DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1921, No. 45

SCHOOL GROUNDS AND PLAY

By

HENRY S. CURTIS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1922

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
5 CENTS PER COPY

CONTENTS.

SCHOOL GROUNDS AND PLAY.

INTRODUCTION.

There are many people of middle age in America still who do not believe in play. They grew up without playgrounds themselves, and they do not realize how greatly conditions have changed during the intervening years. When I was a boy in southern Michigan the school session in our country community was only four months a year. Under these conditions the school may rightfully give its entire energy to scholastic subjects, and trust to the children finding time for play and industrial training during outside hours. But as the school takes over more and more of the child's time and energy, and grows from a 4-month term to a 9 or 10 month term, with a tendency toward a yet longer year, and a yet longer day, it becomes necessary that the school shall make provision for all sides of the child's nature.

There are many men of the old school who believe that work is the proper method of developing manly qualities in boys. They still proclaim their theory, forgetting that our child labor laws do not allow boys or girls to work before the age of 14 or 16. Work on the farm and in many other lines of industry had a great physical and practical value; but farm boys have mostly dropped farm work, except a little during the vacations. There is almost nothing for city boys to do. Some girls sweep the floors, make the beds, and wash the dishes, but they do not grow strong from washing dishes.

It is impossible to develop a high degree of motor skill unless the muscles and coordinations are trained during the period of growth. The best time for physical training is the period of the elementary school. During this time there is little physical work; probably not more than 5 per cent of the pupils have regular access to a gymnasium, and their chief source of physical development is play and athletics.

The war revealed that about one-third of our young men from 21 to 31 were unfit for military service, and the War Department officials tell us that at least half of this physical unfitness would have been overcome if these young people had had proper physical training during their youth. We did not examine our young women, but no one thinks that we should have found these young women in a better physical condition than the young men.

When the young men who were accepted were sent to the training camps, more than half of the time was spent in putting them into physical condition. From this came first a movement for universal military service, which has changed during the last two years into a movement for universal physical training.

The war has demonstrated the great value of athletic sports in developing initiative, courage, resourcefulness, quickness of thought in time of danger, and all the qualities which make a capable soldier. Athletics was a great safeguard in keeping the men from temptations, offered the greatest relief after the strain of the trenches, and enabled them to come back after a nerve-racking period in the front line. It developed morale. Even with inadequate training, the American soldier was one of the most efficient fighting men in Europe, and he owed

his efficiency largely to baseball and football. If the battle of Waterloo was won on the football fields of Eton, then Chateau-Thierry and the Argonne were won no less on the baseball fields of America.

Every activity of civil life was carried on in the Army, and there were always 5 to 10 men behind the line to every man in the line, yet the Army rejected one-third of our young men from military service. It rejected them because it demanded higher efficiency than civil life has ever demanded, and because it demanded that the men in the Army should have resistance against disease and be able to recover from wounds. But it is also desirable that men should be efficient in civil life; that they should be able to recover from wounds and have resistance against disease. The handicaps on account of which the men were rejected from the military service are no less handicaps in civil life than they were in the Army.

At the beginning of the war we were spending 10 cents per capita on the recreation of children, but during the war we spent nearly $50 per capita for the recreation of our soldiers. At the beginning of the war the venereal rate in the Army was 11 per cent, but during the war, in spite of adverse conditions in France and in military camps in general, it ran down to 4½ per cent. There is every reason for thinking that similar measures in time of peace with civil populations would be yet more effective.

OUR NEW STATE LAWS.

Since the war there has been a new emphasis on organized games and athletics throughout the world, and in some countries on gymnastics also. In the United States, since 1916, 28 States have passed laws putting organized games and athletics into the program of the public schools. Such bills are now pending in the legislatures of several States.

These State laws are much alike. Most of them have resulted from a meeting of physical trainers called together by the United States Commissioner of Education, Dr. P. P. Claxton, at the meeting of the National Education Association two years ago, at which the National Physical Educational Service was organized, with an office in Washington in charge of E. Dana Caukins, and supported by the Playground and Recreation Association of America. In general outline the more recent laws are about as follows:

There is to be a physical examination of all children each year with some suggestion for the removal of the physical defects discovered, usually by some follow-up system by the school nurse. In the State of Iowa children may be sent to the State university hospital and be maintained there at State expense for necessary operations.

These examinations show that there has been a great increase in malnutrition during the war, and that about one-third of the children are undernourished; that there are a great many with adenoids or enlarged tonsils, which require an operation, many who need glasses, and a large majority who have defective teeth.

Most cases of diphtheria, whooping cough, typhoid fever, and measles are contracted at school. The doctor is not at the school enough to discover these cases in time to prevent the exposure of other children. In some of the State laws it is provided that there shall be an inspection of all children each morning by the teacher.

In some States, as New York, a mark on posture is given on the monthly report card.

There is a two-minute drill at the end of each recitation period for relief from sitting still.

Health and the principles of hygiene are to be taught to all children, and certain periods are provided for gymnastics and games. About two-thirds of the time is to be given to organized games out of doors during the pleasant weather.

The following is the present requirement in the State of New York:

1. Physical training A: Correlation with school medical inspection, daily inspection of every class by the regular class teacher.
2. Physical training B: Relief drills of at least two minutes' duration in connection with each class period, or at least four times every school day, under the direction of the regular class teacher.
3. Physical training C: Talks on hygiene, two 10-minute or 15-minute periods a week under the regular class teacher or a teacher appointed for this special work.
4. Physical training D: Games, athletics, gymnastics, group dances, etc.
   (*a*) Supervised requirement: A minimum of two hours per week under supervision or direction of school officials. May be covered in recess periods, in the regular schedule, or after the other work of the day is completed.
   (*b*) Additional requirement: Three hours per week, supervised or unsupervised.

The minimum time demanded in most States is 20 minutes in excess of regular recesses and noons, but in Kentucky, Georgia, and New Jersey it is 30 minutes, while in New York it is nominally an hour.

In those States where there is an appropriation and provision for a State director of physical training, as there is in New Jersey, Maryland, Michigan, New York, and California, the law has been effective. A syllabus of physical training is issued from the State department of physical education, and the physical director holds conferences with physical trainers over the State to get this program under way. Courses in games for all students and special courses for physical trainers are being started at the State normal schools. Play is being introduced into the county teachers' institutes. In the State of New Jersey there has been organized also a State association of physical trainers and a State interscholastic athletic league. In some States where there is no appropriation and no State director, as in Delaware, Indiana, and Illinois, the law apparently has had little effect.

New conditions in the colleges.—During the war the Students' Army Training Corps was organized in most of the larger colleges, and mass athletics and other outdoor sports were introduced. There has been an enormous increase in outdoor athletics in nearly all of our colleges since the war, so that in the fall of 1920 out of 640 men in the freshman class at Harvard only 16 were doing formal work in the gymnasium, while all the rest were engaged in some kind of athletics. Out of some 675 at Yale only 70 were taking work in the gymnasium, while all the rest were engaged in athletics. Columbia University now requires all its freshmen and sophomores to take their exercise in the form of athletics out of doors during the fall and spring. Baseball, basket ball, volley ball, hockey, tennis, and football are required of all of the men as a part of their regular course. Every man must learn to swim and take part in at least two forms of field athletics. These are required both for the sake of exercise and because they are believed to be a part of a general education. The University of Pennsylvania has been a pioneer in requiring athletics of its student body. Northwestern has made athletics compulsory during the last year, while West Point, which has in the past been largely devoted to gymnastics from a military point of view, now requires mass athletics of all students for four periods a week. The same tendency has shown itself in the small universities and colleges wherever they have had the facilities.

THE MUNICIPAL PLAYGROUND.

The municipal playground can not care for the play of school children adequately. The children do not know each other well enough, and they are not friendly enough for play of the right sort. Among the essential conditions of successful play are that the children shall be of nearly the same age, of the same sex, and that the same children should play together each day. This is impossible on the municipal playground as now organized. During the school year, if the children are to go to the municipal playground, they must make separate trips home and to the ground. This extra effort is sufficient to prevent many from going. The school year is being constantly lengthened until there is a possibility of a 12-months term and a 6-hour day. With this arrangement it will be practically impossible for the children to use the municipal playgrounds except at night. Play is one of the greatest educational forces of childhood, and to turn it over to any organization which looks upon it merely as amusement is often to lose its chief educational values. The school board has the machinery for providing educators to organize work with children, while park boards usually do not have this machinery, and with them playground positions are more likely to be filled with political retainers and others who are unsuited to the work. In all cities that have adequate school grounds, or where the school board can administer the municipal playgrounds, the play of school children should be supervised by the schools. Play is to-day a larger school problem than it ever was before.

AREA OF THE SCHOOL GROUND.

Many of our old schools were built without playgrounds, and the buildings occupy almost their entire site. Our new activities are demanding more space. The rules as passed by the State board of education of Delaware last year regarding the size for school sites are as follows: "For a one-room school there shall be not less than 2 acres; for a two-room school not lees than 3 acres; for a three and a four room school not less than 4 acres."

Many of our older city schools have been largely surrounded by residences and business buildings, until little space in the immediate neighborhood is available. There has been a good deal of discussion of the London requirement of 30 square feet of playground for each child, but this is an absurdly small amount, giving each child practically only a 5-foot square to play in. There have been a number of other standards proposed, running up to 200 square feet per child, but no standard built upon the number of children at the school has much significance, for the reason that in outlying sections where schools are built with few rooms land is probably cheap, and grounds can be secured which may accommodate also the overflow activities from other schools. A three-room school in the suburbs with adequate play space soon grows into a 15 or 20 room school, with very inadequate play space. The only sensible rule is that 6 or 7 acres should be secured for every school if possible, and the minimum that should be allowed by law for any new school, except under very unusual conditions, should be one city block. If a large outlying site has been purchased, and the city does not grow in that direction, a part of it may be turned into a park for that section, or an athletic ground, or gardens, or tennis courts. There are dozens of uses to which this ground can be advantageously put, and it is probable if the law permits it, that after having kept the ground for a dozen years without taxes, 10 per cent of it might be sold for enough to pay for the entire site.

Enlarging grounds.—Many of our schools have been built without playgrounds, and the sensible thing in many cases is to abandon these old sites and select new and more adequate ones, for in these old buildings without playgrounds there are practically no gymnasiums, auditoriums, or shops; no rooms for domestic economy, manual training, art, or music, or any of the things which constitute a modern school.

The survey committee of Delaware, of which Prof. Strayer, of Columbia, was chairman, scoring the school buildings of Delaware outside of Wilmington, found that only 4 or 5 per cent scored above 500 on 1,000, and recommended that all of these buildings should be abandoned. Probably the great majority of buildings that have been constructed without playgrounds in the United States would score less than 500 points on 1,000 on the scale adopted by the survey committee.

Most of these sites are in sections where land value is high, and may often be sold for enough to acquire a fine site farther out. Where this can not be done, the school board should follow a policy of enlarging its school grounds by the purchase of adjacent grounds or buildings, whenever these can be secured at a reasonable price. The city of Houston, Tex., a few years ago issued bonds for $500,000 to enlarge the grounds of its old schools. Berkeley and Oakland, Calif., have also done this on a large scale.

Often it is possible to buy land cheaply in the interior of the block by cutting off 50 to 100 feet from the back ends of the house lots. In Salt Lake City, where the blocks are very large, many of the schools are thus securing playgrounds nearly 3 acres in size.

Detached playgrounds.—It is not absolutely necessary that the playground should be in the same block with the school. There are many cases where, though it is impossible to get more land in the same block without paying a prohibitive price, it may be possible to get ground across the way much more cheaply. Ground of this sort may be quite as well adapted for tennis, volley ball, basket ball, and baseball as is the school ground. In fact, it may be an advantage to have these games away from the school building and the smaller children.

Many London schools make provision for out-of-town grounds, where they can not secure them near the school, and then arrange for a cheap fare with the tramcars that carry children back and forth at hours when the bulk of the traffic is going in the opposite direction at half price.

The school park.—Jacob Reis, in New York, for many years advocated that there should be a small park in connection with every school ground. Gary, Ind., has made a beginning of this at the Emerson and Froebel Schools. Such provision would be desirable in many locations. The new high-school in Flint, Mich.. has 43 acres of ground and probably 30 acres of woodland.

Leveling.—All college athletic fields and tennis courts are made almost level. No other surface is suited to play upon. Inequalities are always likely to result in sprains. Few of our school grounds have ever been leveled; yet this is the fundamental condition for successful play on from half to two-thirds of them. They must be graded so that the water will run off without washing; stones must be dug out, projecting roots cut off, and inequalities of the ground filled in until the ground is nearly as smooth as a tennis court or a regular baseball diamond for professional baseball. If the ground is a hillside, this can only be done by putting it into terraces, which is expensive but unavoidable.

Seeding the ground.—The ideal surface for most games is grass, and for all rural schools and the larger city sites it should be possible to keep grass on a part of the ground at least.

The grounds should first be carefully leveled, enriched, and seeded down. In the South the best grass is Bermuda,[1] while in the North some form of June grass, red top, or creeping bent serve best. It is almost impossible to kill out Bermuda grass; it will stand the wear of very intensive play.

Surfacing.—In our larger cities where the grounds are small and the number of children is great, no kind of grass will stand the wear. Many kinds of surface have been used, all of which are more or less unsatisfactory, but some of which are better than others. Of all surfaces next to mud, probably brick is the worst, then comes cement, and then coarse cinders or broken stone. The best surfaces are ground or crushed cinders, torpedo gravel, or the finest of crushed stone. School boards who are putting in brick, or coarse cinders, or broken stone may well consider that no adult would play on such a surface for a day, that to run on brick or concrete is a constant jar to the nervous system, that the coarse pebbles and cinders turn the ankles; that they will cut out a baseball or a volley ball in a day; and that a fall upon them probably means a bad cut and a hole through the trousers. They wear out nearly enough shoes, clothes, and play equipment every year to pay for proper surfacing.

Torpedo gravel is a fine water-washed gravel, a little smaller than a double-B shot. It is nearly round and is put on to a depth of about one-half inch. If the ground is well graded and underdrained, or is of a loamy texture, this makes a fairly satisfactory surface. Mr. Champlin, recreation secretary for Philadelphia, gives the following specifications for the surfacing used on the grounds of Philadelphia:

The entire plat (with such exceptions as may be required in each particular case) to be graded to a subgrade or 10 inches below the finished grade as shown on the plans.

This surface so made is to be carefully, though not accurately, leveled, and is then to be compacted by rolling with a steam roller of not less than 5 tons in weight.

All soil or waste material resulting from this grading is to be taken away and disposed of.

Sufficient hard-coal cinders should be spread over this surface so that after rolling with a steam roller of not less than 5 tons in weight there will be a thickness of 7 inches.

The cinders must be thoroughly wet before and during rolling, and the rolling may be done in one layer.

Stone screenings should be placed on top of the cinders to a sufficient depth so that after rolling with a steam roller of not less than 5 tons in weight and bringing the surface to the grades given by the district surveyor, there will be a thickness of not less than 3 inches of stone screenings. The stone screenings must be thoroughly wet before and during rolling, and the rolling may be done in one layer.

These specifications when properly followed will produce a surface that will not become muddy or restrict play, even after the most severe rainstorm, for more than a very short period, up to one hour; for if the area is graded to direct the water to sewer outlets by very gradual grades, the excess water is gone immediately after the storm and the composition of the surface permits the percolation of enough water to saturate the area so as to prevent dust for a considerable time, depending, of course, on the weather.

In Philadelphia playgrounds have the top surfaced with the finest of stone screenings. Until recently they have been treating this also with gluten to keep down the dust, but this has of late been discontinued on account of the expense. In the new schools of Detroit they use 2 inches of cinders, surfaced with 2 inches of very finely crushed lime stone.

None of the surfaces mentioned will be found entirely satisfactory. The surface used in Philadelphia is too hard and also more or less dusty. Cinders

[1] In the Playground for February, 1921. See specifications for grassing a golf course. These will answer equally well for a playground.

are not pleasant to look at and absorb the heat in summer. It is probable that we shall ultimately have to manufacture a surface before we shall get one which meets all conditions. A surface of about 2 inches of India rubber, colored green or light brown, would make the ideal surface; and it may be that some of the rubber substitutes will some time be cheap enough so that this can be done, or it is possible that some form of resilient asphalt properly colored may be produced which will be satisfactory.

Roof and basement playgrounds.—In places like New York City, where ground is often worth a million dollars or more per acre and the site on which a building is erected may cost more than the building, it is not to be expected that a large space can be secured for a playground. In New York this situation is met in the newer buildings by a fairly light playground which occupied the entire space of the first floor of the building and by putting a second playground on the roof, so that the school has a playground area equal to twice the site on which it is built and, in addition, such small exterior courts as are necessary to give the building the proper light and protection from the sounds and smells of the neighborhood. Such provision should be insisted upon for new schools where adequate outdoor space can not be secured.

Keeping in condition.—In many school systems there is no provision for keeping the school yard in condition. Few school yards look really tidy. Projecting roots, stones, brickbats, and heaps of ashes should be removed. The board of education should provide for a monthly clean-up, and the janitor or a sanitary squad at the school should constantly see that the ground is in condition.

Location of the school building.—The school architect desires to put the building where it will be most conspicuous and sightly. It is a better advertisement for him if he can have an acre of lawn with flowers and shrubbery in front; but if the school board buys 2 or 3 acres and puts the building in the center the pupils will not get much use of the ground. The building should be at the end or side of the grounds, not far from the street. The part in front may then be grassed and flowers and shrubbery may be used.

Planning the school ground.—To secure efficient use of the school ground it must be level and planned as carefully as the building itself. There are many school grounds where the older children have put up a basket-ball court in the middle of a half acre of ground, thus using ten times the space needed and keeping all other playing groups from using the ground. The playgrounds for little children should be located near the building. Equipment should be put at the side, leaving the general play space open, and school gardens should be at the back, away from active games. Running tracks, jumping pit, and equipment for athletics should be along the side.

Fences.—It has been the custom in parts of the East to provide an outer fence, and ofttimes a fence separating the girls from the boys, while in the West and in general in newer schools there have been no fences. There are advantages in having a fence. It sets the school ground off by itself and gives it individuality. Conduct will always be a little better on a fenced ground. It is easier to control. There is less danger of the children rushing into the streets in front of automobiles. There is less danger also from stray dogs and runaway horses, and there is very much less annoyance from the use of the ground at night. But schools with the smaller grounds can not afford the space, and must use the sidewalks and streets more or less. In the larger grounds a fence is probably worth while. If it is covered with rambler roses, morning-glory, or honeysuckle, it may add much to the appearance of the ground. The fence separating the girls and boys takes too much room, and

where there is supervision it is not necessary. It is desirable, however, that there should be a separate place for little children, and a low hedge may be put around it if the ground is large.

TREES.

Trees are desirable on school grounds. During the late spring, in September, and all through the summer, if the ground is used, shade is necessary for securing the attendance of the children. Trees also add a touch of nature and make the ground more attractive, but probably one-half to two-thirds of the trees now in school yards ought to be taken out. A tree is a fine thing in itself, but a tree in the middle of a tennis court or a baseball diamond is a nuisance. A double row of trees, one just outside the sidewalk and the other just inside the line of the playground, is desirable, with a possibility of leaving an open space directly in front of the building and of adding also a double row along some of the walks, and possibly putting another row around special features, such as the tennis courts. But no tree should be planted on a school ground without a definite plan.

A tree can not be simply pulled up or dug up and stuck down into a hole, with the expectation that it will live. Ground 5 or 6 feet in diameter should be excavated to a depth of 2 or 3 feet and filled in with good ground. Usually the top of the tree must be cut off if a number of the roots have been broken in transplanting, and it should be boxed.

It is often wise to have the inner and the outer row of different varieties of trees. If the inner row is of horse chestnuts; or, if in the South, of magnolias; or, if in the Southwest, of olive or palm trees, the double arrangement may add much to the beauty of the ground. Sugar maple is probably the best single tree—but it grows slowly. Basswood also is an attractive tree in the North, especially when in blossom in the spring. It is often wise to plant a rapid-growing tree, such as the cottonwood or the soft maple, alternately with a slow-growing but finer tree, such as the sugar maple. Mature trees should be 30 to 40 feet apart, as they will not grow fine tops otherwise. As the slow-growing trees mature the rapid-growing ones may be cut out.

On the larger grounds it would be wise in many cases to plant in some retired part a small park or grove, perhaps 100 feet square, where play equipment could be placed and where the children could eat lunch in warm weather. This would offer an opportunity to put up bird houses, and to encourage woods flowers and squirrels.

The tree as a gymnasium.—A large tree, with spreading branches, offers many opportunities for play and for athletics. A limb is the cheapest and the most satisfactory attachment for a swing, as it furnishes also shade, and much cooler shade than is cast by a canvas awning. It also furnishes possible attachment for a trapeze, parallel rings, and even for flying rings, if there are a number of large branches. Climbing ropes or poles can be attached to the limbs as easily as to the framework of a gymnasium, and if knotted ropes are used, attached high up, the tree may be a pretty complete gymnasium.

A MENAGERIE.

All children are interested in animals. It is they who maintain interest in the zoological gardens in our cities, for most of those in attendance are children and adults who are with them. In the yard of the Emerson School, in Gary, Ind., in 1917, there was a henhouse with 40 chickens; a coon tree with 3 coons; a tame crow; and 2 or 3 wolves. It may be a question how far the

school can afford to go into the menagerie; but as a minimum for the kindergarten and the first grade there should be at least a few rabbits and guinea pigs, and possibly white rats. The care of these pets is an excellent form of moral training, as the animals are always personified. At the Francis Parker School in Chicago the chicken house is made the basis of much of the arithmetic work, as the children buy the feed, gather and sell the eggs, and keep track of expenses and profits. Incidentally, they have a new fundamental interest and learn much about the ways of hens. There should be bird houses in the trees, and as many birds and animals as feasible should be encouraged to live there. The Society for the Study of Education in New York City has been putting white rats and white mice and guinea pigs into many of the schools in New York, because of the educational value which they believe these pets have.

THE SCHOOL GARDEN.

During the war there has been an enormous increase in gardening in England and in America. Directors of school gardens have been appointed in many cities, and many children have had gardens either at school, in the back yards of their homes, or on vacant lots. Gardening gives considerable outdoor exercise, and makes children familiar with one of our fundamental occupations and also with many of the laws of growth. However, it is far less important on school grounds than play, and where the ground is small the space can not be afforded. If the school has a garden, it should be placed at the back, where it will interfere with play as little as possible.

EQUIPMENT.[2]

Many people who have not thought much about it always think of the swings and seesaws and similar apparatus as constituting the playground. However, there are no swings or similar equipment on the grounds of the English preparatory or public schools, and there are practically none on any of the school grounds of Europe. The training which comes from a swing or seesaw is not comparable with the training that comes from baseball or volley ball or basket ball. The prime use of school grounds should always be for vigorous games. However, there is a place for equipment, and in the larger grounds this equipment is valuable.

The swing.—In the location of the swings a retired site should be selected. The chief danger is not, as many people think, that the child will fall out, but that children who are running by will be struck. If two heavy children are standing up and swinging hard, a child struck in the head by the swing board will be seriously hurt and may be killed. The swings on the school yards should be for the smaller children, and it is best not to make the swing frame high. Children like best a high frame, but such swings will usually be monopolized by the big children, who might better be playing volley ball or basket ball or taking part in athletics. It is better to put in a frame not more than 10 or 12 feet high, which can be kept for the smaller children. It does not take so much space and is not so dangerous.

Children are apt to dig out the ground under the swings with their feet. If the ground is not very loose water remains there after rains and spatters the children as they go back and forth. It is often necessary to put a wooden or concrete platform under the swings.

---

[2] For a fuller discussion of this topic see "The Practical Conduct of Play," by the author.

The swing offers a standard attraction against which the teacher must compete in organizing activities on the playground. If she can make pull away, prisoner's base, volley ball, and other games more attractive than the swings she is a success. The equipment is often a decided handicap in organizing activities.

So far as the swing has physical value this consists in swinging oneself. It is of no advantage for one child to swing another.

Children like to stand up in swings, and they get better exercise in this way. The danger is not considerable. But it is objectionable for girls with white underwear to stand up, and it is particularly objectionable for boys to swing girls who are standing up.

The chief difficulty from equipment, however, is from its use at night. If the swings and other equipment are left up, it sometimes becomes a vicious meeting ground for boys and girls, very objectionable to the neighborhood. It is often best to take down the equipment at night.

Sand bins.—The sand bin is always popular with little children. There should be one on every school ground. It does not require a bottom, and will keep moist better if the sand is in direct contact with the earth. The bin may be of concrete or of planks. There should be a molding board or seat around the edge.

The bin should be placed either in the shade of the building, or under a tree or trellis, or a canvas cover should be put over it. It is not best for it to have a permanent cover, as it requires the rain and sunshine to keep it in a sanitary condition. In Germany the sand is changed every week.

It some places spoons and pails are supplied. These always add to the interest, but they are difficult to keep track of, unless the sand bin is in a section which is used more or less exclusively by the kindergarten and first grade, and can be supervised directly by the kindergartner as a part of her work.

Seesaws.—The seesaw or tilt is one of the least valuable pieces of apparatus, as it gives little exercise, and children are often hurt standing up on it; or one child slides off the end, and lets the other child down with a bang. It is, however, well liked by children, and is safe if the framework is low and the board is long. It is dangerous otherwise. It should have a handle. There is a kind of seesaw made with a spring which prevents it banging down on the ground.

Blocks.—In the school grounds of Gary the children are furnished with large building blocks. Where there is a satisfactory place to keep and use them, they are desirable. The blocks should be of different shapes, but the common ones should be about the size and shape of an ordinary brick, with cylinders and towers which can be used for architectural effects. Children will never use the small blocks sold in toy stores where they can get larger ones.

The slide.—The small athletic slide is worth while for the small children. One 12 feet long and 5 feet high can be purchased from the mail-order houses for $18, while the larger slides, 15 feet long and 7 feet high, can be purchased for $25. These slides are furnished with a maple board, and have steps going up, and a platform and guide rail at the top which prevents the children from falling off.

Slides are made of steel, oak, or maple. The steel slide is expensive, hot in summer and cold in winter, and rusts after it is worn by the children's shoes and wet by the rain. The maple slide which is made by a Chicago manufacturer can be turned over or detached so as to protect it from the rain, and can be taken in at night. It is a very serviceable slide for school grounds.

Children are sometimes pushed off the slide, but seldom. I have seen children less than 2 years old going down the slide head foremost on their backs, but I have never known any of them to be much hurt.

The trapeze and parallel rings.—If the same apparatus is put into the playground for little children that is put into the ordinary monkey cage, the children will be delighted with it. They love the horizontal ladder. All of the equipment which I have spoken of thus far, except the higher swing, belongs in the playground for the little children.

The giant stride.—The giant stride or merry-go-round, as it is often called, consists of a tall steel or wooden pole, usually about 20 feet in height, on the top of which is a rotating wheel or disk, with six ropes or chains usually terminating in a ladder. It is popular with children from 7 to 12 or 13 years of age, and offers considerable exercise.

Merry-go-round.—The merry-go-round or revolving platform is a piece of equipment which should not be put into school grounds. It is very expensive, and, outside of furnishing a seat or grand stand, it has no value except for the children who push the others around. Several years ago we put one into a park opposite one of the schools in Washington. At the end of the first week the teachers asked us to take it out, because certain of the children went on it at recess and got so sick they were unable to work for the rest of the forenoon. We put it into another ground with the same result. I am not especially subject to seasickness, as I have never been sick in crossing the ocean several times, but I always feel uncomfortable riding on one of these merry-go-rounds. My working efficiency is cut down from 20 to 50 per cent for an hour afterwards. I believe a merry-go-round will reduce the working efficiency of the children using it at least 20 per cent. This is true also of the board which is fitted on ball bearings or otherwise to the top of a post, where a child lies down and another child whirls him around until he is seasick.

Benches.—There ought to be benches on school grounds. It is well to put them around trees or along the side of the playground.

Responsibility of schools for accidents.—Six or seven years ago there was an accident on a swing in a school yard at Tacoma, Wash. The parents of the injured child sued the school board, and secured a judgment against it, with the result that the equipment was taken out of many of the school grounds throughout the State. The next year a similar accident occurred in a playground in Milwaukee, but in that case the judgment was against the plaintiff on the ground that the school board in conducting playgrounds was performing a public function and was not liable. Both of these judgments seem questionable. To assert that play equipment is inherently dangerous, and that therefore the school board is liable, is a large assertion, but to assert that the school board is not liable because it is performing a public function is equally questionable. If the school board puts up a swing of faulty construction, and places it in the wrong position, it should be liable, the same as the city is if it leaves unguarded an excavation in the street or across the sidewalks. But there are better grounds for holding the school morally responsible for the scarlet fever, measles, whooping cough, diphtheria, tuberculosis, and anemia that the children contract there. If school boards were to be responsible for a mortality and morbidity more or less traceable to school conditions, it might be necessary for them to abolish the school buildings and to erect playgrounds instead.

Purchase of equipment.—There are a dozen or more firms which make a specialty of play equipment. This equipment is expensive. It is, however, substantial, well made, attractive in appearance, and most satisfactory, if the board has the money. The board should not order an equipment set up unless the factory is near. It is much cheaper to order the fittings and have the framework furnished and erected by local people.

Construction of equipment.—Equipment may be made either of wood or steel. Most of the equipment of the early days was of wood, unpainted, and

unattractive in appearance. The crossbeam at the top soon rotted out from exposure to the air and rain, and within two or three years, and perhaps in a single year, the posts rotted just at the surface of the ground. These troubles are not necessary. Where a wooden framework is used it should be painted either green or some other color that will harmonize with the ground. The crossbar at the top should be covered with tin or waterproof paint, and the lower part of the posts should be either creosoted or set in waterproof concrete. Under these conditions a wooden framework will last for several years and may be nearly as satisfactory as a steel framework.

However, in general, it is best to use the steel framework, as this is less conspicuous and better looking, more durable, and not much more expensive. The ordinary gas pipe is generally used, though that of double thickness, 2½ inches interior measurement, is often selected for the swings. If the black pipe is used, it must be kept painted to prevent rusting. The galvanized pipe does not require this, but is considerably more expensive. In a good-sized system it is cheaper for the city to construct its own equipment.

The sand bins should be locally constructed. Horizontal ladders, trapeziums, and rings can easily be put up locally. The head of the giant stride, with its ladders, can best be purchased as a rule, and the slide can be purchased nearly as cheaply as it can be made.

Equipment made by the children.—In a school system where there are technical high schools, or where there is a good deal of manual training, the children should make the wands and dumb-bells, the jumping standards, the wading pools, and the running tracks, and they may even put up, under supervision, the swing frames and other apparatus. Nearly all of the equipment at Gary is now made by the children.

Care of equipment.—Equipment will not take care of itself. Swings especially need to be watched, as the swing is apt to wear through the hook or other attachment at the top, or the links will wear through, or the rope will break, or sometimes be cut by vicious children.

SUPPLIES.

Of more importance than apparatus, such as swings and sand bins, are the supplies for games, such as baseballs, basket balls, volley balls, and footballs. Many school boards have taken the attitude that equipment of this sort should be furnished by the children, but they must remember that if a boy brings his baseball to school, it is batted to pieces by 17 other boys, all of whom get as much good out of it as he does.

Where play is put into the program of the school, play supplies become a part of the school equipment in the same way that equipment in a gymnasium does. School boards always expect to furnish pulley weights, dumb-bells, and Indian clubs. They should furnish, likewise, the equipment essential to play. In a large proportion of the cities, and in some of the country districts, this is now being done.

Probably the best arrangement is for the equipment to be furnished to each class, so that when it has a play period it will have its own equipment at hand. For the fifth and sixth grades this should be about as follows: Two playground baseballs, with four bats, two volley balls with two extra bladders, four laces and two needles, and one soccer football. For the seventh and eighth grades there might be added to this one basket ball to each grade, though I do not regard this as essential, as basket ball is not well suited to the elementary school and can not be used as a class exercise. In each classroom there should

be a small cupboard, cabinet, or closet in which these supplies can be kept under lock and key.

Besides this there should be at least one complete set of the same equipment for the school as a whole that can be used before school and after school and on Saturdays, and perhaps an entirely different set for the summer vacation. There should be also a stop watch and a 90-foot tape for each school.

TIME FOR PLAY.

The fundamental requirement for getting things done in physical training is time. The tendency is to provide a half hour in excess of recesses. This is already in effect in several of our larger cities, in several States by law, and in many of our colleges and universities. This should be the minimum, beginning with the junior high school. But up to that time all children should have at least one hour a day. This is essential to their health and proper physical development. The chance exercise of city streets does not give the vigor children ought to have. As to whether this hour should be added to the school day or taken from it there is question. In the lower grades it may be well taken from the school day, and in the upper grades it may be added to it. The New Jersey law says that where the day is only five hours in length the half hour of required physical training shall be added to the school day, and in other cases it shall be taken from it. In the State of New York also there is a provision in many cases for beginning 10, 20, or 30 minutes earlier in the morning in order to make provision for this physical activity. In Gary the school day is seven hours in length, while in most European schools it is at least six hours. We shall be justified in adding the hour to the school day if it is necessary, but it scarcely seems necessary in the lower grades.

More important than the time put into the program is the provision that the activities shall be of such nature that the children will carry them on outside. Organized play must furnish interests and enthusiasms for the vacant lots and streets as well. One of the interesting discoveries of the Cleveland survey was that drawing and other art, while fundamental interests of children, were not liked at school as well as arithmetic or geography, while physical training ranked below several other subjects. The games taught in the classrooms were not played outside. The time spent in organized play will always be inconsiderable. The important consideration is that it shall furnish vital interest for leisure hours.

If with our present playgrounds we are to provide adequately for the physical needs of children, it is necessary that they shall be used at maximum efficiency practically all the time from 8 o'clock in the morning until 10 o'clock at night. Besides the regular class periods there should be some one on the grounds to organize and direct the games from 8 o'clock until the beginning of school, during recesses and noons, and after school; also at night if the ground is lighted, and on Saturdays, during the summer time.

THE GARY SYSTEM AND ITS MODIFICATIONS.

The system which has probably had the greatest influence on the development of play in this country has been the system inaugurated by Supt. William Wirt at Gary, Ind. In Gary there is a departmental system, beginning with the first grade. The day is lengthened to seven hours, and the children in the first five grades have two hours a day in gymnastics or organized play, while the children from the sixth to the twelfth grade have one hour a day.

There have been criticisms of the execution of this plan in Gary, but there have been few criticisms of the ideal it represents. It has been largely responsible for putting play into the programs of hundreds of schools in other cities. In the recent surveys by the United States Bureau of Education of the city of Memphis and of the Hawaiian Islands, the work-play-study method was recommended. Nearly every large city is now experimenting with some phase of this method.

The platoon system.—The system used in the cities of Pittsburgh and Detroit is known as the platoon system. This has recently been adopted in the city of Detroit, and all new buildings are to be built to accommodate schools of this type. A very admirable report covering every phase of the subject has recently been issued by Asst. Supt. Spain, from which I quote as follows:

In the fall of 1918 the platoon organization was installed in 6 schools. In the fall of 1919, 9 additional schools were provided with this form of organization. At this date (May 1, 1920) 6 platoon schools have been in operation for a year and nine months and 9 schools for nine months. The data submitted in this report and the conclusions reached are based upon the observation and investigation of the work as carried on in the entire 15 schools.

In several of the 15 schools the platoon organization includes the first and second grades, but in the majority it does not extend below the third grade.

The standard school day adopted is six hours long—a three-hour session in the morning and a three-hour session in the afternoon.

Each pupil spends 90 minutes of the morning in the "home room" under the control of the home-room teacher and the remaining 90 minutes of the morning in the special activities—spending 30 minutes in each of three special rooms. In the afternoon he again spends 90 minutes in the home room and the remaining 90 minutes in three special rooms.

No teacher is expected to teach over five hours a day and each teacher consequently is entitled to two half-hour rest periods daily. To provide for this, relief teachers are employed who have no regular rooms but go from room to room relieving other teachers.

In addition to the regular half-hour daily for physical work, it is desirable to schedule a daily period for each pupil for play.

Scheduling a daily outdoor play period for each child presupposes a place to play. Theoretically it means that the playground will be used every day. Practically this is impossible, although it can be used a much larger percentage of the time than it is ordinarily used in elementary schools. In schools in which we now schedule a play period for each child every day, the program provides an alternative exercise in case of inclement weather.

In the new buildings now under construction we shall provide for this space by building covered outdoor play courts or roof playgrounds in addition to the gymnasium.

The platoon school provides 30 minutes daily in the auditorium for every pupil.

Two glass-covered play courts, usable throughout the year, are planned for the new school, with their combined capacity 80 pupils each period of the day. Their total daily capacity is 960 pupils.

Taken as a whole the results from standard tests show that in both actual and comparative achievement, in efficiency of instruction, in type of children affected, and in the efficiency of supervisory control, the platoon schools in Detroit have, so far, done fully as well as the conventional city schools so far as instruction in the drill subjects measured is concerned, and probably a little better.

The opinion has been expressed that frequent changes of classes in platoon schools make for disorder and confusion. In a word, it is thought that freedom tends to degenerate into license. The exact opposite is the fact. It is the almost unanimous opinion of principals, teachers, and others who visit the platoon schools that there are no finer examples of self-restraint and self-control than are to be found in these schools. They must be studied at close range to be appreciated. The truth is that the platoon-school child is too happy, too much interested in his work, and too busy doing things that he finds joy in doing to find time to be disorderly. It is the dull monotony of the regular school

routine and the intense desire for physical relief and relaxation that make for disorder.

In the light of the facts revealed by this experiment, Detroit has determined upon the gradual reorganization of the elementary system on the platoon-school basis.

Fifteen platoon schools are now organized. With the completion of the new schools now under construction, there will be 30 platoon schools by January, 1921. The new 1920–21 building program, for which funds are now available, will provide for a number of additional schools of this type. There will be at least 50 platoon schools by January, 1922.

There is also a report of the McKelvey platoon school, Pittsburgh, by the principal, William F. Kennedy, which shows similar results. Pittsburgh has been experimenting with the platoon system for three or four years, and is increasing the number of its platoon schools each year.

Since this system proves to be cheaper to construct and to maintain, since it is better liked by principals, teachers, pupils, and parents, since it yields larger returns in the ordinary classroom subjects, while giving culture in a dozen by-products, equally important, there seems to be no reason why it should not become the educational policy of this country.

THE GYMNASIUM.

It is of advantage for a school to have a gymnasium, as the weather is often not suitable for exercise out of doors. A gymnasium permits a program to be carried out without interruptions due to weather. It is available at night, and makes class work easier. Nevertheless, it must not be thought that a gymnasium is indispensable to a sytem of phyical training. Most of our gymnasiums consist mainly of basket-ball courts with roofs. Exercise is much better taken in the open air than indoors. Calisthenics, wand, and dumb-bell drills, games, and many dances are better out of doors when the weather is pleasant.

ATHLETICS.[3]

Athletics is an old racial activity. It represents in modern life the activities of the savage, who must constantly run, jump, climb, throw, and strike. These activities not only furnish the elements of all athletics; but of all games as well.

Athletics have often been in disrepute among educators. Until the last decade they were usually under the control of the student body, and were carried on to win victories. They brought into training only those who were strongest and most capable, whom they often overtrained and made onesided. The sportsmanship represented was sometimes a denial of all of the ideals of Christianity and gentlemanly conduct. The taking over of athletics by the school systems of America is one of the greatest events in ethical training now taking place.

Medical examination.—There is always danger of strains in connection with athletics. If children are to take part in the more violent forms, such as basket ball and the longer runs, a physical examination should be required.

The elementary period.—It is during the elementary period that there is the greatest restlessness. Pedometer records show that the greatest physical activity is at that time. If 100 college students were challenged to run a 100-yard dash, probably not more than 20 would run; perhaps 40 in the high school would run, while practically everyone at the age of 10 or 11 would run. Children of the elementary period love to run for the sake of running, and to jump for the sake of jumping.

---

[3] For fuller treatment consult "Education through Play," by the author.

Athletics for girls.—Spencer, in his essay on physical education, speaking of the absence of boisterous play of any sort in schools for girls, says:

It appears on inquiry that at "establishments for young ladies," noisy play like that daily indulged in by boys is a punishable offense, and it is inferred that this noisy play is forbidden, lest unladylike habits should be formed.

Girls have been greatly handicapped by the attitude of the public toward them in this regard. They are usually dressed better than their brothers, and required to keep their clothes cleaner; they usually have tighter shoes, less suited to outdoor exercise. Their short skirts and white underwear do not allow them to climb or fall down and seem modest. The long skirts which they put on at 13, and especially hobble skirts and high heels, practically prohibit vigorous exercise. The girl is not encouraged by her parents or the community to take part in vigorous games as her brother is, and is apt to be called a tomboy or a hoyden if she runs or jumps, or climbs, or plays baseball, as her brother does. Excellence in games does not confer upon her the same distinction as it does upon a boy. It is possible also that she does not inherit quite the same interest in competitions of a vigorous nature that her brother does. However, it would appear that the good physical development, good health, good complexion, bright eyes, and glossy hair which are results of abundant exercise in the open air, are a greater asset to a girl than to a boy.

Most of the handicaps to which woman is subject on account of her sex are unnecessary handicaps, due either to vicious suggestion, or to the fact that girls have not had during childhood a normal physical life. Girls who have had a vigorous outdoor life are seldom periodic invalids each month. In the school of physical education at New Haven these periods are disregarded, except in swimming, apparently to the advantage of the girls in every way. Recent studies at Columbia under the direction of Prof. Thorndyke show that there is apparently no greater fatigue in doing either mental or physical work, and no greater nervous instability during this period. There is no reason why a young woman should not compete with a young man on nearly equal terms in almost any line of effort provided she has had as healthy and wholesome a childhood and developed as robust a physique as he. But the most important reason for caring for the girl's health and physical development, however, is motherhood. The health of the mother is much more significant to the race than the health of the father, because her health determines the child's, not only at the moment of conception but during the period of gestation and nursing as well, and the start which the child gets from being nursed by a healthy mother apparently makes him more vigorous throughout all his childhood.

Girls of 10 or 11 can run as fast as their brothers of the same age, and there is no reason why they should not take part in contests of this sort. There seems no reason why they should not jump nearly or quite as well. Girls who start early and play regularly will play indoor baseball, volley ball, and tennis nearly as well as boys of the same age.

Running track.—Along the side of all our larger school grounds there ought to be a straightaway running track about 100 yards in length, and 10 or 12 feet wide. The cinders may be taken from the furnace to make this, but they will need to be rolled with a heavy roller, or crushed, or ground. The 50, 60, 75, and 100 yard distances should be marked by posts at the side. There ought to be a stop watch for every school, that the children may be timed; though this may be done with an ordinary watch where the competitions are by classes.

Jumping pit.—There should be a jumping pit also at the side of every ground, and standards for the high jump. Children love to jump, but in most

places they will be found to be jumping upon the hard ground. It takes less than half an hour to excavate a jumping pit. A take-off board about 6 or 8 inches wide and 5 feet long should be set in the ground level with the surface, as a starting point, and then the pit should be either kept spaded up or filled in with sand, sawdust, shavings, or some other soft substance. It is well to have the distances marked on a board at the side of the jumping pit.

The horizontal bar.—There should be at least two horizontal bars, one at a height of about 5 feet 6 inches and the other at a height of 6 feet 6 inches. It is well to excavate under these bars and put in sand, shavings, or sawdust. No one cares to exercise in a gymnasium without a mat underneath. A fall from a high horizontal bar upon hard ground may result in serious injury.

Class athletics.—With the running track, jumping pit, and horizontal bar, it is possible to carry on the tests for the Public School Athletic League. The first test is that the boy shall run the 60-yard dash in $8\frac{2}{5}$ seconds, jump 5 feet 9 inches standing, and chin the bar four times. In New York, under Dr. Gulick, the competitions were by classes, the rule being that, in order for a class to compete, 80 per cent of the members must take part. In the competition of a class, there must be one teacher at the starting line and another at the finish. At the start the teacher waits until the second hand is at the minute mark and starts the first boy running. When the first boy crosses the line, the man at the finish brings down his hand to start the second boy, and so on until all have run. If 40 boys are running, and the time is found to be 320 seconds for the 60-yard dash, the average time, or the class average is 8 seconds.

In Oakland and Detroit the athletic league test is expanded into a pentathlon for girls and a decathlon for boys, participated in by most children from the fifth to the eighth grade. For a fuller account see reports from those cities.

Efficiency test.—The efficiency test is much the same as the class athletics test. In most cases the standard test of the Public School Athletic League is used, though in some cases a number of other tests are added, and there may be a graded system of scoring according to accomplishment. The following are the instructions and results for the schools of New York State:

> Eighty per cent of the pupils enrolled April 25 over 8 years of age (having had their eighth birthday on or before April 25) must be tested in the three events listed below between the dates April 25 and May 21, their results tabulated as outlined below, and report sent on blank similar to form herewith to the district superintendent of schools on or before May 23.
>
> Medical safeguards. The school medical certificate should be consulted to determine the physical fitness of each individual to compete in the contest. If the teacher is in doubt about the condition of any pupil the child should be referred to the school medical authority for examination before being allowed to try the events. * * *
>
> Eighty per cent of the enrollment of all schools entering were tested between May 1 and May 22, and results from 56 cities and 203 villages, involving nearly 300,000 school children, were computed and forwarded to the State department before May 26.

Special suits.—An objection often made to athletics and play periods on school grounds is that the children go out in their ordinary clothes, run, jump, and play until they are covered with perspiration, and then go in to sit down without changing their clothes, and are likely to catch cold. This is a real evil, yet we must remember also that manual workers do this every day, and that all of us do it more or less in summer. We can not expect the woodcutter, or mechanic, or farmer to take a dozen baths a day. There is an advantage, however, in changing to a special athletic suit and taking a shower afterward. This is the custom with college teams. It has always been the practice also in the preparatory and public schools in England, and there is no reason why

boys should not change for athletics on the school ground in the same way that they do for gymnastics. The only requisite is that the period shall be long enough so that too much of the time will not be wasted in changing clothes.

In the high schools.—The difficulty in the organization of play in the elementary school is that the teachers are classroom teachers, without special training. But with the junior high school, where the teachers are specialists, there should be an adequate supply of physical trainers. From the seventh grade on it should be possible to provide a period of physical training for all children every day.

A CURRICULUM OF PLAY.

Probably not more than two million out of the twenty-five million school children in the United States have access to a gymnasium, and the number may not be more than 1,000,000. The only method of physical training that is available to all is athletics and play. It is obvious, however, that games have different physical, social, and moral values. We are now getting curricula of games in our State and city syllabi of training. There are many advantages from vigorous play in the open air which can not be had in a gymnasium. Children who have been sitting in cramped posture in school, ofttimes at desks not fitted to them, become restless and need physical relief; but quite as much they need also the fresh air of outdoors, complete relaxation from the effort of attention and study, and the social opportunity which comes from playing together, for it is in these relations of play that children learn how to give and take and to get on with each other. The boy who does calisthenics to order is getting physical exercise and nothing else, but the one who plays baseball is getting physical exercise for nearly every muscle, and he is also getting the open air, the most intense sort of social training, and a development of judgment such as he can get in hardly any other way.

The requirements which any game must satisfy, if it is to meet the needs of the school, are that it shall economize space; that all the children can play it; that it be reasonably safe; and that the children will carry it on outside of school and after their school days are over, so that it may meet the need of recreation in an age which is getting more and more leisure time without many new vital interests to fill it. We may safely leave to the kindergartner the play of the kindergarten and the first and second grades. Beginning, however, as low as the second grade, children take great interest not only in the ring games of the kindergarten but also in such games as slapjack, whip tag, cat and mouse, Jacob and Rachel, and squirrel in a tree. When they are a little older they are fond of three deep, prisoner's base, pull away, and the like. For the older children there are three games which meet fairly well the conditions. The one which meets all of these best is volley ball. Volley ball is an admirable school game, because the equipment is simple and inexpensive. It is played over a net, which for the elementary school should be about 7 feet high, and perhaps 8 feet high for the high school. It keeps the head up and the shoulders back. It is the best corrective we have of the bad postures of the school. There may be as many as 600 players on an acre of ground. It is played by girls as much as boys. A class of 40 can be taken into the ground to have two games of volley ball at the same time. This will give them a better period of physical training than they could have in any kind of gymnasium, and they will get at the same time relief from the conditions of the classroom, complete relaxation from their studies, and the social opportunity which comes from playing together. There is also every probability that this game will be carried on into adult years. Almost the only game that business men are playing in our Y. M. C. A.'s is the game of volley ball. Volley

ball is played either indoors or out, and it can be played every month of the year out of doors, as it may be played satisfactorily with mittens on.

A second admirable game for school use is playground baseball, with a 16 or 17-inch ball, if the ground is small, or with a 14-inch ball, if the ground is larger. There should be at least one diamond for the girls and one for the boys on every school ground, with the distances definitely marked. For the older children, with a 14-inch ball, 45-foot diamond will be about right, while, if they use a 17-inch ball, the diamond should not be more than 35 feet on a side. It is well to play with 10 players, using two shortstops.

Soccer football is another admirable game for school grounds. Boys love it from the time they are 9 or 10 years of age. It is compulsory in the preparatory schools of England from the time the boys are 8 years old. In this game there is no tackling, and the person is not allowed to touch the ball with his hands or arms. The skill consists mostly in dribbling the ball with the feet and passing it along to other players on the same side. It is played to a considerable extent by the girls in the English high schools and also by some of the high schools in the East. Nearly all of the larger colleges and normal schools for women also have teams. Soccer is not as rough as basket ball, and is not unadapted to girls' play, if the local traditions are not too much against it.

Of course most of the older boys and girls want to play basket ball, and basket ball has its advantages, but it can not well be put into the program as these other games can, because it does not take enough players and because there are always some who can not stand the strain. The effort is more continuous in basket ball than in football, and the strain should not be incurred without a thorough physical examination.

Classroom games.—When play is in the program and the weather is disagreeable, the period may be taken by play in the classroom. There are a number of classroom games which offer satisfactory exercise and relaxation.[1] All the windows should be open.

A covered play court.—There should be some covered place where children can play in bad weather. Some teachers think children should not play out of doors if the weather is cold or snowy, though it is often at these times that the children themselves prefer to be outdoors. There is no objection on their part to weather around zero, if they do not stay out too long. In New York schools the first floor is a covered play court. In some of the new schools in Portland, Oreg., a play court has been covered with glass. Each of the new schools in Detroit has two glassed play courts.

Folk dances.—There has been a great increase in dancing during the last two decades. The most wholesome form which this has taken is folk dancing. Girls like these dances, and some of them are pretty. When danced in costume they make an interesting feature at a school exhibition and often interest the neighborhood as well. Most of them give excellent exercise, and many can be danced out of doors on any smooth space to the music of a victrola.

School without a playground.—There are many schools in the United States that have no playground, and for them the situation is serious, but it is still possible to secure much outdoor exercise and play. Many of the German schools have no playgrounds, but they arrange with the park department for the use of the municipal playgrounds at certain hours. The only way that I can see that municipal playgrounds of our cities can be used during the day is for the schools to use them, and if the children have a physical-training period of an hour or more, it is quite possible for this to be done. It is wicked to allow the playgrounds of a crowded city to lie idle most of the day.

[1] See Bancroft's Games for the Playground, Home, School, and Gymnasium.

In many cases it may be possible for the children to use some skating pond in the neighborhood in the winter. Skating is always popular.

The forms of exercise which are really most feasible, however, for such schools are school excursions or hikes and cross-country running for the older boys. These are entirely practical for nearly all schools except those which are situated centrally in our great cities, and even for them walking trips of interest can be taken to various points about the city.

All these schools which are without playgrounds should organize the older boys and girls into Boy and Girl Scouts and Camp Fire Girls, so far as possible, so that they will take the exercise and games which are suggested by these organizations. It is always possible, too, that teams and leagues may be organized at the school which will play off contests and carry on their athletics on a ground which may be at some distance from the school.

Every school that is without a playground adjacent to it should manage, if possible, to have a week-end and summer camp where its students may go to get the exercise and open air for which they do not have an opportunity during the year. Some of the larger schools in the Hawaiian Islands have week-end cottages to which both students and teachers go at different times.

A school on a hill.—Athletics and play are difficult for a city that is set on a hill, because there are very few things that can be done on a hillside except to slide down in the wintertime. The ground must be terraced in order to play games upon it. It is almost impossible in most cases to get a large enough level space in hill cities to play much if any baseball, but volley ball and playground baseball may still be played. It is easy to find a place for such vigorous games as three deep, dodge ball, and tether ball, and abundant space can be found for equipment for the little children; so the situation is not entirely irremediable.

SPECIAL PLAYGROUND FOR ATYPICAL CHILDREN.

The physical examinations have shown that there are a considerable number of children in all of our schools who do not profit by the regular program. Among these are children who are tubercular, anemic, nervous, undernourished, or who have some structural defect of the heart. The tendency is to put these children into open-air schools, to give them special lunches in the morning and afternoon, and to restrict their exercise to the less violent forms. There were 7 playgrounds for undernourished children in the city of New York in the summer of 1920. Special schools for undernourished and tubercular are being started in many places. There are also 11 schools in New York in which there are special classes for children who have heart trouble. All of these children need a type of playground which will permit them to live most of the time in the open air, to have moderate exercise with frequent rests, and at least two good lunches besides their noon lunch each day.

THE SCHOOL EXCURSION.

The United States has done less with school excursions than many other countries. Sixty-five hundred children went out from the city of Berlin alone for walks of one week or more in duration during the summer of 1913. The new code for Prussia requires one whole day walking trip each month for all school children.

Similar walks are taken from the schools of Scandinavia and of England, though not to so great an extent.

Children should be taken to see points of interest about their city as a method of developing civic interest and loyalty, as a means of interesting them in different trades and professions looking toward a final choice for themselves, for the sake of the physical exercise involved, and for the general educational value and information which such trips convey.

The world of books must be interpreted by a world that has been seen, touched, and handled. The only way we can test the accuracy of the things we read is by first-hand experience. There are dozens, if not hundreds, of points of interest in each town and its environs which should be visited by children. In New York State provision is made for nature-study and similar trips between 3 and 4 o'clock in the afternoon. For any of the longer trips, however, an entire half day will be needed, and Friday afternoons might often be well spent in this way.

WHO IS TO HAVE CHARGE?

There are two types of playgrounds in most of our larger American cities, one of which is known as a park or municipal playground, the other as a school playground. In a number of cities a recreation commission has been appointed to organize these different activities, and in some cases the work both on school and municipal grounds is under the control of this single body. The only large city in the country, however, where there is complete unity and the work of the playgrounds and in the public schools is under a single supervisor is in Oakland, Calif., where the physical director has charge of all physical training in the schools and of play on school, on park, and municipal grounds. In the city of Detroit the recreation secretary has charge of the play on the school grounds during the summer and after school and on Saturdays, as well as the municipal grounds, but does not have charge of the physical training in the schools.

However, the play of school children is a school problem, and the school can not as a rule intrust it to a recreation commission or any other body. So far as play is organized into the program, to relegate it to any other body is to break the unity of control.

The unsupervised playground.—Before discussing further the problem of organized play it may be well to consider what happens on the ground where there is no supervision. It is to be feared that many teachers do not know very well just what is going on. Children who come from good homes learn bad language and hear objectionable things in the unsupervised time on the school playground. There are vicious older boys and girls on nearly all school grounds who have had wrong experiences, and when these children get together, or have nothing to do but gossip with younger children, they may corrupt a large number. A girl can play basket ball with five loose girls without suffering from it, but let her gossip with these girls for half an hour and it may take a lifetime to overcome the effects of this half hour's gossip. The only way that the atmosphere can be kept clean on the school grounds is to keep something going on.

Many parents of little children are made painfully aware by the tales daily brought home, even if they have forgotten their own childhood, how often little children are misused and illtreated by older children. There seems to be a streak of pure cussedness in boys about 13 or 14 years of age which often leads them to all kinds of cruel treatment of younger children.

We who have watched school grounds where play is unsupervised know that there is not only much bad language and bad conduct, but that the play is mostly horseplay, where the special delight is to trip one another or steal each

other's hats or coats; that so far as there is play it is play almost absolutely without ideals of sportsmanship; that it does not train in any of those manly and chivalric qualities which make sportsman a name almost synonymous with gentleman.

It is a question whether physicial activities at the school are to fall to physical training teachers, or whether there is to be a supervisor of physical training for the system such as we have in drawing and music, and the individual work is to be done by class teachers. Both of these methods are used in different places. In the junior high school and high school, and wherever the platoon or Gary system is organized, the physical training should naturally fall to physical directors, but where the old system prevails, and the children do not change classes, it must be carried on largely by classroom teachers.

There are advantages in having the regular class teacher take charge. The teachers need the exercise as much as the children, and play together brings about a more intimate sympathy and understanding. It often solves the problem of discipline.

We are all familiar with the system of teaching as established by Bell and Lancaster in England. Supt. Wirt arranges for high-school pupils to do apprentice work in organizing games and athletics the same as in cabinetmaking, printing, and other crafts, and the New York State syllabus makes the following provision for the organization of play by older children:

> Older pupils should be trained to direct the group plays and games of the younger group and used as leaders while the teacher is busy with older children. This should be a definite part of the training of the older pupils, who should also be given experience in taking charge of the "B" work. Make it an honor at first, using those who have made best progress, but give all a chance sooner or later.

This seems to be almost the only way that play can be organized adequately in many rural schools. Older pupils or squad leaders may be very effective assistants.

Such assistance of little children in their play is one of the ways by which Camp Fire Girls may receive honors. It is a necessary part in the training of every girl if she is to be a capable mother and a real playfellow with her own children. For many years this has been a contemplated requirement for all girls in both Scandinavia and Germany. At puberty comes the dawn of many of the altruistic feelings which find best expression in some form of social service. It is good for the young people as well as the children to do this work. Those who have read Tom Brown at Rugby will remember that one of the crises in Tom's life came when he was given a younger and more delicate boy to care for. There is a great deal of misuse of younger children by older children on school grounds, and anything which can develop in young adolescents the protecting parental attitude will be a great advantage.

Need of workers.—The great handicap under which the movement for universal physical training will suffer for the next decade is the lack of trained workers. Mr. Hetherington, State director of physical training for California, estimates that 45,000 teachers are needed at once, and that there are only 3,000 students in all the physical training schools of the country. Mr. Daniel Chase, director of physical training for the State of New York, estimates that a physical director is needed for each 300 pupils in the junior and senior high schools, and for each 4,000 pupils where the individual work is done by the classroom teacher.

Departments of physical training in connection with the normals.—Each State should establish in connection with at least one of its normal schools a

school for the training of physical directors. Several have been established during the last two years, but not enough as yet to meet the need.

The training of the regular teachers.—Probably two-thirds to three-fourths of all the children who receive instruction in physical training during the next decade will receive it from their regular teachers, and the great problem of the immediate future is to give these teachers the knowledge of games and interest in them, as well as equipment which will enable them to carry on the work. Courses in games and folk dances should be required at all normal schools, and the subject should be on the programs of all county institutes.

The work given in normal schools thus far has not been well suited to school uses, as it has consisted mostly of baseball, football, basket ball, hockey, and tennis. Few school yards have provision or space sufficient for these games. They are not games primarily of the elementary school, and can not be put into their programs. With the exception of tennis they are not continued after school days are over, and they do not meet the need of pleasurable activities for increasing leisure hours.

THE COMMUNITY CENTER.

The hours of workingmen have been greatly reduced during the last decade. The saloon, which has often been the poor man's club, has been closed. The heavy work has fallen largely to machines. All trades tend to become professions, and none of them are yielding the physical training which they did 40 or 50 years ago. We have here a new problem in training for the leisure time of adults. The school must furnish activities that will be carried on after the school years have passed. The use of the school building by adults in the evening is increasing rapidly, and there is reason to expect a continued growth. Our new school buildings are better adapted for adult use, and groups are becoming better organized. For this center to be a really efficient neighborhood capitol the various recreational features should be concentrated.

The library.—Reading is the chief form of recreation of adults, yet where libraries are in separate buildings few people use them regularly. The experience of the last 10 years has demonstrated that the best place for a branch library is a wing of a public school. With the library in this location the children use the books in their school work, and they also take home books to their parents. The branch library is a drawing card to the community center also.

The swimming pool.—Many of our new high and elementary schools, as well as most of our new college gymnasiums, are provided with swimming pools. There is greater interest in swimming, and the art is more easily acquired at the age of 10 or 11 than it is at 20 or 21. If the pool is located at the school, it can be used by the school during the day and by the community at night. A much higher efficiency can be secured than if it were in a separate building.

The auditorium.—Most of our new high schools and many of our new elementary schools have splendid auditoriums. The auditorium is essential to school spirit, and it gives the principal an opportunity to meet the entire school. Most auditoriums are used less than half an hour a day. Such an auditorium would cost $100 or more an evening, if it were rented. It is owned by the people and should be more largely used. Our best dramas, especially Shakespearean and other classic plays might well be given in the school auditorium instead of a down-town theater. In this way the company might be insured of an initial audience which would help guarantee success. Since no rent would be necessary, plays could be given in the school at not more than half the price charged down town.

In a school auditorium that will seat 1,000 people, a moving picture, for which a charge of 30 or 40 cents would be made at a down-town theater, can be offered at a profit for 10 cents. The great difficulty with the moving picture situation is that it is so difficult to secure good films. In order to provide suitable films for its social centers the State of North Carolina found it necessary to purchase them. This will probably be found to be the only practicable method in cities also.

The auditorium gives an opportunity also for community singing and community drama, public lectures, and public forums.

A gymnasium.—Most of our new high schools and many of our new public schools have gymnasiums, and in many cases these are used every night of the week.

The restaurant.—Most of our new schools have at least a school lunch counter or dining room, which is used during the noon hour. The community center, however, often wants spreads and light refreshments at its social gatherings. This must come either through the use of the domestic economy rooms or by keeping the school restaurant open. Light refreshments, soft drinks, and ice cream should always be available. This would be the best substitute for the saloon that could be found.

Lighting the ground at night.—Wherever playgrounds are lighted at night they always have a larger attendance in the evening during the summer months at least than during the day. With modern lighting it is possible to play adequately volley ball, basket ball, playground baseball, and tennis at night, and to have most forms of field athletics. Playgrounds were lighted in 127 cities last year. Lighting would be especially desirable in the South, as the evening is there better suited to vigorous sports than the afternoon during much of the year.

A residence.—If a real neighborhood capitol is to be built it is necessary that there should be some one in residence. There should be also a community house, which might serve as a meeting place for the Boy Scouts and Camp Fire Girls, Mothers' Clubs, and the like, and also as a residence for the workers in the community center and the playground, and for such of the teachers as wish to live there. They should be able to get their meals reasonably at the school restaurant. The school and community center might thus become a great social enterprise, similar to a settlement but having the advantage of public support and public control. The new intermediate schools of Detroit have two community club rooms.

The post office.—In one of the community centers in Washington, under the direction of Mr. Edward J. Ward, a branch post office has been organized. This has received by parcel post large quantities of vegetables and eggs directly from the country and oysters from the shore. It has done a large business.

It would often be advantageous to have a branch post office at the community center. The children could take home the mail from school.

A health center.—Many child-welfare centers have been established during the last decade in our large cities. These are usually the headquarters of the medical inspector and the school nurse of the district. To them come expectant mothers and mothers with babies for instruction as to their care and feeding. The dental clinic and the operating room for the removal of adenoids and enlarged tonsils may be here. These operations are likely to be neglected unless they are made cheap.

Our present child-welfare movement has grown largely out of the consultations for mothers which were established in Belgium in 1900. These taught mothers the necessity of nursing their children and of care in sterilizing bottles and securing pure milk where nursing was impossible.

Instruction was given to older girls in the care of babies in 42 Massachusetts cities and 85 Pennsylvania high schools last year. Training for motherhood is a coming subject in the high schools and colleges. With such a children's clinic at the school, it should be possible to teach all older girls something of the hygiene of infancy, how to bathe and clothe the baby, and the necessity of nursing.

The day nursery.—The number of women in wage-earning occupations is increasing every year, and with present high prices it is necessary in many families for even mothers with little children to work. There are a number of day nurseries in the school system of Los Angeles, and girls from the high school do a certain amount of apprentice work in caring for these children.

Such a day nursery should be open in the evening as well as by day. In some cases it might be in the sole charge of an older girl. This would permit mothers to attend meetings at the community center.

Where the various social features are concentrated, the community center becomes a social department store; each feature in the plan increases the attendance at every other. Those who come to use the library stay to use the swimming pool and the gymnasium, and those who come for the swimming pool go also to the auditorium and the library. The residence and the restaurant are essential to the complete success of this plan. A residence is furnished for the director on all of the municipal playgrounds of Los Angeles, and on some of those in other cities. It would contribute greatly to the social success of the plan, and in some cases might be the easiest solution for board and room of substitute teachers and others just coming into the system. It would be somewhat cheaper also to build these various features together than to build them separately.

THE SUMMER VACATION.

When the movement for organized play was first started, the feeling was that it was to be primarily a movement for the summer, when school was not in session. This is still the time of greatest opportunity. Nearly all adequate school grounds in congested sections should be open in summer with some one in charge.

The voluntary summer playground, however, does not solve the problem of child idleness. Probably there is not a city in America where a voluntary play system is securing an attendance which, distributed over all the children of the city, would amount to more than 15 or 20 minutes a day. As this leaves 10 or 12 hours for the streets and vacant lots, its value is to be measured mainly in the extent to which it is able to determine ideals and to furnish games and activities which will be carried on outside of the school ground.

A play school.[4]—The great difficulty in the past with the organization of summer work by the school board has been that the whole executive force of the school department went out of existence at some time in June, and there was no one who could supervise the work. During the last two decades there has been a great increase in the activities of the summer. The tendency is for a four-term school. In most European countries the summer vacation is only five or six weeks in length.

First came regular classes for children who wished to make up grades or to do extra work, and that they might be promoted. Now there is a general tendency to open the domestic-economy and manual-training rooms, and school playgrounds for organized play and athletics more and more.

[4] For a fuller treatment of this subject, see "Recreation for teachers," by the author.

In a summer term there should be a four-day week with not less than an hour a day given to reading, which in the lower grades might be largely story-telling or the reading of fairy tales, and in the higher grades might be largely geographical and historical stories. School and home gardens should be carried on. All the shops and industrial crafts should be kept in operation. An increased emphasis should be given to drawing and music, and to moving pictures or dramatics in the auditorium. There should be about two hours a day of organized games. The older boys should be organized into Boy Scouts and the older girls into Girl Scouts or Camp Fire Girls. Both girls and boys might gain most of the honors by which they advance to higher degrees in scouting and camp fire from the industrial work of the summer. There should be provision for a week-end camp to which both the boys and girls might go separately. There should be adequate opportunities for all-day walking trips, which would take the children not only to every point of civic and historic and industrial interest about the city but out into the country for nature study, the making of collections, and studying of points of interest in the environs.

Summer camp.—The city is a poor place for children at best during the summertime, and nearly all parents who can afford it take their children away to the country or the shore or the mountains. In a number of foreign countries there is some systematic arrangement for carrying this out. More than 30 per cent of the children were sent out from the schools of Copenhagen into the country during the summer of 1914. The same arrangement prevails in many of the German cities, and in Japan country children are often sent into the city, and city children are sent out into the country. In Brussels in 1914 there were five summer camps in connection with the school system.

It is impossible to state just how many summer camps there are in the United States, but all the larger Boy Scout troops and some of the Girl Scouts and Camp Fire Girls have camps of their own. Practically all of the larger settlements and most of the Y. M. C. A.'s also have camps. The playground systems in some of our eastern cities and in nearly all of the western cities also have summer camps. Many private camps are springing up in the mountains and at the shore, but these are extremely expensive for the most part, often charging as high as $30 or $40 a week.

The type of camp which would be most beneficial need not cost much more than it would for the children to stay at home. Each school system should secure a good-sized farm not too far out of the city and erect dormitories for a considerable number of children. There should be an arrangement so that the boys would do gardening and farm work in the forenoon and the girls do gardening and a good share of the cooking and housekeeping. If the morning were devoted to work and all the children had the afternoon free for swimming, athletics, making collections, and the like, and the evening for motion pictures, music, and games, it would be both educational and pleasant.

It might be better if each of the large city schools had a camp of its own and sent its own children to its own camp, as the settlement does. This should be simpler and cheaper for the school than for the settlement because the larger city schools have a larger clientele and the parents have great confidence in school authorities and school-teachers.

It would be desirable that a large number of children 8 years of age or more should go to such a camp and stay all summer, for it is one of the inalienable rights of childhood to see the open sky and fields occasionally. It should be in the plan of the play school that each child should have two weeks at such a camp each summer. It is an advantage for children to gain the inde-

pendence and resourcefulness which come from being away from their parents occasionally. It is also an advantage for parents to have occasional relief from caring for their children.

BIBLIOGRAPHY.

Angell, Emmett Dunn. Play. Boston, Little, Brown & Co.
Bancroft, Jessie H. Games for the playground, home, school, and gymnasium. New York, Macmillan Co.
Cary, C. P. Plays and games for schools. State of Wisconsin.
Crawford, Caroline. Folk dances and games. New York, A. S. Barnes & Co.
Curtis, Henry S. Play and recreation in the open country. Boston, Ginn & Co.
——— Education through play. New York, Macmillan Co.
——— The practical conduct of play. New York, Macmillan Co.
——— The play movement and its significance. New York, Macmillan Co.
——— Recreation for teachers. New York, Macmillan Co.
Dudley, Gertrude, *and* Kellor, Frances A. Athletic games in the education of women. New York, Henry Holt & Co.
Elsom, J. C., *and* Trilling, Blanche M. Social games and group dances. Philadelphia, J. B. Lippincott Co.
Hofer, Mari R. Children's singing games—old and new. Flanagan.
Johnson, George E. Education by plays and games. Boston, Ginn & Co.
——— What to do at recess. Boston, Ginn & Co.
Lee, Joseph. Play in education. New York, Macmillan Co.
Miller, Louise Klein. Children's Gardens for school and home. New York, D. Appleton & Co.
New Jersey (State). Education department. Course in physical training. State of New Jersey.
New York (State). Education department. General syllabus for physical training in the elementary and secondary schools of the State of New York.
Parsons, Henry Griscom. Children's gardens for pleasure, health, and education. New York, Sturgis & Walton Co.
Stecher, William A. Games and dances. McVey.

○