation Act, Sec. 504), which focused primarily on employment, was passed in 1973. The following year it was amended under Public Law 93-516 to establish rights for nondiscrimination in employment, admission into institutions of higher learning, and access to public facilities. Supportive legislation, multiple successful class-action suits, and a rising public consciousness about the injustice of discrimination against people with disabilities characterized much of the 1970s legacy.

The Eighties: Governmental Retrenchment and the Formation of New Alliances

The 1980s began with the presidential inauguration of Ronald Reagan, who brought with him a national mandate based on a different set of values about government's role. In 1981, the Omnibus Budget Reconciliation Act was passed by a coalition of politically conservative forces bent on reducing the investment of federal resources in social programs and on shifting the responsibility for such efforts (and the concomitant financial burden) to the states. Consequently, while Congress endorsed substantial reductions in federal taxes (in conjunction with the sharpest increases in military expenditures ever recorded during peacetime), many domestic programs began to be dismantled and others sustained significant decreases in funding (Edelman, 1987; Schorr, 1988). Formula grants to the states were consolidated into block grants, and overall appropriations for social programs were reduced. The newly conceived Maternal and Child Health Block Grant, for example, incorporated funding for eight categorical programs that previously received separate grants, with an overall budget reduction of 18% in the first two years (Lesser, 1985). The eight programs whose previous support was combined into a single block grant included crippled children's, maternal and child health, and genetic disease testing and counseling services; prevention programs for lead paint poisoning, sudden infant death syndrome, and adolescent pregnancy; hemophilia diagnostic and treatment centers; and Supplemental Security Income for children with disabilities. The immediate result of their consolidation into a block grant was the pitting of categorical programs against each other in a fight for a fair share of the smaller amount of government social spending.

The fact that early childhood intervention programs survived the federal policies of the 1980s attests to the depth of their political and social strength and to the breadth of their constituency groups. At a time when the war on poverty was all but eliminated from federal policy making, Head Start was included in the Reagan administration's so-called safety net and continued to receive federal funds. In an era when presidential advisers talked about the advisability of abolishing the U.S.

Department of Education, federal expenditures for the education of young children with special needs continued to grow. P.L. 99-457 (described later in this chapter), the most sweeping piece of legislation for children with disabilities since P.L. 94-142, was enacted, despite the opposition of the Secretary of Education and the threat of a presidential veto. The explanation for the survival of Head Start and for the continued progress of early intervention services for young children with disabilities was clear. Each had developed and nurtured a powerful array of advocates and constituency groups both within and outside government, and the basic principles of early intervention for vulnerable children and their families had gained wide national support (Schorr, 1988).

The Nineties: Seeking Market Solutions to Human Needs Amidst Growing Financial Constraints

The political context of the 1990s was marked by harsh, contentious, highly polarized debate about the balance between public and personal responsibility for the health and well-being of children and families. The decade also witnessed the continuing ascendance of a conservative political philosophy committed to low taxes, limited government, extensive cuts in federal funding for social welfare programs, and a reliance on market solutions to human needs. This was a period of unprecedented economic prosperity but also one of growing disparities between the "haves" and the "have nots." It was a decade in which the interests of children with disabilities attracted relatively modest attention, and the care of children living under conditions of poverty or economic hardship became increasingly tenuous. Indeed, the 1990s reflected a stunning paradox. At a time when the economy was robust and the science of early childhood development was maturing, rhetoric on behalf of young children was strong, but creative advances in service delivery and program evaluation were scarce. Standing on the threshold of a major economic and technological transformation that demands a highly skilled and well-educated workforce (which will bear significant responsibility for an aging population that is growing rapidly), public concern about school readiness grew, but investment in the well-being of vulnerable young children sputtered.

The mixed status of early childhood intervention in the 1990s was reflected most dramatically in the sharp contrast among several important federal initiatives. The implementation of the landmark special education law, P.L. 99-457, opened the decade with a major investment in the development of comprehensive state systems of family-centered services for highly vulnerable infants and toddlers. Several other initiatives were built on this foundation, although their modest accomplishments failed to match their initially high promise. Finally, in marked contrast to the popular principles of family support, the decade ended with the enactment of the Omnibus Personal Responsibility and Work Opportunity Reconciliation Act, which terminated a sixty-year federal commitment to "aid for families with dependent children" and abandoned the concept of a safety net for poor women and their young children.

WELFARE REFORM. The Omnibus Personal Responsibility and Work Opportunity Reconciliation Act of 1996 abolished the guarantee of federal aid to children and families living in poverty that had endured for more than six decades, which thereby fundamentally altered our nation's commitment to its neediest citizens. Stated simply, the concept of public assistance for poor mothers with dependent children was transformed from an entitlement that assured modest financial support to a time-limited period of eligibility for financial assistance linked to a work requirement. In place of Aid to Families with Dependent Children (AFDC), the new law offered Temporary Assistance to Needy Families (TANF). This new program, designed as a capped block grant, provides states with level funding through the end of the decade to support poor families with young children. Among its many provisions and sanctions, TANF requires that recipients of public assistance participate in work preparation programs and find jobs within two years. Although some contingency funds were established for a small number of families who cannot meet the law's requirements, hardship exemptions are limited. Moreover, these provisions are likely to be inadequate to meet the needs of families who have children with significant disabilities or families in which one or more of the parents is disabled or otherwise unable to work.