

moisture and keep down weeds. Leave the bed for a second year, but repeat the winter mulch. Better vigor can be obtained for a second crop by plowing away the edges of the rows, smoothing down with a cultivator, and permitting new runners to come from the narrow centers of the rows.

A new bed should be set each year, and the bed which has produced its second crop should be plowed under after the crop is off. Keep the beds widely separated to prevent the spread of the strawberry weevil.

Raspberries.—After thoroughly fitting the soil, mark out the rows eight feet apart. For the "hedge-row" system set the plants three feet apart, and for hills, set at four-foot intervals, in check rows to permit cross cultivation. Throw out a shovelful of dirt, spread the roots well, and cover carefully, firming the soil to prevent drying out. Cut the canes back at once to about eighteen inches to prevent fruiting the first season. Cultivate thoroughly to stimulate the development of new canes.

Each season new canes will develop, and the one-year old canes will bear fruit. The pruning system is based on this growth habit. The new canes should be thinned out, so that the strength of the plants is not overtaxed. After the crop is picked, the old canes should be removed and burned, leaving only the best of the new canes. In the early spring cut the tips off the remaining canes, so that they stand four or four and a half feet high. In this way they are generally self-supporting. If the canes tend to bend over and interfere with cultivation and picking, it is easy to support them with a single wire on each side of the row. Individual bulbs may be staked and the canes tied up.

If cultivation is maintained, and the plants keep in good vigor, at least ten crops should be obtained from a patch. If the plants are not making a good growth, the best stimulant is stable manure.

Time will not permit a discussion of other small fruits, but it may be said that good care will give results in nearly every case. Any of the state institutions may feel assured of the hearty cooperation of the Division of Horticulture at University Farm in the solving of problems relating to the orchard and small fruits. We have a cooperative orchard project with the Willmar Asylum, and will be glad to work with other institutions or help in any way we can.

MINNESOTA'S WORK FOR CRIPPLED CHILDREN

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Vulcan, the God of Fire, according to mythology, was a cripple. It is related he was thrown out of heaven by Jupiter for quarreling with his mother, and his lameness was caused by his fall. He was a whole day falling, and at last alighted on the isle of Lemnos, which became sacred to him. Jupiter later gave Venus to Vulcan, so Bulfinch tells us, "and the most beautiful of the goddesses became the wife of the most ill favored of the gods."

From all early myths, legends and folklore we learn that the life of the cripple has always been a hard one, and the mention of physical affliction carried with it stigma in other respects.

Primitive peoples, believing deformities at birth or coming later as result of disease were due to the influence of evil spirits, put to death or abandoned their afflicted children. In northern Europe the right to kill the deformed was common. From Japan we have the story of the god of Hiruko, who could not walk at three years, who was placed in the Rock Camphor Boat of Heaven by his royal parents and set adrift to perish. In Persia all deformities were considered the work of the Evil Eye. The inhabitants of India cast their cripples into the Ganges. The Spartans hurled theirs over a precipice. The Jews banished theirs from their midst, and they were forced to beg by the wayside. The American Indians put to death their undesirable children, and if one escaped in youth, he lived in terror that his affliction might later be discovered.

The general attitude was to regard them as a punishment sent by the gods, and ill luck or misfortune rested upon the house where one was sheltered. The Hebrew scriptures indicate that the physically deformed were spiritually and morally unfit. In Leviticus we find the following:

"And the Lord spake unto Moses, saying:

"Speak unto Aaron, saying, Whosoever he be of thy seed in their generations that hath any blemish let him not approach to offer the bread of his God:

"For whatsoever man he be that hath a blemish, he shall not approach: a blind man, or a lame, or he that hath a flat nose, or any thing superfluous,

"Or a man that is broken footed, or broken handed,

"Or crookbacked, or a dwarf, or that hath a blemish in his eye, or be scurvy or scabbed, or hath his stones broken:

"No man that hath a blemish of the seed of Aaron the priest shall come nigh to offer the offerings of the Lord made by fire: he hath a blemish; he shall not come nigh to offer the bread of this God."

Other references in the Old Testament show that the people were familiar with the cripple. Jonathan, the son of Saul, had a lame son. When he was five years old the tidings came of Saul and Jonathan out of Jezreel, "his nurse took him up and fled and it came to pass, as she made haste, that he fell and became lame." Thus history repeats itself.

The Greeks regarded them as the embodiment of everything unlovely, physically, mentally and morally. Homer describes Thersites as possessed of every ugly attribute and equally deformed in mind and body.

Kindly references are scarce. Job in recounting his good deeds says: "I was eyes to the blind and feet to the lame." From the Sacred Books of the East we learn that the crippled son received two shares of his father's property.

The advent of Christianity struck a new note. Isaiah prophesied: "The lame man shall leap as a hart." Christ tells us: "The blind receive their sight and the lame walk."

Many cures were attributed to the Apostles. In Acts we are told that Peter cured clubfeet; Philip, paralysis; and Paul healed a cripple. This new influence was not far-reaching and did not enter into the church until its later development. Ridicule and contempt were continually heaped upon them down through the Middle Ages.

The Roman law gave the right to the father to destroy a deformed child provided he had the approval of five neighbors. They were thrown into the sewers of the Eternal City, or left to perish in the woods on the banks of the Tiber. Parents were permitted to leave their children at a certain pillar in the vegetable market in the vicinity of the Temple of Mercy. The Hunchback of Notre Dame was left at the altar of St. Christopher. Usually children thus abandoned were collected by those who would raise them as beggars. In Rome the trade in slave dwarfs became a profitable and extensive business. In many European countries these organized physically deformed and mutilated beggars carry on, and their ranks have not been depleted since the war.

With the opening of the Middle Ages the chief occupation of the cripple came to be that of court fool or jester. They were found in the household of every nobleman and in the palaces of princes. They were chosen for their physical unfitness and quickness of wit. They were supposed to be devoid of moral sense and of any personal feeling. Peter the Great had so many in his household that he had to divide them into classes. It was not until the time of the Enlightenment that the practice was abolished. The principal significance of this period is that all cripples were regarded with ridicule, contempt and superstition. Ignorant people and scholars alike were influenced.

The belief that hunchbacks were of diabolical parentage was general. The theory of changelings was implicitly believed in. At the birth of an undesirable child it was believed that some diabolical mother had stolen away the right child and substituted her own instead. The idea was that if such a child were cruelly treated sufficiently, the mother would come again and take it and leave the rightful child in its stead. Rachitic

children, Cretins and cripples were regarded as changelings. The theory of the Evil Eye was another way of accounting for these undesirables. Parents claimed that deformity was due to some unusual prenatal influence. In the latter part of the seventeenth century it is related that a citizen's wife, pregnant, was frightened by a one-eyed lame peddler, and when her child was born he lacked a hand and had a crooked leg. Anyone thinking the Evil Eye theory is out-of-date should take histories at the State Hospital.

Throughout all literature the cripple holds an important place and the method of treatment in legend, folklore, fiction drama, painting and sculpture reflects the attitude of the time.

The first ray of light for the welfare of the cripple appeared in the eighteenth century, at first utilitarian only in character. The object was to get them out of sight in order that they should not annoy the community by their unpleasant appearance. In 1722 Count Leutgard, of Pforzheim, opened a hospital for wretched and pauper invalids, where special provision was made for young cripples. The royal ordinance referred to them as follows:

"And the third class is composed of those who have such defects that they are an especial abomination and disgust to others whenever they come into their sight. They are the misformed cripples."

The rules governing them were as follows:

"They shall be obliged to work. Their punishment shall consist of a few stripes and the withdrawal of food and drink."

The physician was instructed to employ his best skill, and they were to go to school if they could stand it.

The rise of the science of orthopedics was responsible for the next movement. In 1744 Audrey of Paris published a work on orthopedics which aroused much discussion and interest. As a result of this in 1780 an institution for the deformed was founded in Switzerland. The theories of the orthopedists were best put into practice in an institution, and many were founded in Paris, London, Berlin and Vienna early in the nineteenth century. Dr. Blomer gives the following reasons for the establishment of his institution:

"Diseases of these forms yield indifferently to treatment in the home. Medical and mechanical treatment are both necessary. With their heritage of the ages it is considered wise to begin their education with their treatment. The patients are young, active and acute mentally. It is wise to build before the mind becomes warped. They are shunned and restricted and imprisoned in their isolation. These faults can be removed by moral and intellectual training."

Paupers were treated as well as pay patients. Please note the following:

"Not desire of gain, but the warmest interest in the matter itself and a deep-seated longing to advance, as far as possible, the

common weal could lead me," says Dr. Blomer, "to establish an institution for the deformed, in which even those of the most slender means can find the fountain of their healing and so look forward to as happy a future as possible.

"Considering the end in view, the earthly reward to be hoped for was extremely scanty in return for the manifold and ceaseless efforts expended. The sweetest recompense is the consciousness of having laid a small gift on the Altar of Humanity and of having opened to the poor the fountain from which they may hope to draw, without expense, the healing of their infirmities."

Seventy-five years later the same spirit of service to humanity was responsible for the movement to provide care, treatment and education for the crippled children of Minnesota. Dr. Arthur J. Gillette, without thought of reward or recompense, was responsible for the introduction of a bill into the legislature which provided for a sum of money to be used for the maintenance and care of children, crippled, deformed and poor, whom he would treat free of charge. Then, as always, his work spoke for him, and one of his patients, Jessie Haskins, made a plea before the committee. The bill was passed providing \$5,000.00 a year for the purpose. No board could be found willing to undertake the management of such a project, and for ten years it was under the direction of the Board of Regents. Reports show that they considered it far removed from the dignity of the administrative duties of a university, and finally succeeded in getting rid of it. The management has been under the Board of Control since 1907.

The law provided for the care, maintenance and education of such children, crippled or deformed from birth, disease or injury, who are mentally normal and whose physical condition can be helped by treatment.

On October 27, 1897, the first patient was admitted to the ward assigned for their care at the City and County Hospital in St. Paul, where a nominal sum per week was charged for board, medicine and nurses' care. Dr. Gillette was alone at first; later others became interested, until there is now a staff of thirty-five of the best specialists along all lines to be had. Due to the vision of one man there has grown an institution in which the example of the founder has been followed by those of his own profession and by hundreds of others imbued with the same desire to make the life of the less fortunate a little brighter, a little more livable, and that, too, not for reward, recognition or recompense, but as a service to humanity.

Today in the State Hospital, besides thirty-five specialists, giving their time absolutely free and unlimited, we have, giving definite time, working under direction, women representing organizations, churches, clubs, and those who come as individuals, doing their work with an enthusiasm and ardor that could not be hired or paid for.

At present the following work is done wholly or partly by volunteers: music lessons, corrective gymnasium work, rhythmic dancing, religious instruction, some clerical work, some library work, story telling, entertainments, cars to take children driving are furnished, social service work, visiting nurses, home visitors, regular visitors for children who have no

parents or whose parents cannot come to see them, Girl Scout leaders and Boy Scout masters, and the many, many people who help in direct and indirect ways to make the children forget that they are different from other children and, in forgetting, to become normal. With such an inspiration and such an organization, both in and outside the institution, there is nothing that cannot be accomplished.

We have hastily glanced at the heritage of the cripple as shown in the literature of the ages. How is he to be made into a useful, self-supporting citizen after his disease or deformity has been corrected? Every child has the right to a well body, a good home and sufficient education to prepare him to earn his own living.

The problem of the treatment, moral training and education of the cripple is one. Educators are not agreed in establishing a standard of education for the normal child. Here we have the problem of the general education and the physical condition to deal with. They should have a distinct, separate and special method adapted to their individual needs and ability. The problems to be considered are their maintenance, care and treatment of their disabilities, their general education, their character formation, their vocational training and their later supervision. The children of the well-to-do have those interested in them who have the ability and desire to see that they are taken care of. It is the poor we have to consider.

The crippled child is more limited than the normal, and is in greater need of a good elementary education. For education to be successful, it must be thorough enough for the child to become self-supporting. The wider the range the greater will be the range of choice in later years, and the better chance he will have to compete with his more fortunate brother. His choice must be one that will not be detrimental to his condition or tend to the recurrence of his need of hospital treatment.

Minnesota has no provision other than the state hospital for poor children. City and county hospitals in the various cities provide free beds for orthopedic adults. The care and re-education of this class occupies an entirely different field and cannot be treated under the head of care of children. Minneapolis has a day school where children unable to attend regular school are collected by busses. They have an especially qualified teacher and an orthopedic nurse and doctor as consultants, and are well on their way to obtain good results.

There is no reason why every city where orthopedic service is obtainable should not make such provision for the children who have proper homes and who are not in need of active treatment. The home is the proper place for the normal child and for the crippled child as soon as his condition is such as will permit him to enter into the home as a member of the family. For the number from sparsely settled communities, from poor homes and those without homes, there should be provision after the hospital period is over. We believe that there should be a boarding school where every facility would be offered to meet whatever condition might arise.

The hospital has recently increased to 220 house patients. There are 1,200 in the dispensary, children who do not need active hospital treatment,

but report at the direction of the doctor and are furnished appliances, medicines and physiotherapy. The parents of children in need of orthopedic treatment who have been residents of Minnesota for one year and who are unable to provide such treatment, may make application through their family physician with a certified statement of the above circumstances. The doctor's recommendation is sent to the Board of Control, and on their recommendation the child is brought for examination. He is admitted on the order of the doctor. When he comes into the hospital a thorough physical examination is made, each specialist making note of his findings. The records follow the recommendations of the State Board of Health and the American College of Surgeons. No diagnosis is made until laboratory findings are recorded, X-rays taken and histories completed. During this time the patient is isolated and kept under observation. Then treatment and school work begin. All school work is with the approval of the doctor. It may consist of ten minutes a day or five hours, depending upon the condition of the child. It may mean the regular grade work or type-writing, shorthand, millinery, dressmaking, cooking, serving, toy making, wood carving, weaving, music lessons, drawing, painting, gardening. It may mean high school work or lessons in first-aid nursing. We aim to provide an instructor for any subject for which there is a demand; not to make them sufficiently proficient to earn their living, we do not have them long enough for that, but to give them a foundation upon which to build. The moral training and religious instruction is carefully looked after. Love of country and a spirit of patriotism is developed even in the youngest. Our maternal school for our little children provides the training that a child would naturally get in the home, but could not get in an institution, from those who provide for their physical care.

The educational function of the institution is not limited to the work with the children. Medical students from the university have their course in orthopedic surgery and surgical students have their service as internes in the hospital. Public health nurses from the university have lectures and clinics. Student nurses from all hospitals in St. Paul have a course in orthopedics given by our doctors, with lectures and clinics at our hospital. Many of the Minneapolis hospitals send their student nurses for our special work. Classes in sociology and institution management from the university and local colleges have regular lectures by the doctors or the superintendent. During the school year we average three half days a week for educational work outside the hospital.

The social service work throughout the state has been carried on by the school, county and Red Cross nurses, child welfare bureaus, the local doctors, internes who have had our training and go out to practice. Nurses who have familiarized themselves with the work bring patients to us, return them to their homes when discharged, and see that our directions are carried out in the homes. Our best advertisers are our cured patients. One, a girl fourteen years of age, sent in eighteen patients from her county after she had gone home.

With all this change in attitude, with the enlightened view that physical abnormality is not necessary to produce a Mirabeau, a Scott or a

Byron or a Heine, we are still conscious of the vast number of Tiny Tims, Calibans, Quasimodos and Gwynplains we have in our midst.

From the World War we have come to put a new value upon human life. We have learned that it is easier to prevent than to pick up the broken fragments and make them whole again. We have also learned how far short from physical perfection we, as a nation, have fallen.

Resultant of all this we have started throughout the state a crusade of prevention by means of clinics, home nursing, school nursing, school dentists, school doctors, social service workers, leagues for the purpose of bettering conditions in the home, prenatal care of mothers, child welfare boards, marriage regulation, the removal of vice and degradation caused by intemperance, the awakening of hospitals to their responsibility in the communities; all signposts pointing to the dawn of a new era in which every child may claim his birthright.