The need for recreation is universal. Whether you spend most of your day in school, at work, or at home, and whether you live in the city, the suburbs, or the country, you share this universal need. Your idea of recreation may be playing a sport or watching it on television, sitting under a tree, sailing a boat—or all of these—but far from being a luxury in your life, recreation is a necessity.

Even in the few examples above, it is clear that recreation takes place both outdoors and indoors, in public and in private; our recreational needs could not be filled without the inclusion of outdoor-public, outdoor-private, indoor-public, and indoor-private opportunities. But as more and more meadows sprout high-rise apartments and sprawling subdivisions, and as trees with seeming inevitability make way for roads, it appears that the public outdoor aspect of recreation is most in danger of not meeting our present and future needs.

Public outdoor recreation is the subject of this book. Its title, The Nature of Recreation, was chosen because of the importance of both nature and recreation. The word nature emphasizes the importance of the natural environment in recreational planning and enjoyment. And the root of recreation is re-creation, our ability to refresh and renew ourselves.

The intention of The Nature of Recreation is to help us increase our knowledge about what outdoor public recreation really means to us, to give us a framework to identify and articulate our needs, and to encourage us to form a wider understanding of our existing and potential recreational resources. How to make the resources we have work better for us is the challenge that recreational planning faces, a challenge that you can help meet.

Our present understanding of outdoor public recreation owes a great debt to the work and writings of Frederick Law Olmsted (1822-1903), to whom this handbook is dedicated. Olmsted was one of the first Americans to be actively and professionally concerned with finding—and when it couldn't be found, making—outdoor public recreational space.

As real estate speculators increasingly viewed America's undeveloped land only as a place to build on, Olmsted saw it as a place not to build on. Central Park—the first public park of Olmsted's career and the first attempt anywhere to translate democratic social ideals into a recreational land use plan—provides a perfect example. Even when New York City's northern boundary of intensely urban development was Fourteenth Street, Olmsted anticipated the need for balance between the urban and natural worlds.

Believing that no room would be left for the outdoor public sphere of man's life, Olmsted created places for athletic sports, for strolling, for public gatherings, and generally for relief from the hard monotony of tall buildings and crowded streets. In 1857-58 Olmsted and his partner, the English-born architect Calvert Vaux, designed a central park for New York, which they called "Greensward."

Introduction

Frederick Law Olmsted

During the 81 years of his life, Frederick Law Olmsted tried many professions: clerk, cabin boy, farmer, writer, journalist, traveler, editor, politician, government official, and landscape architect, the profession he created. This variety of experience contributed to his understanding of his time, which he translated into projects to meet future urban needs.

Olmsted regarded his childhood as instrumental in awakening his later interest in making the natural environment a component of the expanding urban one. Born in Hartford, Connecticut, in 1822, by the time he was 14 Olmsted had lived and studied with rural preachers and explored the New England countryside around their homes. While his friends were entering college (which he was advised against because of temporarily weak vision), Olmsted took up what he called "a decently restrained vagabond life," in the course of which he attended lectures at Yale for a year.
Our Recreational Needs

Are you surprised by the number of things you would like to have done outdoors last year but didn't do? Why didn't you do them? Perhaps you just didn't have time. Perhaps a few activities were too expensive. But how many things didn't you do simply because there wasn't the opportunity near enough or convenient enough for you?

Have you ever considered how important being outside really is? Somehow throwing a ball around, having a picnic, or walking alone on a wooded path provide a necessary and satisfying change from the things we usually do and the places where we spend most of our time. Walking through a meadow or sitting under a tree at the edge of a lake does something for us that walking to school or work or sitting in our own backyard just can't do.

We all desire these nature experiences because recreation satisfies basic human needs that are as important as eating or sleeping. We need the exhaustion and exuberance of exercise; the company of friends, acquaintances, and just other people; the regenerative effects of solitude; and the change in our environment and the opportunity for earning that recreation, particularly outdoor recreation, provides. Recreation allows us to step out of our customary lives and, by engaging ourselves in what we most want to do, to rediscover and re-create ourselves.

Leisure
As the amount of leisure time for workers increases so will our need for space and facilities to accommodate recreational activities. In the 1970's, the average work week was about 63 hours. Today, the average is close to 40 hours, 13 hours less than a century ago. Increased leisure time comes from reductions in the work week, longer vacations, and holidays, greater opportunities for part-time work, the shift away from farming, and a longer life expectancy. From 1900 to 1980, life expectancy increased by 18 years while working life expectancy increased by nine. This represents a nine-year increase in leisure time.

The 40-hour work week represents a gain of 675 hours of free time annually over the last century. Vacation time gains add another 70 hours and holidays account for an additional 45 hours. This means that the total gain of free time since the 1870's has been roughly one month out of every twelve. When the nonworking years of youth and retirement are added to this, the total leisure hours in the average man's life approaches 50,000.

Leisure time will continue to grow in the future but people may prefer longer vacations, longer weekends, and earlier retirement rather than free hours added to the work day.
Many people think of recreation in terms of strenuous physical exercise, whether it’s the bruising contact of a sport like football, the sociable exhilaration of swimming or sculling, or the private satisfaction of jogging alone in the morning mist. Recreation in its physical form includes all such activities and more, and its benefits extend far beyond physical health. Children, for example, use as much mental as physical energy in playing cowboys and Indians.

In all cases physical recreation offers experiences that we don’t encounter in our daily routines and provides an outlet for energies left unused at the end of an ordinary day. The special challenge of physical competition and the importance of exercise have long been recognized: the Olympic games, which accord honor to physical achievement, were begun by the Greeks more than 2500 years ago.

Much of our outdoor recreational space today is devoted to playing fields for various games and sports. In addition to answering our needs for exercise, these large public spaces remind us how much of our recreational activity, strenuous or not, involves other people.

"If a considerable number of people of the city were impressed with the importance of out-of-door exercise for themselves and their children ... [they] would ... provide the opportunities for it at their own cost and charges." 
Tenth Annual Report on Central Park, 1886.

To meet the particular needs of one Brooklyn neighborhood, Olmsted designed Fort Green Park with turf prepared for children’s play areas encircled with wooded paths for strolling.

The Olympics
The Olympic games were the most notable of the four Pan-Hellenic festivals (the others were the Isthmian, Nemean and Pythian). Held every four years at the first month of the summer solstice, they began in 776 B.C. The Greeks adopted this date as the first year in their chronology. A general peace was maintained throughout the festival and for one week before and after the games.

Typical game events included foot races, cubsus and javelin throwing, wrestling, boxing, horse and chariot racing and the pentathlon, a combination of wrestling and boxing. The victor’s prize was a crown of wild olive, a palm branch, and the right to erect a statue in the Atis, the central area of the sacred temple precincts. Zeus was the chief deity to whom the festival was dedicated. The modern era of the Olympic games began in Athens in 1896.
As long as people have grouped together, first in small communities and later in towns and huge cities, outdoor public spaces designed for large congregations of people have existed. The agora in every Greek city provided an identifiable place for people of differing backgrounds from anywhere in the region to meet and exchange ideas as well as money and merchandise. Public baths have been social centers from the days of ancient Rome to contemporary Japan. No Italian Renaissance city was built without its piazzas, and no colonial New England village was laid out without a common green, almost always in the center of the town. Today our socializing has become less formal and official, more casual, but we are still concerned with providing ways to be among other people—to watch, to be watched, to meet and interact. The outdoor cafe, the public urban park, the rock concert, and the street are among today's equivalents of yesterday's agoras, baths, and squares—clearly identifiable places to meet, talk, and be among people.

“I have never been long in any locality... without observing a custom of gregarious out-of-door recreation in some miserably imperfect form.... I am sure that it would be much better... if it were admitted to be a distinct requirement of all human beings, and appropriately provided for.” (Public Parks and the Enlargement of Towns.)

Bethesda Terrace and Fountain in Central Park, in the 1860's and today. The gondolas were a gift to the City of New York from Venice.
The beauty of the park...should be the beauty of the fields, the meadow, the prairie, of the green pastures, and the still waters. What we want to gain is tranquility and rest to the mind. A great object of all that is done in a park, of all the art of a park, is to influence the mind of men through their imagination.

Public Parks and the Enlargement of Towns.

First, the chief end of a large park is an effect on the human organism by an action of what it presents to view, which action, like that of music, is of a kind that goes back of thought, and cannot be fully given the form of words.

Notes on the Plan of Franklin Park and Related Matters, 1886.

Let any man ask himself whether the value of such views as the grandest the mountain offers, is greater when they are made distinct spectacles or when they are enjoyed as successive incidents of a sustained landscape poem, to each of which the mind is gradually and sweetly led away, so that they become a part of a consistent experience — let him ask this with reverence to the soothing and refreshment of a town-strained human organism, and he will not need argument to lead him to a sound conclusion.

Mount Roy, 1881.

Most of us find the break from routine that recreation provides makes us better able to enjoy our work when we resume it. In the same way, our enjoyment of other people is increased by the time we spend alone. Have you ever thought about how tedious life would be if you could never be alone? Jean-Paul Sartre defined hell as "other people" without relief. When we are alone, we are free to be ourselves, to let our imaginations roam, to remember, to dream, or to make plans.

Three-fourths of the people in this country live in cities, which every day become dirtier, more crowded, and more dangerous. It seems natural, then, that we enjoy being alone from time to time, away from our responsibilities and the watchful eyes of other people. And it is understandable that our solitude can be enhanced by the vastness and restfulness of nature, the coolness of water, the shade of a tree, and the softness of grass trembling in a breeze.
Did you ever throw yourself down on a patch of grass and observe the infinite variety of life right before you? Did you notice the intense activities of insects, the sunlight and shadow on one blade of grass, the intricate veinings on a leaf dropped from a nearby tree?

The most direct way to learn is by experience. We learn about trees, traffic lights, and road construction by seeing them in our urban environment. We learn about trees, birds, and flowers by exploring them in their natural environment. No matter how much we read about the seasons, we learn to understand spring by watching the delicate green buds grow a little bigger and darker each day, and to associate a hum with the deeply colored leaves we walk through on the way to school or work.

What we learn by observation and in response to our curiosity is remembered with particular intensity because we discovered it ourselves. The places where this kind of education can best take place—our parks, zoos, wildlife preserves, and national forests—are the best kind of classrooms we can build for our natural world. They are classrooms that we will never get tired of—even the path we explored last week will have become a little different by today.

"You can hardly fail to see wherein the advantage of the property lies, as an educational and civilizing agency, standing in winning competition against the sordid and corrupting temptations of the town. You can hardly fail to realize how much greater wealth it is to have within your reach than to be found in the ordinary parks and gardens, not to say the museums and galleries, which are the pride of other cities, and which millions have been thriftily expended to obtain...."
Mount Royal.

The conservatory in Prospect Park in Brooklyn, New York. Olmsted was concerned with enlarging the scope of plant variety, and in all his work made an effort to include trees, shrubs, and flowers from faraway places with similar climatic conditions to those of his site.

"In its influence as an educator, as a place of agreeable resort, as a source of scientific interest, and in its effect upon the health, happiness, and comfort of its people may be found its chief value."
Report of the Commissioners of Central Park, 1870.
Inactive/Active

Perhaps the reason that so many of us think first of strenuous exercise when we think of recreation is that we probably spend most of our time indoors, and most of that time sitting down. But if we think for a minute about all the time we are not involved in routine, and all the time we are not playing an active sport, we will see how much of our free time we choose to spend in ways that are physically not very active. It might be reading or picnicking in the shade of a tree; walking along a wooded path; floating one's back in the middle of a lake; or digging weeds in our garden.

Inactive

"One can say that a city can be judged by its benches; their availability for use, their design, are a clear indication of a city’s concern for its citizens’ comfort. There are two basic kinds of benches—one has a back, the other is flat and backless. The flat bench is adequate for short rest periods and simply enables the pedestrian to get off his feet. They can be placed as sculptural elements in a plaza to imply amenity, without actually providing comfort for long periods of time. They are most often made of hard masonry materials—concrete, stone, tiles—which relate more easily to the buildings which they surround and whose spaces they least confuse."

"But the most usable and comfortable benches, the ones with the most flair and whimsy in design, are the elegant, backed benches which encourage the sitter to stay and spend some time in comfort in handsome urban surroundings."

From Ciles, by Lawrence Haplin (Cambridge, The MIT Press, 1972)

"All forms of recreation may, in the first place, be conveniently arranged under two general heads. One will include all of which the predominating influence is to stimulate exertion of any part or parts needing it; the other, all which cause us to receive pleasure without conscious exertion. Games chiefly of mental skill, as chess, or athletic sports, as baseball, are examples of means of recreation of the first class, which may be termed that of exertive recreation; music and the fine arts generally of the second or receptive division."

Public Parks and the Enlargement of Towns.

Nineteenth century outdoor public recreation much less physically active than today’s. It ranged from children’s games like tug-of-war, lawn tennis and ice skating, both of which were encouraged by Olmsted’s parks.
Our recreational needs embrace the entire continuum of physical activity. Spots like handball and soccer, whichnevres: periods in the course of an entire game, would be classified as among the most active. Bicycling and casual swimming could be called moderately active. You can see that the distinctions can be very fine.

Thinking about your recreational preferences in terms of this continuum, and placing each activity you like somewhere along it, will demonstrate the wide degree of activity that we like to include in our recreational life and underscore the importance of providing for it.

Active

Football
Football, in the form we know it today, stems from the "Boston game" as played at Harvard in the 1870's and patterned after rugby rules. In November 1876, a new Intercollegiate Football Association, which codified the rules of modern football, was founded at Springfield College. Football became a highly popular sport at eastern colleges and universities and became a professional sport in 1895. The National Football League was founded in Canton, Ohio, in 1920.

The original football was a Danish person's skull, in the eleventh century. Due to the construction of the era and bruised toes, a leather ball filled with hair was adapted. This evolved into air-filled pig bladders and further elongated into the conventional football used today.

Field size is 300 by 160 feet plus end zones. Goal posts are 24 feet apart. The game is divided into four periods of 15 minutes each, with a one minute rest between periods and a 15-minute intermission after the first two periods.
Individual/Group

Whether we prefer inactive or active forms of recreation, and whatever our age, we can enjoy recreation alone or as part of a group of almost any size. Although it's usual for us to think that the number of people involved in an activity is determined by specific game rules, there are actually three categories of activities which determine the number of people involved differently.

The first consists of spontaneous, free-form activities that are such an important part of our recreational experience, such as walks, picnics, and swimming at the beach. The number of people involved in those pursuits is completely flexible. In the second, mentioned above, the number of people is determined by game rules, whether the game is for an individual (solitaire), for two people (chess or tennis), or ten people (basketball). The third

'Jula Hoop

"Hug the hoop to the backside, just hard with the right hand, now rock. Don't twist, just swing it."

The hula hoop, first used in Australia to limber up gym classes in the early 1950's, gradually drifted across the Pacific and caught the attention of two enterprising California toy manufacturers. They experimented with several prototypes on some local neighborhood kids, found overwhelming success, and began manufacturing in June 1957. The hoop craze peaked in the spring of 1958 and by September of that year over 50,000,000 had been sold.

Twirling celerity and endurance records were set across the country, the most outstanding of which were set by two ten-year olds, a Boston boy who despite a broken arm twisted a hula hoop for four hours, and a Jackson, Michigan, boy who kept it going at once for three hours.

As quickly as it began, the craze died out. In November 1958 a Wall Street Journal headline announced, "Hoops have had it." It was outlawed in Indonesia on moral grounds and the Russians called it a further demonstration of the emptiness of American culture. Today the hoop is still a pastime of the five-to-nine-year olds and as recently as July 1972 Philadelphia named a city hula hoop champion.

"There will be room enough in the Brooklyn Park, when it is finished, for several thousand little family and neighborhood parties to vie with at frequent intervals through the summer." Public Parks and the Enlargement of Towns.
category is determined by the physical capacity of a facility: sports events with a limited number of seats or an outdoor concert which can only be heard within a certain radius of the bandshell, are examples.

All three categories include activities for one person, for a few people, and for larger groups of people—from a solitary walk to a family picnic to a spontaneous rally; from solitary to ping-pong to a swimming meet; from a park bench to a merry-go-round to a stadium. Most people want to spend some time alone, some time with a close friend or among relatives, and some time as part of a large crowd. As a result, leisure pursuits, games, and facilities have evolved to accommodate the entire range of group size.

Volleyball
Volleyball was invented at Springfield College in 1895 for the Holyoke YMCA. It has since spread to some 70 countries around the world. The rules are simple and have changed little since the game's inception. A team has six players (except in the Orient where there are nine) and equipment consists of only a net (or rope) and a ball. Volleyball has remained strictly an amateur sport and was admitted to the Olympic program in 1964.

The official court is 60 by 30 feet, divided in half by a net three feet wide suspended five feet above the ground. The ball is 26 to 27 inches in circumference, weighs nine to ten ounces and is inflated to seven to eight pounds of pressure. The object of the game is to hit the ball back and forth against the net, preventing it from touching the ground within the team's own court.

A game consists of eight minutes of playing time. It takes about 20 minutes to play a regular game.

"Consider that the New York Park and the Brooklyn Park are the only places in those associated cities where...you will find a body of people coming together...all classes largely represented...each individual adding by his mere presence to the pleasure of all others, all helping to the greater happiness of each. You may thus often see vast numbers of persons brought closely together, poor and rich, young and old...I have seen a hundred thousand thus congregated."

Public Parks and the Enlargement of Towns.
Young/Old

An infant rocking contently in a baby carriage; a two-year-old with pail and shovel in a sandbox; a young child testing his muscles and coordination on a jungle-gym; an older child learning how to shoot baskets; an old couple sitting on a bench talking.

If you are past childhood and not yet restricted in your activities by old age, you may have forgotten how many choices and limitations of recreational experiences are determined on the basis of age. Age is a factor encouraging or discouraging interest, and a major factor in defining physical capability. Young children are not interested in sitting quietly on the bench...
benches; infants cannot climb jungle-gyms; older children don’t like to play in sandboxes; and older men and women don’t have the stamina for basketball. It is easy to forget, in thinking about the recreational profile of a neighborhood, how much people’s age influences their need for particular recreational opportunities.

Mixed age groups

There are, however, many activities that are appropriate to several different age groups. Camping, for example, can be enjoyed by a two-year-old or a seventy-year-old and by almost anyone in between. A hike or bicycle ride appeals equally to the young person and the middle-aged.

Finally there are activities that can be enjoyed equally by all groups and in which they can participate together. Sun-bathing, people-watching, picnics, sports events, outdoor plays and concerts, and cuttings are activities which can bring all the generations together.

Shuffleboard

Shuffleboard, a derivative of lawn bowling, began in England around the thirteenth century. The earliest record of the game in New England was its denunciation as a gambler’s sport, and it was outlawed in certain areas in 1845. The game appears to have picked up again in the 1870’s when it became a chief feature of entertainment for passengers on the ocean liner voyage between England and Australia.

It was reintroduced in Florida after World War II and by 1951 it was estimated that there were about 5000 public courts in 450 cities. It is played by all ages, although it is especially popular among older people.

The court is 52 by 6 feet with a concrete or terrazzo surface. The composition disks are one inch thick, six inches in diameter, and weigh between 11½ and 12 ounces. The strategy of the game is to knock a rival’s disk out of position in a scoring box, replacing it with your own. Each player or team shoots eight disks each round.

“Cultivate the habit of thoughtful attention to the feeble sort of folk—of asking, for instance, can this or that be made easier and more grateful to an old woman or a sick child, without, on the whole, additional expense, except in thoughtfulness? If so, ten to one, the little improvement will simply be that refinement of judgment which is the larger part of the difference between good and poor art, and the enjoyment of every man will be increased by it, though he may not know just how.”

Mount Royal.
Specific/Nonspecific

Badminton
Badminton is considered one of the fastest of the court games. It originated in India centuries ago under the name of Poona and was introduced to England in the 1860's by British Army officers. It had no name until 1873 when the Duke of Beaufort introduced it at a party at his country place, "Badminton." The name was adopted and its rules standardized in 1877. Badminton became popular in this country in 1929 and is now played in international competition (the Thomas Cup) in three zones: American, European, and Pacific. The shuttlecock (called a "birdie" or shuttle) has a semi-spherical cork head 1 1/2 inches in diameter and contains 14 to 16 feathers. Each 2 1/2 inches long imbedded in the flat cork face and rising like a crown with a 1/2 inch spread at the top. The shuttlecock weighs between 1/4 and 1/3 of an ounce.

Some spaces, either by accident or design, will permit only one specific activity to take place. A space may be too small for anything but checkers or one park bench, too narrow for anything except walking or bicycle riding, or too hilly and rocky for anything but climbing. It may be covered by a basketball court, or by some other specific and limiting solution to a particular recreational need.

Moderately specific

There are also spaces that can be used for a few similar activities, either simultaneously or sequentially. These spaces have a moderate degree of specificity. Croquet, bocce, horseshoes, and badminton could all be played on the same.

Central Park was designed by Olmsted specifically to cultivate the illusion of a rambling rural countryside in the midst of a city. But generations of well-intentioned New Yorkers have seen Central Park's open spaces as empty spaces. By now the park could easily have been filled many times with buildings proposed in the name of improvement. This cartoon, published in The New York Times in 1918, describes schemes ranging from a huge outdoor theater and a graveyard to a merchandise exhibition structure and a site for trenches supposedly essential to the Liberty Loan campaign.
reasonably small, flat space. A lake is another example: limited to water activities and further controlled by seasonal, weather, and temperature conditions, it still permits a range of different activities to take place at the same time.

Finally, there are spaces which are so generous in size or so general in what they provide—like the meadow—that they allow a great range of activities.

You might conclude, then, that it would be simple and economical to provide nothing but big, unspecific recreational space. But this is not always possible, and not a good idea where there is a genuine need for recreational experiences that can be met only by specific—even though inflexible—solutions.

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Below are pictured two spaces, an activity, and an object. For the spaces, write in all the different things you could do there. For the activity, write in the different spaces where it could take place. And for the rubber ball, write some of the many games you could play with it. You will see that the specificity of spaces, activities, and equipment greatly affect our recreational opportunities.
Small/Large

We're all familiar with the size of many recreational spaces, from a vest-pocket park or playground to a national forest, and with the size requirements of specific activities, from checkers to football. However, there are many available spaces that don't fit neatly into ordinary size classifications, and many free-form activities that have real, but not specifically defined, space needs.

How much space does a picnic take? Surely, you could set up a grill and blanket in close quarters; but much of the enjoyment in picnicking comes from a sense of space and the refreshing environment of woods or stream. How much space do you need to feel alone? How long a path do you need for a walk to be really enjoyable?

Small/Large

"It follows that so far as any purpose of public grounds can be well provided for on a small ground, it is better to so provide for it, rather than to multiply and complicate the purposes to be provided for on a larger ground." 
Notes on the Plan of Franklin Park and Related Matters.

Such a small park is Tompkins Park (whose site is now occupied by a building) in Brooklyn, designed as a place for neighborhood people to sit.

"Spaciousness is of the essence of a park... There are countless things to be desired for the people of a city, an important element of the cost of providing which is ground space. It is the consequent crowded condition of a city that makes the sight of merely uncrowded ground in a park the relief and refreshment to the mind that it is." 
Notes on the Plan of Franklin Park and Related Matters.
Size is a response not just to the number of people involved in an activity, but to the nature of the activity as well. Some activities are best served by efficient, compact areas, while others suggest rambling, undefined spaces. Some activities can take place adjacent to any other, but others need space around them for quiet, for safety, or for spectators. Size is one of the elements to be used to enhance a recreational experience, and understanding the needs that can be met by a space of a certain size is one of the most important aspects of utilizing space for recreation.
You're probably pretty confident that you know the size of a football field, especially if you play the game or watch it on television. You're used to measuring it in your mind by the kind of activity that takes place on it, and by seeing a lot of it used at once. But did you know that if the area of a football field were a bicycle path five feet wide, it could wind along a river, cut through a wood, or parallel a street for over two miles!

This example demonstrates that the shape of recreational space is just as important as its size. Just as there are activities that have to take place in defined areas—rectangles, squares, or circles—there are other activities that are linear in nature, such as walking, bicycling, horseback riding, and canoeing. While it's true that you could take a walk across a football field or canoe across

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**Bicycling**

The first two-wheeled bicycle was designed in Paris in 1867 by M. de Sivrac but proved rather unsatisfactory because it lacked pedals. Other efforts followed but it wasn't until 1881 that Louis Gompertz of England invented a geared type rope system which became the basic bicycle chain.

Experiments continued with wheel size changes: large in front, small in back, and vice-versa. The "high wheeler" evolved, made of wood except for the tires, which were covered with iron. In 1868 hard rubber tires replaced the wooden and iron ones; spokes of wire instead of wood were added in 1869.

In 1855, the English designed a bike whose front wheel wasn't much bigger than its back which made easier riding and exceptional speed possible. In 1888 J. B. Dinslop invented the pneumatic tire, which revolutionized pleasure bicycling and introduced it as a racing sport. His basic tire structure, an outside rubber cover supported by an air-filled inner tube, is still the standard today.

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**Linear**

Linear parks were a favorite with Dirks. Like Seneca Park in Rochester, they were often suggested by a topographical feature, in this case the Genesee River. As a result of such a shape, these linear parks preserved the natural beauty of the river scenery and its water for recreational uses, kept natural drainage systems intact, cut down water pollution by using the river for non-industrial purposes, and held the main surface water channels in public control.
Knowing the potential of variously shaped areas can help you maximize their recreational possibilities. And knowing the shape requirements and alternatives of different recreational activities makes it easier for you to understand the potential of recreational spaces. Nonlinear spaces are often created by the intersection or deviation of linear systems, and usually surrounded, bisected, or connected by them as well.

The photographs below, from ground level and from above, show some of the huge variety of linear and nonlinear spaces, and how they fit together. If we learn to open our eyes to all the funny-shaped, left-over spaces around us—especially places like streets, sidewalks, vacant lots and rooftops—we might find solutions to a lot of our recreational needs near at hand.

Baseball

Baseball, the American derivative of the English games of cricket and rounders, was first developed in this country around 1880. Haphazard versions of the so-called "Town Ball Game" grew up in Boston, New York and Philadelphia between 1820 and 1833. The rules were standardized in 1845 and the first baseball organization, the New York City-based Knickerbocker Baseball Club, was formed in 1845. The earliest game on record under the standardized rules was on 19 June 1846 in Hoboken, New Jersey. In 1871, the first professional baseball association, known as the National Association of Professional Baseball Players, was organized.

The playing field consists of the infield, a diamond 90 feet square, and the outfield, with a 300-foot hitting distance. The official baseball has a cork and rubber core, wound with yarn, and covered in stitched-on leather. The ball must not weigh less than five ounces nor more than 5½ ounces, and must be between nine and 9½ inches in circumference.
Access and Distribution

How many and what kind of people will be served by a recreational facility depends not only on its size and type but on its location as well. You are probably familiar with areas or neighborhoods that don't have nearly enough recreational spaces or in which the spaces do have are unsuitable; and areas that seem to have more recreational space than is being used. These situations may be the result of bad planning originally, or of a shortage of available funds. Very often such disparities are the result of the fact that the available recreational facilities are not able to keep up with changing neighborhood needs and recreational patterns.

Over the years, categories of "recreation" spaces have been developed to combine flexibility with long-term value: the bot-

In Boston, Olmsted planned an "emerald necklace" of green spaces fulfilling a variety of purposes, from the rural landscape of Franklin Park through the forest of the Arnold Arboretum to the drainage control system of the Fens. This urban park system became the basis for a metropolitan network of open spaces developed later by Charles Eliot. Similarly, Olmsted's work in other cities provided a structure for linking and expanding open spaces on urban, regional, and even national levels. At left, an Olmsted plan for Boston; at right, a diagram of the Boston park system in 1899.
As we consider how many and what kind of people each of these facilities can serve, we can also ask: how many tot-lots does one block need; how many playfields are appropriate for one neighborhood; how many large parks would one large city use; and how great an area of national park does one state or region require? By answering these questions in general and in specific instances we can decide whether an area can best be

distributed

**The Urban Explosion**

In 1860, while Central Park was being constructed America's population (a bit over 30,000,000) was 80% rural and only 20% urban. Today, 110 years later, those percentages are reversed while the population has nearly sextupled. Of our present population of more than 200,000,000 fully 75% of us live in urban areas. That makes our urban population 25 times as large today as in 1880.

In addition, the 75% of our population living in urban areas have only 9% of our public recreational land. Ninety-one percent of our public recreational land (the great majority of which is federally-owned) is located in non-urban areas of the country.

A site for a park to stand by itself and be little used except by those living near it should be a very different one from that for a park designed for more general use, and especially for a park which is to stand as one of a series. In the latter case the fitness of a site will largely be found in its adaptation to supply some form of park refreshment that others of the series are ill-adapted to supply or are naturally excluded from supplying.

“Tractations requiring large spaces to be given up to the use of a comparatively small number are not considered essential, numerous small grounds so distributed through a large town that some one of them could be reached by a short walk from every house would be more desirable than a single area of great extent; however rich in landscape attractions it might be. Especially would this be the case if the numerous local grounds were connected and supplemented by a series of trunk roads or boulevards.”

*Public Parks and the Enlargement of Towns.*

**Distribution**

“Many cities have moved strongly into the use of mobile recreation units which are able to bring specialized recreation activities into different neighborhoods quickly, and with a minimum of cost and capital investment. Such portable and mobile units are much less expensive than building a network of comparable facilities throughout the city as would be by roving units, with specially trained leaders, from location to location and remaining at each one only while interest is at its height. It is possible to provide great variety and enrichment in disorganized neighborhoods and middle and upper class areas as well.”


Los Angeles operates 300 separate facilities on 217 sites. These include 144 well-equipped large recreation centers, 71 large parks, 50 swimming pools, ten Senior Citizens Centers, 13 golf courses, 14 miles of public beaches, 226 wade pools, 73 miles of bridle trails, 81 miles of bike trails, 15 museums and cultural centers, 62 shuffle-board courts, seven archery ranges, seven historic sites, and seven park lakes. In addition the Los Angeles park and recreation department operates numerous other specialized facilities.