The Pedagogical Seminary

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/vzps20>

Educational Control of the Pre-School Period

William L. Dealey^a

^a R. I. , USA

Published online: 30 Aug 2012.

To cite this article: William L. Dealey (1917) Educational Control of the Pre-School Period, The Pedagogical Seminary, 24:1, 114-140, DOI: [10.1080/08919402.1917.10534721](https://doi.org/10.1080/08919402.1917.10534721)

To link to this article: <http://dx.doi.org/10.1080/08919402.1917.10534721>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

EDUCATIONAL CONTROL OF THE PRE-SCHOOL PERIOD*

By WILLIAM L. DEALEY, Providence, R. I.

The slow development of public school control over the child should include as a further radical advance, advisory control of the pre-school period. An adequate conception of child growth implies this extension. Supervision of the pre-natal period by agencies for conserving postnatal infant life, presents a ready parallel. The welfare of the child is "dependent in its origins upon ante-school conditions." From the medical standpoint, these conditions are not controlled because an unfilled gap lies between the infant-welfare centers of the first year and school medical inspection in the fifth. According to Forsyth, inspection points to widespread physical deterioration during these first five years, leaving the majority of children with serious but preventable defects. These defective entrants must be restored at high cost. As medical control is only a phase in the educational control of this period, this neglect represents inexcusable inefficiency on the part of school systems.

PHYSICAL WELFARE

The first essential in medical pre-school control is to protect from contagion at any cost. The child's protection is so poor that Burnham¹ notes lymph alone is adequate; the epidermis is frail and unprotected; body cavities lack mucus with bacteriacidal properties and epithelial layers are less resistant; as a second defense the dermis and subcutaneous and submucous cellular tissue afford inferior protection. The blood is less resistant because less alkaline and with less bacteriacidal power (Weill): at birth but 28 per cent of the leucocytes apparently possess bacteriacidal power, at one year 40 per cent, at the third year 54 per cent (in adult life, 70 per cent). If its tissues are attacked, resistance is further lessened through the constant stress of growth. There result

*This study is a digest of related literature, such as the Tabular Statement of the federal Children's Bureau (E. R. Goodwin, 1916), or the Annual Proceedings of the American Association for the Study and Prevention of Infant Mortality (Baltimore). Facts are quoted to illustrate tendencies, not to present detail.

¹Cf. Burnham, W. H.: *The Hygiene of the Kindergarten Child*. Proceedings of the National Education Association, 1904, pp. 416-22.

in the pre-school period from 1 to 5 years, roughly 88,400 deaths in the United States (1914). As the degree of protection increases with age, this mortality follows a rough curve of 52, 23, 14 and 11 per cent in its decline from 1 to 4 years. Child disease is admirably illustrated in measles, as after-effects may be serious and probably 80 per cent of the fatal cases are under 5 years.² Examining 5,538 entrants to the Chemnitz schools, Thiele found 64 per cent had undergone measles.³ Burnham instances 1,077 fatal cases of measles in Munich among 28,988 cases, 21 per cent were fatal in the first year, 5 per cent from 2 to 5 years, and only .4 per cent from 6 to 10 years. Tuberculosis, as a further instance, in its inception is a disease of early life. Fisher has computed the preventability for diseases with the median age of death under 5 years; for example, diphtheria 70 per cent, diarrhea 60, broncho-pneumonia 50, whooping cough 40, or measles 40; for diseases with a median age at one year 47, and for other diseases of childhood 67 per cent. This excessive mortality is a rough index of the far larger numbers who become defective⁴ during this pre-school period.

Periodic medical inspection is therefore essential to any control of the child and its pre-school environment (the home). To this end, the child's family should be coordinated with a unit of protective power stronger than itself, either a medical school inspection service or municipal division of child hygiene. School physicians, as in Cincinnati, may exercise a limited supervision by allowing children to bring their little brothers and sisters for examination. The extension of such supervision implies health centers in the schools. Illustrating control by child-hygiene divisions, Buffalo cooperates with the Babies Milk Dispensary Association, to follow the child till school age through infant-welfare consultations. The full development of such centers, as child-welfare stations, would supply an exceptional mechanism for monthly examina-

² For example, among 33,917 deaths at 1 year, 8% were of measles, 6% tuberculosis, 5% diphtheria and croup, 4% whooping cough, (29% general diseases); among 15,364 at 2 years, 12% diphtheria, 7% measles, nearly 7% tuberculosis (40% general); among 9,498 at 3 years, 46% general, chiefly diphtheria, 16%; among 6,915 at 4 years, diphtheria 19% (general, 49%). Deaths from diseases of the digestive system, startlingly high in infancy, at 1 year are still 29%, declining to 10% at 4 years. Of deaths at 1 year, 27% were through diseases of the respiratory system, decreasing to 15% at 4 years (1913).

³ Cf. Burnham, W. H.: *A Health Examination at School Entrance. Ped. Sem.*, Vol. 21, 1914, pp. 219-41.

⁴ Cf. the typical physical defects found in school medical inspections, for instance, adenoid growths resulting in arrest or defective teeth causing infections.

tions until school age. Although the majority of 71 organized consultations for well babies limit to 2 years, 9 receive until school-age and 8 place no limit. The Babies' Milk Fund Association of Louisville in its 6 infant-welfare stations provides weekly conferences with intensive home care till 3 years, and instructive supervision to 5 years, when children come under school nurses in the kindergartens. Conferences are provided from 2 to 6 years at 4 stations of the New York Diet Kitchen Association. The Chicago Woman's City Club (1914) also promotes fortnightly classes into which mothers with children 2-6 years of age are graduated. The Grand Rapids Clinic for Infant Feeding, for instance, places its age limit at 5 years; so does the Baby Milk Supply Association of Lexington (Ky.).

The remarkable present development of agencies for infant care and their inherent educational possibilities, are scarcely appreciated by schoolmen. The essential supervisory center during infancy is the welfare station which combines the milk depot with the infant consultation. At the consultation a trained physician or nurse systematically examines the infant before the mother, followed by home instruction under a visiting nurse. The station may distribute to mothers certified as unable to nurse, pure milk, either free or at prevailing prices, with instruction in home modification. Artificial feeding is thus discouraged. Goodwin found some 46 per cent do not dispense milk. Milk dealers should cooperate to provide instructive medical service for patrons.

As infant-welfare centers offer the mechanism for infant control, they are enjoying rapid development. Goodwin⁵ reports 539 summer (397 winter) stations, supported by 205 agencies in 142 cities (1914). These stations utilize 714 full-time and more than 152 part-time nurses in summer (488 full-time and more than 116 part-time nurses in winter). Approximately 43 per cent, however, are concentrated in the 8 largest cities. One infant-welfare station for each city of 10,000, and for larger cities, 1 for each approximate 20,000, is suggested.

In an important group of cities efforts are still almost entirely private, city health authorities cooperating chiefly by control of the milk supply. The Baltimore Babies' Milk Fund Association illustrates the effective private agency. Weekly consultations in 16 welfare stations reach 7,059 infants. Cooperation is encouraged from registration of birth until 3 years. Fifteen trained nurses are employed (3 additional in summer) in home instruction. The mortality of these babies was only 6 per cent (for the city, 12 per cent); 14 additional stations are required. The Council Milk and Ice Fund distributes whole milk daily to some 400 families. The Association enjoys partial aid (15%) from the summer hospital for babies, Thomas Wilson Sanitarium; and shares in the Alliance of Charitable and Social Agencies. In a second related group of cities, cooperation with departments of health is somewhat more extensive. Thus the Washington authorities provide extensive publicity, while the Diet Kitchen Association cares for 1,749 infants through 5 attractive centers for mothers.

⁵ Goodwin, E. R.: A Tabular Statement of Infant-Welfare Work. U. S. Children's Bureau, Publication No. 16, 1916. 114 p. This tabulation includes new and important data (1914).

In the more important present groupings, municipal departments include a large part of the infant-welfare machinery. After experimental demonstration by the New York Milk Committee the New York bureau of child hygiene now has 66 stations,⁵ dispensing whole milk, but becoming permanent educational centers promoting hygiene on a large scale. It is aimed to create parental attitudes making it as natural to visit milk stations as to send older children to school. The stations reach 38,427 infants under 2 years. This municipal bureau cooperates with every private agency whose work it in any way touches. The New York Diet Kitchen Association for example, reaches 5,046 infants through 8 district health stations, and certified milk is distributed at the price of ordinary milk. The Nathan Straus Laboratories maintain in summer 17 (in winter 8), pasteurized milk stations. The 3 practical feeding stations of the Babies' Dairy prepare modified milk for sick infants, and each reaches 40-50 babies daily. In fine there are some 350 agencies in New York. The Babies' Welfare Association affiliates more than 90 members. This clearing-house offers perhaps the most complete cooperation effected in this line of work. Through its offices in the health department, it systematically places discharged maternity cases under the care of stations. A map of milk station districts and uniform records eliminate waste. By bringing important relief societies and stations together, with the social service exchange, free milk is provided without the former delays of investigation. Since nearly all the hospitals and settlement nurses are included, a time loss is avoided in placing sick babies. The result is an "organized campaign, planned on scientific lines and carried out with business-like efficiency."

The Boston system turns upon a remarkable private agency, the Milk and Baby Hygiene Association, in close cooperation with Boston's division of child hygiene, whose 13 nurses observe all births registered. In 4 Association health stations, conferences are held twice weekly, in 8, weekly. The staff includes 23 child specialists and 15 nurses trained in infant care and social work. The number of babies supervised has increased to 4,679. Seventy-four per cent are now wholly or partly breast-fed; and, according to Murray, the death-rate has been reduced 27 per cent. The co-operative Baby Welfare Committee, representing the chief agencies, studies the field to avoid duplication; milk stations are districted and correlated with hospitals.

Cleveland has developed an elaborate interlocking system. The municipal bureau of child hygiene is directly affiliated with the central Babies' Dispensary and Hospital, under the same medical director and superintendent of nurses. The bureau has divided Cleveland into 15 districts, each with a prophylactic dispensary supervised by a trained physician. These stations reach 4,478 infants, but some 40 would be needed completely to cover the city. Each dispensary is correlated with the central Babies' Hospital. The latter includes a milk laboratory, and finances the distribution of milk; sick infants are referred to its physicians. General, dispensary, tuberculosis and school nurses are represented in a Joint Committee of Public Health Nursing. The Cleveland Welfare Federation ensures support.

In addition to these important systems of great cities, among random agencies, the flexible Babies' Milk Fund of Detroit varies its educational and nursing work according to the need in districts of high mortality; as rapidly as the municipal division of infant welfare is in a position to cover any district, the work is advanced elsewhere. Each maintains 4 stations. The Children's Aid

⁵ *Ibid.*

Association of Indianapolis has a successful solution of pure milk distribution. Milk is delivered directly into the homes by a large firm, after pasteurization from a selected tuberculin-tested herd. Its central clinic is within a few blocks of all car lines; 4 clinics operate the entire year, 4 additional in summer, and supervise 1,352 children under 5 years.⁵ The municipal authorities meet half the expense. Among cities with less than 150,000, the Syracuse Infant Welfare Association through 8 school nurses from the Board of Education, conducts 3 stations in public schools of crowded districts, and hopes to turn an increasing share over to the bureau of health. Under the Dayton (O.) health department and Visiting Nurse Association, clinics for babies are open in school houses in four different sections of the city. Dallas (Tex.) has developed the first welfare stations in the Southwest, the Infants' Welfare and Milk Association supervising 2,602 infants. A monthly subsidy is paid by the city, and the Association federated under the admirable Dallas Department of Public Welfare. Illustrative of cities less than 50,000, health officers of the Oranges (N. J.) organized the Baby Welfare Association, and laid out 7 districts. This association is a centralizing agency, affiliating the 6 private associations which complete the system.

There is a further group of cities which rely essentially upon their health departments. Pittsburgh approaches such a system through the 20 summer and 7 winter stations under its bureau of child welfare.⁵ Rochester's well-known system controls 3,691 infants in summer through the health bureau. This follow-up system includes 17 welfare nurses and 13 child-welfare stations located in public or parochial schools. The sale of milk has been discontinued. Supplies are furnished, unsanitary homes supervised and where necessary cleaned or screened.

Welfare stations may expand to deal with the entire family. Such a public health unit can focus all available agencies upon the families of a limited area. Milwaukee's first health center (1912) exercised for its district of 33 blocks, fairly complete postnatal supervision over every baby. The Philadelphia Child Federation maintains an experimental health center for the intensive study of infant mortality in one congested square, infant consultations (with 551 infants), further examinations of children 2-6 years, little mothers' leagues and boys' sanitary clubs, supervision of food products, and an intermediary rôle between neighborhood and city departments. Buffalo has 3 centers and would cover the city with such miniature health departments, following the lines of C. O. S. districts. The National Social Unit Organization (New York) now plans the intensive survey of limited experimental areas, for instance, in Cincinnati.

Classification of infant-welfare systems reveals the increasing share of municipal health departments. In 60 cities, 181 stations were operated by municipalities alone; municipal nurses instructed parents in 100 cities.⁵ The expense of conducting milk depots on a large scale is beyond private philanthropy. Divisions of child hygiene in 20 departments of health have given a remarkable impetus to systematic effort, and by cooperation with medical charities such divisions should control physical child welfare.

To this end, expansion is urgently needed. The New York Milk Committee was unable to secure reports of the previous year's infant mortality from 43 per cent of the 252 larger cities. Only 4 health officers could vouch for a rate below 50 per 1,000 births. Goodwin found 24 per cent among 555 city health officers did no

⁵ *Ibid.*

infant-welfare work, and 46 per cent felt limited to milk inspection. Similarly, Schneider's (1913) questionnaire from health departments in 201 cities, showed 22 per cent making no effort for infant welfare; 33 per cent of the smaller cities had no such plans, but 69 per cent of cities 100,000-300,000, and 94 per cent of larger cities had the essential features of a complete system. A most important cause for this neglect Schneider found in the low average of 33 cents per capita for health department appropriations.

Where the population is scattered, elective boards of public welfare or local health associations in counties or groups of counties might administer the work of state health departments. Kansas, New Jersey, New York and Ohio have specific divisions of child hygiene. State-wide organization is also supplied by private agencies. A department of the Wisconsin Anti-Tuberculosis Association, for instance, has concentrated on the infant mortality of the state; or the Ohio Public Health Federation, or Illinois Public Health and Welfare Association, are organized for one working state unit. Of national institutions, the federal Children's Bureau and the American Association for the Prevention of Infant Mortality (with 135 affiliated organizations), are among the foremost unifying forces in the infant-welfare field. To avoid the confusing educational effect of diverse campaigns upon the public and other overlapping, present national systems should affiliate in a strong public health league. The general American Public Health Association, American Medical Association, or the American School Hygiene Association, now emphasize child hygiene. The Committee of One Hundred on National Health (New York) hopes to unite all government health agencies in a National Department of Health.

The effectiveness of mechanisms such as infant-welfare or health centers largely depends upon personal instruction of mothers by visiting nurses. Simple, flexible systems of visiting nurses supplement the resident nurse among families of moderate means,⁶ and extend free, skilled care to the poor in their homes. In Providence, for example, the Visiting Nurse Association supervises children until replaced by school nurses at 4.5 years. Though reaching a limited number, such nurses are the most far-reaching preventive force in public health.⁷ The extension of their instructive supervision should be rapid, and if possible reenforced by state staffs of public health nurses.

According to Waters (1915) some 5,152 public health nurses are employed by 2,066 different agencies in district nursing, representing a country-wide network. Goodwin reports 108 cities with home instruction in infant hygiene by 466 full-time and 460 part-time summer nurses. Of the full-time nurses, 80 per cent are municipal; but

⁶ Wrigley finds 108 "hourly" nurses, for such families.

⁷ Neff (1911) reports in 4 congested Philadelphia wards, 8 trained nurses reduced the infant death-rate 27.3% (all wards only 11.8%). Baker contrasts the continuous supervision of home visits by nurses (60 cents per month) with the cost (2 dollars) and mortality (2.5%) for milk depot care alone (but 1.4% of 16,987 infants under nursing care died).

120 EDUCATIONAL CONTROL OF PRE-SCHOOL PERIOD

returns for part-time nurses are admittedly small, since the incidental work of a majority of the visiting nurse associations is involved. Waters' statistics which include 98 nursing centers under departments of health and 22 under departments of education also indicate the trend toward municipal nurses.

In the American Nurses' Association, three great nursing organizations meet, broadly co-ordinating all nursing systems. The American Nurses' Association is composed of 238 alumnae associations, 51 city or county and 45 state organizations. Through the efforts of these state associations, laws and curricula are drawn, training schools accredited and educational standards maintained. This state mechanism includes an examining board. The National League of Nursing Education contains about 500 active members, though representing less than half the total number of training schools. The National Organization for Public Health Nursing met for the first time, 1913.

Their first essential is a school problem, the training of nurses.⁸ This important group of vocational schools, as an integral part of hospitals, clearly suffers by its isolation from other educational systems. There are 1,250 training schools in the United States, with 36,120 pupils, a total capacity of 124,139 beds and a daily average of 80,078 patients (1914). The first striking fact is the persistence of low standards for admission. Nutting (1912) found 692 schools with all degrees from a vague "high-school" requirement (35%) to common-school preparation (28%). A longer probation in practical procedures is therefore necessary, possibly of 6 months, before entering the wards. Unfortunately, shorter hours have not generally followed the tendency to require 3-year courses. Nutting still found 45 per cent with 10 or more hours duty. Employees should release students from uneducative repetition in routine domestic service. Where possible, hospitals should maintain a salaried body of staff nurses, to increase the ratio of graduate nurses. At present for a minimum of instruction, student-nurses perform a maximum of service for the hospital. Not only classrooms or small libraries, but systematic instruction is often lacking. Nutting found 315 schools without paid instructors. Of 328 schools registered under the New York State Regents, 81 per cent have no resident instructor in dietetics. In remedy, such schools should either be adequately endowed, receive state or municipal aid, or cooperate with medical schools.

Increased teaching material is essential. The capacity of 692 hospitals, Nutting found to range from 5 to 500 beds. About 60 per cent average under 75 patients, about 25 per cent not more than 25; yet the minimum of the New York Regents is a daily average of 30 patients. La Forge mentions 22 hospitals with 1-3 months practical work in children's wards, and 3 with 6 months, but the average general hospital cannot afford such experiences. Such hospitals should employ affiliation with other training schools to consolidate the training system. Some 35 per cent of the hospitals, according to Nutting, also send their pupils into families for nursing experiences of 2-26 weeks.

The public health nurse should supplement such training by post-graduate specialization. Lacking scholarships (such as the Robb Memorial fund), the solution may lie in an adaptation of part-time or continuation schooling. Among post-graduate courses, 3-months' work in the New York Nursery and Child's Hospital includes the

⁸ A minor school problem is the training of nursery maids, in babies' hospitals, or even in day nurseries.

children's wards, observation ward, babies' clinics, the "boarding-out" system, or optional work in the diet kitchen. Home visiting which will lift families to a normal level also implies special training. To instruct the mother in feeding her children, for instance, requires training in economical dietaries.⁹ For such preventive social nursing, the post-graduate course at Teachers' College (Columbia) is an important development. This school employs active field work with district nurses and the health bureau. Similar cooperation between post-graduate schools and well-established visiting nurse groups exists in Philadelphia, Cleveland, or Boston; the Universities of Cincinnati and Ohio State also offer courses in public health nursing. A supplementary trend is affiliation with schools of philanthropy.

As these trends show that the training of nurses is about as poorly provided for as that of teachers, state registration should be an essential for pre-school work. Training standards and registration after examination are established by statute in 35 states (1915). Four-fifths are permissive, but 6 states believe they register more by compulsion. The future of reciprocity between state boards hinges on the standards of training schools. A national examining board for nurses should aid such standardization.

Generalized nursing is illustrated in Dayton (O.), where all nursing interests are pooled. Each nurse is a sanitary inspector, and cares for every case in her district. One nurse in a small district for all public health work is held to increase family confidence, prevent duplication and approach health problems as a unit. Lacheur found 100 nursing associations in smaller cities agreeing that the combination of infant-welfare work with general nursing was possible. Goodwin lists over 100 examples of part-time infant nursing in towns of less than 10,000. It is difficult to secure specialized nursing in small towns, and in rural sections almost impossible. The rural nurse of necessity may combine the functions of infant-welfare, tuberculosis and obstetrical nurse, sanitary inspector, school nurse, even charity visitor, probation officer or playground worker. Rarely is there specially organized infant-welfare work in rural sections. The cooperation of the rural school teacher, however, affords a direct approach to the mother's interest. Health supervision of factors such as sewerage, water, milk or other food supplies, is left to individual control. Mechanisms such as hospitals, clinics or district nurses are unusual. The Red Cross Town and Country Nursing Service has some 70 rural nurses in the field. The Visiting Nurse Association of Baltimore, for instance, has nurses in the counties of Maryland. The District Nursing Association of Northern Westchester County (N. Y.), with headquarters at Bedford, has divided its territory into 7 districts, each with a part-time infant nurse.

Generalized nursing, however, lacks the efficiency which comes from modern specialization. The family may still be considered as a unit by bringing together, preferably within the public school, all agencies at work in a district. Gerstenberger (1915) found that at least in Cleveland, among the families of 818 babies coming to the stations, from 87-95 per cent had been visited by but 1 organization in a given month, and among 500 families coming to the Central Dispensary, 79-89 per cent; while less than 1 per cent of the families received more than 10 visits. Similarly, in Chicago, according to Phelan, with

⁹ In a complete system the visiting nurse is aided by partly trained, inexpensive attendants; and her work supplemented by highly trained visiting dietitians, visiting housekeepers, visiting teachers, social workers and women rent collectors.

specialized nursing groups in 597 families, only 25 were visited by 2 nurses, and the question of duplication reduces to cooperation.

School nurses frequently assume infant-welfare functions. Under the Pittsburgh bureau of child welfare, they work the year round following infants from birth up into the schools. In New York, 200 municipal school nurses contribute largely to infant welfare, instructing little mothers' leagues, visiting in the homes and referring to milk stations. Chicago with 93, Detroit 15, Indianapolis 10, and among lesser cities New Haven with 7, further illustrate full-time summer use of school nurses. Among cities of less than 75,000, Jacksonville (Fla.), Kingston (N. Y.), Oshkosh (Wis.), or Dubuque (Ia.), employ the school nurse for part-time infant work through the year.

The intimate relation of visiting nurse service with dispensaries and hospitals, is most clearly revealed in modern hospital social service. Some social service departments maintain infant-welfare stations. In New York, for instance, centers of departments at Lebanon Hospital, Bellevue and Allied Hospitals; and the Mt. Sinai Hospital supervise more than a thousand infants. The social service department extends preventive activity in the homes. Thus the Babies' Hospital of Philadelphia affords follow-up care until 6 years for every child discharged. Their plan includes a card record showing physical condition from the period under care to school entrance, and the first physical examination under the board of education. The hospital is now following 900 cases, building the foundation for a large educational work.

In the brief period from 1905-13, according to Cannon, over 100 social service departments developed. This department is an integral part of the hospital process, and so preferably under hospital control. An important aid is an advisory committee, as at the Massachusetts General, or St. Louis and Chicago Children's Hospitals. A social diagnosis and attention to the social complications of the child's disease are intimately connected with medical diagnosis and treatment. The Milwaukee Infants' Hospital, for instance, investigates and corrects home conditions while the baby is at the hospital. Nurses of the unique Boston Floating Hospital investigate the home conditions of every child and instruct the mother in the home.

Some of the most successful social service is connected with dispensaries. Under the follow-up system of the Philadelphia Babies' Hospital, the mortality of babies discharged decreased from 22 to only 3 per cent. At the Boston Dispensary, children discharged are referred to the outpatient service equipped with a visible-file index, follow-up postals and home visitors. Among 245 discharged infants (1914) 25 per cent were well, 50 per cent improved and 9 per cent not improved; at the end of 3 months, 23 per cent were well and 42 improved; in 12 months, though living mostly in poor homes, 49 per cent were well, and 18, improved. The average result was a steady improvement, though 76 per cent of the cases involved educational problems in the home, and 89 per cent, family problems, such as illness, acute poverty or illegitimacy. Without such supervision the hospital resources would have wasted in readmittances through failure to convalesce properly, reinfection or intercurrent disease.

The dispensary is also an important part of the unified hospital process. It should become a center to which sick infants are referred from surrounding prophylactic milk stations. As random examples of children's dispensaries are, the Babies' Hospital and Children's Hospital departments in Boston; or in New York, of the Babies' Hospital, the Nursery and Child's Hospital and the Wilkes Dispensary of St. Mary's Free Hospital; in Philadelphia, dispensaries of the Children's Homeopathic Hospital, the Children's Hospital and St. Christopher's Hospital; or of the Washington Children's Hospital. Its general possibilities are suggested in a growth from 200 (1904) to at least 2,300, according to Davis (Boston Dispensary). His estimate, however, includes every form of clinic as well as about 1,000 treating general disease among the sick poor.

The infant ward or hospital, when correlated with the consultation for well babies, is an integral part of the pre-school system. For observation of the more serious diseases, accurate diagnosis, and the proper care of very sick infants, the hospital is essential. Many general hospitals handle children, but fail to appreciate their institutional requirements. The construction, equipment, organization and operation of a hospital for young children, as Holt points out, are quite different than in a hospital for adults. Infant feeding requires special equipment and specially trained service. The wards are smaller and with ampler provision for separation, young children are so susceptible to infections. Outdoor summer wards are used, such as the hospital camp of the Associated Charities, Washington, or the baby hospital, Memphis. The general possibilities of hospital control lie in 6,745 institutions caring for the sick (1914). Unfortunately there are no accepted standards of hospital efficiency. Gilbreth finds the usual conditions much worse from a managerial standpoint than in the average factory, and in some hospitals so bad as to warrant closing.

Where medical supervision operating through school or infant centers, visiting nurse systems or the social service of hospitals and dispensaries, is insufficient for the full control of early physical development, special consultations under either school or health authorities, should specialize in children of pre-school age.

A further device to control physical neglect among the infants of working women in cities, is the day nursery. The United States has enjoyed its rapid extension until 618 nurseries, according to Dodge,¹⁰ now have an aggregate daily attendance of about 30,000 (1914). The total number, however, is insignificant when compared with the need. Where the mother is necessarily absent at work, the nursery supplies immediate relief by supporting the child during the day. Such aid should be based upon investigation. As Dolbeare suggests, intimate daily contact with the child affords opportunity for a social diagnosis of both child and family. On this diagnosis proper relief agencies may be utilized, the nursery becoming a clearing-house for preventive work. The

¹⁰ Cf. (Biennial) Proceedings of the National Federation of Day Nurseries (New York).

Helen Day Nursery (Chicago), for example, through its bureau of personal service investigates cases, and by house-keeping funds is enabled to clean up dirty homes. At the Fitch Creche (Buffalo) the kindergartner as a social worker visits all mothers; 2 New Bedford nurseries unite to employ a trained investigator for written statements regarding each applicant. Where loss of the father has broken the home, mother's pensions in some thirty states should enable the poorer mother to maintain her child. The spread of modern social insurance may prove even more adequate. As a makeshift for family care, most nurseries now admit an increasing number of children with both parents working. Some form of cooperative public nursery should extend to middle-class mothers. Gallichan suggests community nurseries as part of a program of state aid for motherhood.

The large cities are already forming systems of day nurseries, correlated by an association. In Greater New York alone, ninety-four nurseries with an aggregate daily attendance of 5,528, affiliate to form the Association of Day Nurseries; the Association of Catholic Day Nurseries includes fifteen. The Chicago Day Nursery Association comprises thirty nurseries (with 4,432 children) and makes fortnightly inspections. The Boston Conference is composed of twenty-seven day nurseries (nine in Boston). The Newark Association is standardizing the work of six nurseries, with municipal aid. The Sheltering Arms Association of Day Nurseries in Atlanta coordinates five nurseries.

The day nursery receives comparatively few infants under six months. Since its care centers upon children under six years, it supplies an essential gap in the supervision of children over one year in age. The best nurseries provide medical examination on admission, owing to the danger of epidemics. Among the twenty-three associated Philadelphia nurseries, eighteen record physical examinations and thirteen, the family health history.¹¹ According to Kerr, of 178 New York children, 114 were found to have physical defects and 109 were treated. To insure continuous medical supervision, nurseries should submit to the rules of the health department, as in New York with monthly visits by the medical inspector. In France all public nurseries must be controlled by a physician, under government inspection. A trained nurse should be connected with the staff of public nurseries. In Cleveland,

¹¹ A related agency for children from tuberculous families is the preventorium. Thus the fresh-air camp at Farmingdale (N. J.) boards New York children (4 years old) several months, during which municipal nurses make home conditions safe.

for instance, a regular daily inspection is made by the Day Nursery and Free Kindergarten Association. This problem is related to the control of kindergartens by school nurses.

EDUCATIONAL CONTROL I

These mechanisms for the medical supervision of this period, such as extended infant consultations, visiting-nurse systems, hospital social service, or even the day nursery, derive their peculiar importance from the extent to which they become educative devices demonstrating to parents proper child care. Control of the pre-school period is an educational, not a medical, problem. Its development is tending toward an immense educational system, as yet unrelated, for parental training in infant care. Its educative devices in their lack of academic formulae and their realization of learning through participation in live and essential situations, exemplify future school activities. Such a movement not only embraces the public school, but is a virtual continuation of it. The important step is to extend its influence over the entire pre-school period. The need reveals itself in the commonplace wastes of child health and ability. Schwarz (1910) rating 670 mothers as to their knowledge of infant hygiene, ranked seventy-three per cent as unsatisfactory. The New York A. I. C. P. (1906) found sixty-five in 108 mothers never heard of the curative value of fresh air, seventy-nine, how to feed babies, ninety-five, proper child-clothing. The Children's Bureau at Johnstown found a mortality of 148 per 1000 births among the infants of 445 literate mothers, but a suggestive increase to 214 deaths among the infants of 246 illiterates. These are random suggestions of the large amount of public teaching necessary before control of the pre-school period can be carried out in practice.

Such teaching commences with organized publicity methods and culminates in the public school. Publicity implies as many different means in as many different channels as possible, but concentrated on certain important points, at appropriate times. Personal demonstration and visitation through trained nurses and physicians are simply the most valuable among many methods. A first essential is to educate editors and publishers. The potential services of the newspaper are commonly undervalued, but at least nine state health departments have a weekly press service of non-technical articles. New York's news bureau adds health hints mailed ready to place in forms. The North Carolina service, for instance, has *Save the Baby* articles; the Kansas division of child hygiene, a weekly press letter, while general articles reach

about 500 newspapers; the Illinois bi-weekly health stories find practically every paper in the state. Among university extension departments, Wisconsin prints in 330 papers, and Texas employs a trained newspaper writer. Various important national journals now include as valuable from an advertising standpoint, baby-saving campaigns or columns of advice to mothers. Thus the *Woman's Home Companion* has developed a "Better Babies" service, or the *Ladies Home Journal* and *Delineator* publish expert columns.

Literally tons of educational leaflets have been distributed and are readily controlled. Goodwin found at least 400 infant-welfare centers presenting literature to mothers. Even the organization reports may eliminate useless material, break up their headlines, and become educational. A related device is the reporting of health surveys. Typical pamphlets are the North Carolina bulletin, *The Baby*, the New York State division's *How to Save the Babies*, or the recent publication by the federal Children's Bureau, *Infant Care*. Goodwin lists twenty-six state departments of health distributing such literature. Twenty have systematized this educational device in a monthly bulletin service on general health; fifteen issue quarterly bulletins. Michigan issues a special number on infant welfare, with cartoons; and five states add special child hygiene numbers. Among University extensions, the Oregon Agricultural College utilizes the Grange to place articles with mothers; Wisconsin has bulletins on infant feeding or hygiene; and the University of Texas, thirty health bulletins. Among large-scale private agencies, the Metropolitan Life issues related pamphlets. In order to reach foreign mothers, both state and city departments have printed polyglot leaflets. An informational circular should reach all mothers officially registering births; the Washington (D. C.) health department, for instance, co-operates with the public library in sending such literature. A more personal touch may be added by circular letters at registration, as by Indiana or Louisiana; North Carolina has sent letters signed by the governor. A business-like circular letter may be supplemented by the telephone.

Distribution of literature is an effective adjunct of the public address and entertainment. Health departments of thirty-two states, according to Goodwin, report lecturers supplied for talks including infant hygiene; Wisconsin, five deputy health officers; Indiana, a lecture staff of four; and New York's division of publicity and education, three lecturers. In Mississippi, county health officers lecture in the schools on infant welfare. Important lecture systems have appeared in extension divisions. Of sixty-three state univer-

sities, Goodwin found twenty-four with educational lectures. Ohio State University (Columbus) develops infant welfare in connection with one-week movable schools; Texas' division of home welfare gives infant-welfare talks at county fairs, or in connection with a one-week school, county rally, or home-improvement car; the University of Wisconsin, in community institutes. This extension is frequently associated with the home economics departments of agricultural colleges.

Visual presentation in motion pictures is rapidly becoming an important educational aid, since it popularizes the message in concrete form. At least fourteen state health departments use educational films on infant hygiene. Thus Illinois presents Tommy's Birth Certificate; New York, the Care of Babies and Improvement of the Milk Supply; Indiana has six films. The University extensions of Kansas, Texas and Wisconsin also show moving pictures. The Chicago board of health (1911) presented educational films at weekly mothers' conferences, one film illustrating in detail the work of the department nurse. The department has since developed a series of motion-picture dramas.¹² A typical film, *The Fight for Babies' Lives*, was shown in twenty Cleveland theaters, the expense being levied on its members by the Motion Picture Exhibitor's League. Slides may supplement the films. These have been developed by the United States Public Health Service, and by twenty-eight state health departments; Indiana for instance, has 800, Ohio 1500. Stereopticon slides are also furnished by the Universities of Kansas, Texas, or Wisconsin (with 1000). In Baltimore, cut-out health slides are shown in the picture theatres.¹³

Modern educational exhibits combine films, slides, photographs, wall panels, mechanical and still models, or other devices. The health exhibit of the children's bureau at San Francisco utilized colored transparencies and electric contrivances, colored relief maps, screens with new color-schemes, and living exhibits. Pennsylvania illustrates a remarkable series of baby-saving shows, the state department aiding local communities. Exhibits of the parent Philadelphia Baby-Saving Show (1912) included panels and models, demonstration of baby care, and outlines of the work of children's agencies. To newspaper space and street banners, educational motion pictures and popular lectures, was added a two-day conference on infant mortality. One of their best baby-saving shows was held in Erie (1915). Twenty-five states, according to Goodwin, have these special educative devices. The traveling exhibits of some ten departments devote special sections;

¹² Cf. dramatic plays, as the *Theft of Thistle-down* (Pittsburgh).

¹³ Cf. posters (electric signs, billboards, window cards, streamers).

Illinois' infant-welfare sections, for instance, are booked for months in advance; Iowa's child hygiene exhibit shows at state and county fairs. New York has three traveling units, with twenty panels and a model infant consultation, each under a manager, trained nurse and mechanic. At least six states have general health cars. Thus infant hygiene is a special feature of the Texas public health car, and Louisiana's educational train devotes more than one-sixth its space. Traveling exhibits are also a product of six important University extensions. Such exhibits are admirably adapted to village and rural communities. For cities, the publicity methods of the New York Child Welfare Committee (1911), with its local surveys and organization of exhibits, are significant. Within three years this remarkable child-welfare exhibit has broadened into important exhibits in fifteen cities. The National Child Welfare Exhibition Committee plans to exhibit constructive state programs; and the Russell Sage Foundation includes a department of surveys and exhibits.¹⁴

Educational efforts in preventive infant welfare may well culminate in Baby Week or similar campaigns pooling different publicity devices. More than 2,083 Baby Week celebrations were definitely reported to the Children's Bureau (1916). This movement formally sets aside a period in which to popularize civic and family responsibility for better babies. It may involve local cooperation with the federal children's bureau and General Federation of Women's Clubs; and tends to become state-wide.

To these educational devices should be added the better babies' contest, a highly specialized development of the infant consultation along publicity lines. Promoted at the Louisiana State Fair (1908) and two years later in Iowa, contests were held at twenty-five state fairs (1913). According to Benton, seventy-one state and about 1,000 county and local better babies' contests have been given (since March, 1914). Important contests include Colorado, Idaho, Mississippi or Oklahoma State Fairs, the Illinois Farmers' Institute (Decatur) or the McLean County Child Welfare Association (Bloomington). The University of Texas not only supervises at the Texas State Fair but organizes contests for county fairs; and five other University extensions actively promote these contents.

The better babies' contest involves a significant blending of the practical and theoretical. Its systematic observation of best specimens should demonstrate what normal infancy is. Its actual scoring of each infant discovers unnecessary defects early in life, when adequate remedies are possible. This element is increasingly realized by extending the entry limit to

¹⁴ Also exhibit material by the Children's Bureau, Amer. Assn. for the Prev. of Inf. Mort. and Red Cross Nursing Service.

five years in order to supervise the entire pre-school period, and by ranking the infant not on actual condition but according to improvement within a fixed period. In Philadelphia, a Child Federation contest judged 600 entries on physical improvement in the baby, plus the sanitary improvement of its home, during four weeks. Pittsburgh's baby week initiated a baby improvement contest with prizes awarded in six months. At the Texas State Fair, the staff of physicians and nurses made thorough examinations of infants ranging from six months to five years, and a prize award to the baby with the highest improvement over its score the previous year.

From the eugenic standpoint, these contests represent an awakening of the parental conscience (*Einstellung*). Through a continuous propaganda for thorough examinations at intervals, they teach parents to see the importance of registering defects with care. The emphasis is properly placed upon the parent in the "better mothers' contests" reaching 540 mothers under Buffalo's health department (1914), or the prize mothers' contest of the Interstate Fair at Trenton (1915). This educational effect should be heightened by additional publicity methods which develop the newly aroused parental interest. Publicity which the awarding of prizes invariably attracts from the press may be accentuated by social features.

The technique requires a thorough examination by responsible physicians, assisted by trained nurses. A preliminary examination and other precautions should be taken against infection; preliminary contests and a special appointment for each mother, should avoid over-crowding and strain. The Texas State Fair, for instance, permits only mothers in the examining rooms; the West Michigan State Fair handles entries in rooms protected by glass from the public. By reducing the "exhibition" of babies to the minimum, the abuse of unsystematic contests is avoided.

The central factor in these contests is obviously the score-card, characterized by G. Stanley Hall as the "crux" of the movement. It should embody a "list of apperception centers from which the people should be encouraged to think, talk, read." Unfortunately in the usual score-card, the tests have been wide of essentials. The card of the Iowa Association, for instance, offered as mental tests six curious generalities, "facial and ocular expression, intelligence, tractability, attention, imitation, disposition," counting for arbitrary points. A score-card of the Better Babies bureau¹⁵ was a real advance, substituting definite psychological tests for different age levels, derived from the Binet-Simon scale. By similar tests of sev-

¹⁵ *The Woman's Home Companion* (New York). Cf. the American Medical Association standard score-card.

eral thousand infants, proper norms for respective mental ages might be developed.

In place of the usual catalog of various anatomical parts, the Better Babies bureau added a physical examination for defects which heavily influences the awards; while a series of definite measurements, though based upon an explanatory wall-chart, count for relatively little in the awards. With norms based on physiological age, the scorer is concerned with imperfections which significantly affect the child's efficiency. Numerous measurements may warrant classification in percentile groups, such as have been worked out by the department of child study in the Chicago schools. To plot them graphically would allow the definite placing of the infant in all possible comparisons with his group. Where definite standards, rather than ratios, are presented, they probably fail to cover even normal racial variations. With advancing data, norms might be roughly classified as at Ellis Island, into perhaps seven racial groups, developing standards for each group and a provisional point scale.

The score-card of the Better Babies bureau offered an interesting infantile history, including food and sleep. Brief data as to crying, fears, or diseases such as syphilis or tuberculosis, might be added. An antecedent personal history for each child would be of eugenic value, if safeguarded to ensure accuracy. It should roughly cover the ancestry and salient family traits, whether of defects, diseases, talents, tastes or peculiarities, physical or mental, of both parents and grandparents. A simplified form derived from the lengthy blanks of the Eugenics Record Office, reenforced by a brief family chart (genealogical), should develop a healthy understanding of the child's inherent possibilities.

The present tendency, however, is probably toward the more moderate conference, rather than contests. As a special flexible outgrowth of infant-welfare centers, the children's health conference developed at the National Conservation Exposition, Knoxville.¹⁶ The conference room was enclosed in glass so that the public might observe, but not intrude. Treatment was not given, nor were the babies scored, but defects were pointed out and advice freely given. By eliminating the contest, it was hoped to attract the "rank and file" of babies, including the mothers of potential "losers." Nearly 1,000 babies were examined. In the exhibit by the children's bureau at the San Francisco Exposition, a model baby clinic was daily held behind glass walls. Circuit conferences with simple exhibits are effective units of public health instruction.

¹⁶ Cf. conferences at Toledo, Atlanta, Peoria; Jacksonville; or the parents' educational bureau (Oregon Congress of Mothers).

So essential is the educational guidance of mothers, it would be surprising had no agencies specialized in organized training. Schools for mothers, schools of domestic arts, and special continuation classes, are important mechanisms in meeting this need. The English Association of Infant Consultations and Schools for Mothers¹⁷ includes 200 centers among the higher and upper-middle working classes. Many have classes for mothers with teachers supplied by local education authorities. The grants of the Board of Education for England and Wales (1916) include \$76,000 for day nurseries and schools for mothers. The St. Pancras (London) School (modeled after the Ghent School) for example, combines with the varied practical activities of an infant consultation, lectures and various classes for mothers, a club to awaken the interest of older girls, and a fathers' department meeting weekly. In the United States, milk-station instruction is effective because the aim is focussed definitely upon an individual baby. Modern methods of learning realized through doing replace mere information (which seldom leads to action). Goodwin lists some 250 infant-welfare stations having such practical classes or clubs for mothers.¹⁸ Settlements may develop classes, as at South End House (Boston) which has a senior babies' club supervising from 1.5 years to the kindergarten age, or at Starr Center (Philadelphia). Day nurseries form such classes as they assume settlement activities. To the Mary Crane Day Nursery (Chicago) are referred ignorant mothers needing physical care or assistance. Such mothers are given certain work at the Nursery (for a dollar and care of their children) and are so rotated as to receive a thorough training in domestic work, even utilizing the sewing room to make clothing for themselves and children, and the kindergarten for recreation in games, music or dancing. The Newark Association in its six nurseries or the Delaine Street Nursery (Providence) also illustrate this wider use of the nursery building. As a reverse of this tendency, roughly twenty per cent of over 400 settlements have day nurseries and forty per cent kindergartens.

Classes may become specialized schools for mothers. Caroline Rest, a convalescent home and school at Hartsdale (N. Y.), entertains 1,901 guests (1915). Mothers with infants learn by sharing in the daily practical routine over a period of 2-3 weeks. This school controlled by the New York A. I. C. P.

¹⁷ As a department of the National League for Physical Education and Improvement (Ashby, 1915).

¹⁸ For instance, stations under divisions of child hygiene in New York, Philadelphia, Cleveland, Pittsburgh, Buffalo or Milwaukee.

(whose bureau of relief includes some 3,000 infants in its families), has now received a bequest of approximately 3.5 million dollars. In Detroit nearly a million dollars has been left to found a mothercraft school for older girls. A school of Mothercraft (New York) was initiated by (Miss) Read (1911), later with a local and now a national, auxiliary. This type of school would receive in a private residence, resident students, day classes, and a small group of resident children of varying ages. The pupils learn by actual work as part-time assistants to these children.

Pre-school care, however, is an inseparable phase of a much larger field, so that its most vigorous future, educationally, lies in modern vocational schools and departments of domestic arts. The vocational course affords a framework for including instruction in pre-school care. The Stout Institute (Menominee Wis.), the Garland School (Boston) or Teachers' College (New York) illustrate specialized schools. Home economics courses were offered in thirty-one state universities, 230 summer schools, 160 state normals, and recognized in all agricultural colleges admitting women (1915). As an integral part of the general educational system, public continuation classes for mothers should be incorporated into the schools. A successful Rochester experiment provided a day course of twelve health lessons for women at the East High School; a trained nurse and woman physician taught the care of children and the sick. Parent-teacher associations and clubs for the instruction of mothers should be applied even in consolidated rural schools. University extension courses¹⁹ reach thousands of married women; other extensions distribute outlines on infant care for mothers' circles.²⁰ The University of Wisconsin provides instruction by correspondence in a home economics course including prenatal care, the lying-in period, infant care and growth. Correspondence teaching by the American School of Home Economics (Chicago) has reached perhaps 20,000 persons. By formal conferences, the American Home Economics Association seeks to stimulate progress.

Systematic preparation for parenthood should also include in the public continuation school system, all girls leaving school at fourteen. This is the strategic period for building home interests. Intimate contact with small children in the study of their pre-school management should automatically and

¹⁹ As in the Universities of Wisconsin, Kansas, Missouri or Minnesota.

²⁰ For instance, the Universities of Nebraska, North Carolina, West Virginia, or Texas.

wisely direct adolescent tendencies. In proportion as correct attitudes are developed, the adolescent girl will exercise a proper influence for pre-school control. Cincinnati's system offers the most familiar standard for continuation classes. In Massachusetts, child nurture is recognized by state-aided schools, for girls fourteen to seventeen years in day school, working girls seventeen to twenty-five in evening classes. Snedden suggests specialized part-time schools, with perhaps three to four hours in systematic home projects. These schools should develop well-organized correlation with hospitals, day nurseries or infant-welfare centers. To the practice house²¹ now recognized as essential in school equipment, might be added day nursery activities. The Y. W. C. A. and settlement may contribute continuation classes. Hiram House (Cleveland), for instance, has a model cottage to teach young girls, at school or working, the elements of intelligent home-making.

Continuation classes supplement or substitute for the high school and the two institutions together offer the special mechanism for reaching the largest numbers. Thirty-three states authorize home economics in secondary schools; and 2,440 high schools (21%) report such courses (1914). Pre-vocational experiences in the changing junior high-school period afford a particularly happy opportunity for pre-school guidance. Mangold suggests domestic arts be made compulsory for all girls in the seventh and eighth grades. The New Haven board of education is experimenting with instruction in the care of young children to eighth grade girls by the school nurse. Philadelphia is equipping school house-keeping centers to instruct the seventh and eighth grades in baby care. Los Angeles has four day nurseries in its public schools; and under the Gary system, at Froebel School, a day nursery affords the older girls practical supervised experiences in the care of children. Other important educative devices are the organization of Camp Fire Girls, and school credit for home projects. Returns from 232 representative high schools indicate in 23 per cent some form of home cooperation. Camp Fire members number approximately 64,000 (1914). As emphasized by Gulick, Camp Fire groups study the infant problem, and to become "Fire-Makers" must explain and illustrate the prevention of infant summer mortality; among the tests in elective honors for promotion are other elements of infant care.

Household art or hygiene teaching in the elementary schools

²¹ Such as the model flat, Technical High (Providence), or the 6 model flats of the New York Association of Practical Housekeeping Centers.

may culminate in the Little Mothers' League, an admirable educative device. The leagues are infant-welfare classes for girls of school age, either as integral parts of curricula or after-school activities directed by health departments and private agencies. Little "mothers" of twelve and fourteen years are still responsible for infant care, and are factors in pre-school morbidity. This strain may mould the growing elementary girl into bad physical form. Goldthwait (1914) has shown the effect of carrying burdens such as young infants, and that different types, such as the narrow-backed or broad-backed child, are adapted to different projects. The New York leagues, for instance, require no homework except a record of every aid to baby's welfare. The school child then becomes an important educational factor in the home, and is at the same time building up proper attitudes towards later parenthood. Among foreign populations in particular, it is easier to reach the child than the adult.

The New York leagues developed through the bureau of child hygiene (1908), adding practical demonstrations the second year, including 239 leagues the fifth year and by 1915, enrolling some 25,000 girls. In these leagues, physicians and nurses teach infant-hygiene to girls of grades five to eight. The bureau files the membership, a leader and secretary are elected, and the girls conduct the meetings. Each child is required to carry out all the work, with a final examination; but motivation devices include league badges, prizes for the best attendance or profit, and small plays or pageants. Eleven other cities supply a distinctive badge to class members. Classes meet twice monthly after school, weekly in summer; and each demonstration is preceded by a short talk.²² The instruction is typically by school nurses.

According to Goodwin, such leagues are organized as a municipal activity in forty-four cities, instructing annually 48,475 young girls. The New York leagues utilize settlements and playgrounds; Hartford (Conn.) or Passaic (N. J.) have playground classes. The New York experience has also demonstrated the usefulness of affiliation with infant-welfare sta-

²² The New York State course (1916) includes (1) the growth of the baby; (2) teething; (3) observation of the well baby; (4) observation of the sick baby; (5) fresh air in the home; (6) sleep and quiet; (7) baby's bath; (8) care of the eyes, ears, nose and throat; (9) baby's clothes; (10) the diaper and its care; (11) the baby's bed; (12) feeding a baby (nature's method); (13) milk (where it comes from and where to buy it); (14) care of milk in the home; (15) milk modification and weaning; (16) making barley water, whey, etc., and diet from 1 to 6 years; (17) prepared foods (uses, abuses); (18) prevention of common diseases; (19) training and education; (20) flies and other vermin.

tions. In the milk stations of Pittsburgh school nurses conduct twenty little mothers' clubs, with examination, badge or present; the Syracuse Infant Welfare Association has such leagues in each of its stations; also Poughkeepsie (N. Y.) and Orange (N. J.).²³ Washington has model flats for instructing little mothers. In at least fourteen cities²⁴ classes are held in the schools during school hours. Rochester, for instance, conducts little mothers' leagues at thirteen child-welfare stations in public or parochial schools, with a total of 114 classes. At least twelve cities now conduct classes in the schools but in after-school hours. Within three years the Philadelphia Child Federation developed two model leagues, twenty leagues were held at public schools, and child hygiene became compulsory for seventh and eighth grade girls in schools with housekeeping centers. In the Oranges (N. J.) classes are held at the Central School, the South Orange grammar school and an East Orange grammar school. Even municipalities of less than 10,000, as Hibbing (Minn.) or Wappingers Falls (N. Y.), have organized classes. Scattered through twenty-three states, a total of seventy-five private organizations report similar health leagues for school girls.

MENTAL HEALTH

This educational control of pre-school health cannot restrict itself to physical welfare but must stress the mental health of the pre-school child. The initial development of the child's tendencies and the habits formed upon them, is the most important reason for extending this educational influence. Rousseau recognized the rôle of "primitive dispositions" in early home education. Pestalozzi and Froebel sought their control in practice.²⁵ Montessori would also allow freedom for a vigorous expansion of early natural tendencies. Adler directs attention to the surprising multiplicity of these personal *Anlagen*, and regards the child as the sum of dispositions influenced by the environment. The Freudian school attach almost startling significance to such instinctive trends in early childhood; along their fictive conductance lines the Freudian wish functions. Without hesitation Watson identifies the Freudian wish with reaction tendencies.

²³ Cf. the supplementary Junior Mothers' Corps at the Cleveland dispensaries, for girls not reached by the public school classes.

²⁴ Chicago, Cleveland, Buffalo, Cincinnati, Los Angeles, Providence, Rochester, Reading (Pa.), Springfield (Mass.), Schenectady (N. Y.), Passaic (N. J.), Northampton (Mass.), Dunkirk (N. Y.), La Salle (Ill.).

²⁵ Cf. Monroe, P.: *Cyclopedia of Education*. Article on Infant Education, Vol. III. pp. 446-52, 1912, Macmillan.

These instinctive tendencies are familiarly illustrated in sexual and aggressive impulses. The young child's sexual impulses, to the Freudians, are very complex and mutable, entirely disconnected from the function of reproduction which they later serve. Freud prefers to regard the *Aggressionstrieb* as a necessary element of all instincts. Freudians have urged that the activists were at bottom sadistic and passivists masochistic, but President Hall believes these two distincts never quite coincide with those of sex. He suggests that all infants range upon an aggressive-passive scale. Aggressive tendencies appear in the child's efforts to modify his environment.

Postnatal environments may in turn control defects existent at birth through processes of compensation.²⁶ By stimulating heightened growth in structure or increased functioning, and involving other structures or activities, the defect is more or less covered. The "errors" of childhood, such as a difficulty in learning to speak, illustrate these functional readjustments. Such compensation restores the balance of the organism. The child's development should be corrected soon after birth; in spite of early compensation, residues of inherited defects may remain through life.

The pre-school period affords the minimum of inhibition and maximum facilitation for the essential physiological habits. Schools, day nurseries, infant-welfare centers and parents, should insist upon fixing habits of healthful activity in eating, drinking, evacuation, bathing or sleeping. Desirable habits involve cleanliness, responsiveness to proper incentives, alternate rest and work. The home environment should progressively cause the success of useful random reactions; Fiske, Preyer or Shinn have called attention to the remarkable number of these adjustments. As G. Stanley Hall suggests, the Freudians have paid little attention to many of these normal traits of childhood, such as sitting, grasping, creeping, walking, crying, correct use of language, sensory development and motor control in general. The nervous system is poorly protected in the earlier years, and intense, rapidly shifting stimulation or premature development should be regarded with suspicion. In these first three years, mind and body are more vulnerable and growth more rapid than in any other period of similar length.²⁷

Since play activities supply the most hygienic means for

²⁶ Cf. Tanner, A. E.: *Adler's Theory of Minderwertigkeit*. *Ped. Sem.*, Vol. 22, 1915, pp. 204-17.

²⁷ Cf. Hall, G. S.: *Recent Progress in Child Study*. *Child Welfare Magazine*, Vol. 8, 1914, pp. 212-16.

laying these foundations of the child's mental life, the school should no more ignore the playground of the young child than of the school child. Parents should be instructed in methods of play by the various educational agencies. The child should enjoy a room for suitable play in winter or wet weather, and an open space for playing, eating or sleeping. The most suitable playground for the small child is the backyard, perhaps with a sand-pile or garden;²⁸ cities should therefore organize the space back of homes as part of a comprehensive system of playgrounds. According to Comey (1916) in suburban sections it may prove practical to save fifteen to twenty-five per cent the total block area, in congested districts, three to four per cent. Comey has shown with ninety-six blocks to the square mile (streets running one-sixteenth of a mile apart in one direction, one-sixth in the other), a playground of 1.6 acres could be left in each block and the lots still have eighty feet depth; even in small blocks, 120 to the square mile, an interior playground of one acre would leave seventy feet in depth. Block-playgrounds should be supplemented by summer outings at farms or sea-side resorts. Children of the New York associated nurseries, for instance, may enjoy two weeks outings, and day excursions or park picnics are frequent. The fresh-air outing extends beyond day nursery and settlement influence, to include an important new series of agencies. Thus the Bay Court Recreation Home (Detroit) entertains for two weeks 500 mothers and children.

As a child-caring agency for the pre-school period the day nursery is not yet fully developed. The nursery equipment should furnish a natural educative environment, to develop the activity side of child life, and indirectly reflect at home the healthy surroundings and active care of the nursery. With child care the means to educational ends, the smaller nurseries might become houses of childhood, much as those developed by Montessori in Italy. The spontaneous participation of the child in nursery life implies trained interpreters. Nurses may comprehend physical needs but not the formation of personal habits. Read (1910) in a suggestive study of fifty day nurseries, found less than half the caretakers, infants' nurses or matrons trained in the mental or physical care of children. At the Mary Crane Day Nursery (Chicago), children develop skill and attitudes of helpfulness by aiding in the life of the nursery, as bathing, combing, dressing, sewing, or cooking and

²⁸ For example, under the Octavia Hill Association (Philadelphia), modern dwellings in Kensington for 48 workingmen's families, provide not only individual yards but playground space in the center of the block.

serving at proper intervals or at small parties. Nearly all the associated Chicago nurseries now have some playground, yard or roofgarden; the New York nurseries are branching out with open-air meals, roof or yard exercises, and small gardens.²⁹ The outdoor activities for children of four to five years at the University of California Play School, are here suggestive. The morning kindergarten circle may involve games, songs, occupations and daily doings in imitation of processes in the home.³⁰ The kindergarten where home and school so intimately meet, exerts an important influence upon the nursery. The strength of the kindergarten influence is roughly suggested by its extent; more than a thousand cities report to the commissioner of education (1914-15), 9,650 kindergartens (eighty-five per cent public) enrolling 486,842 children; with a membership of 19,000 in the International Kindergarten Union. The model nursery includes kindergarten instruction for its older children. Five Atlanta nurseries each have an excellent kindergarten. The Cleveland Day Nursery and Free Kindergarten Association (1915) includes nine kindergartens and five nurseries under common control. Children may be sent to the public schools for kindergarten and other lessons, as in New Bedford nurseries; or the kindergarten, as at the Fitch Creche (Buffalo), be transferred to the public school system. The experimental Montessori schools admit children at two, the *écoles maternelles* of France at two, and the infant schools of England at three years. Gorst suggests that these three-year English infant schools be abolished and nurseries substituted. No school system therefore should ignore the day nursery.

In the nursery or home, as expressed by Thorndike, we redirect and add to original tendencies by arranging the situations so that new and better associations are formed. This associative shifting is identical with the formation of conditioned reflexes as described in the experiments of Krasnogorski, Mateer, or Watson. To control these tendencies adequately during the formation of habits or associations upon them, involves such mental mechanisms as transfer and sublimation, together with repression, operations readily understood by an intelligent parent. The tendency may be reversed into its opposite (*Verkehrung*); or transferred and linked up with other complexes, in a different modality for example, (*Verschiebung*). Certain experiences in the pre-school period may act as over-determinants, reinforcing the tendency and

²⁹ The growing importance of baby day camps as well as open air schools suggests a similar fresh-air development for day nurseries.

³⁰ The kitchen garden, for instance, is a program of songs, games and other activities to instruct in household processes.

causing over-compensation. This transfer of activities developing from the child's *Anlagen* along proper conductive lines (*Leitlinien*) should involve their refinement and specialization, or sublimation. Upon the capacity of the nearest lying factor (such as a sexual impulse) to exchange places with social values, Freud bases the possibility of a higher culture. When the child strives for something, the end finally attained is thus considerably modified. By these mechanisms, inherited tendencies reach educational ends otherwise impossible.

The environment, specially in urban civilization, thwarts many instinctive tendencies. One group of habits may inhibit other groups. Thus the inherited tendency (*Trieb*) may be inhibited by either the *milieu* or by other activities. This mechanism of repression (*Verdrängung*) thus tends to inhibit the development of the psychic structure, especially useless developments. "The spontaneous and uncensored wishes of children gradually disappear as the children take on the speech conventions of the adult." Since repression acts as a check, Jung stresses its tendency to inhibit adaptation. Pfister differentiates a "retention" type which sees the future in the mould of the past, and a "repulsion" type which would press the present into the past. Repressed childish wishes may never completely lose their impulsive power. Even slight abnormality may trace directly back to the infantile experiences of these first years. According to G. Stanley Hall, every form of Janet's 'flight from reality' or of Breuer's autism, even a waking day dream, is a retreat toward the state of infancy. "Every lapse from severe apperceptive logical thinking to the spontaneous lapse of association, every modulation of thought from the abstract toward the *anschaulich*, is a movement childward."

These manifold compensations through their inter-foldings (*Verschränkungen*) and reciprocal inhibitions develop the psychic superstructure of the mind or connection-system. By progressive stages, activities reduce to higher levels of mechanization, or as Messer points out, run their course in abbreviated and telescoped forms. There is an attitude (associative complex) for every situation in every-day life. Combinations of feelings and motor adjustments, constituting the adjustment (Müller-Freienfels) of the child toward the situation, determine what parts of the situation shall be selected. Parental instructions or other influences functioning as *Aufgaben*, influence the child's adjustment by setting up a dynamic factor as the determining tendency controlling the child's response. Important elements in the child's environment thus become standards (*Aufgaben*) towards which his growth may pro-

ceed. As the infant *milieu* is largely the family, so-called family complexes follow the family modes. A familiar illustration of these early attitudes is the father-ideal or the mother-ideal developed by the young girl or boy. As early as the third year, suggests G. Stanley Hall, the parent is beginning to shape the pattern or ideal of the child towards the other sex. Too prolonged intimacy may thus tend to limit the child's powers of adjustment to different personalities. In young children more complexes are common to the mother. Vanishing traces of the typical Œdipus complex, for example, are evident in the boy who wishes his father away or resents his control. Freud cites a 5-year-old boy, *Angst* resulting from repression of an active impulse of hostility to the father and sadistic tenderness to the mother. Adler would explain this complex as a desire for tenderness, and as manly protest by which the child seeks to take his father's place. He instances the wish of Jung's 4-year-old girl to be an adult. Such learning proceeds rapidly before children go to school, because the attitudes or interests formed are the reactions of intrinsic tendencies upon the home environment, and are charged with sufficient feeling to motivate all behavior. These "forgotten years of infancy" thus mould disposition and predispose to later success in family or vocation. The public school simply carries to higher organization the adjustments of the pre-school period.