

# The Athlete Relocated

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**T**HE MUSIC ON THE SOUND SYSTEM begins with tranquil new age mood music. The lights are down, and some forty participants are warming up on stationary bikes. The instructor speaks in soothing tones, encouraging them to begin slowly. Within minutes, the tempo will pick up, and the team of indoor cyclists will be pedaling more energetically, the room vibrating with their collective rhythm. The location is the indoor stationary cycling class, one of the most popular offered at New York City's Reebok Club, a high-end fitness training center. The ingredients of this indoor cycling program are stationary bikes, pop music, an instructor who seems equal parts fitness trainer, dj, and drill sergeant. Music ranges from atonal synthetic music to rock with a pounding beat. The imagined landscape is also diverse; as an assortment of hills and flats are called out by the instructor, participants are required to adjust the degrees of resistance on their bikes.

Though stationary cycling has existed for many years, specific fitness programs designed for stationary bikes were not established until 1994, when Mad Dogg athletics introduced its trademarked Spinning program. Indoor stationary cycling is, of course, based on conventional outdoor bicycling. Traditional stationary exercise bikes, however, are only distant cousins to standard outdoor road bikes; the most obvious difference is that the former don't generally have wheels; resistance is built into the pedal mechanism. But the stationary bikes used for indoor cycling fitness classes have been modified to simulate more closely outdoor racing bikes.



**Spinning® exercise program, Culver City, CA (1995).** This Spinning class, taught by program inventor Johnny G, is thought by some to be "an indoor Tour de France." Courtesy Mad Dogg Athletics, Inc.

A heavy front or fly wheel is weighted to create momentum that keeps the pedals—directly attached to the wheel—rotating, and the pedals themselves are designed to allow cyclists to extend their legs fully. Multiposition handlebars can accommodate riding in or out of the saddle. And both the form of the saddle and the toe clips provided to help maintain stability were adapted from racing bikes. Finally, the varied ride called out by the instructor—"Okay, slower now, were going up a hill"—also makes for a



**Johnny G Spinner® Pro exercise bicycle (1994).** This Schwinn fitness bike takes its cues from a road bike and includes a road-racing bicycle chain, 38-pound cast flywheel, and multiposition handlebars. Courtesy Schwinn and Mad Dogg Athletics, Inc.

workout that is less predictable than that offered by a preprogrammed stationary bike. All of which prompts one advocate to call the class “an indoor Tour de France.”

The resemblance to real biking ends there. In an effort to increase the cardiovascular workout, the instructor frequently calls out upper-body exercises, and participants stretch, reach, and otherwise exercise their arms in a manner that would be perilous in traditional outdoor biking, where holding onto the handlebars remains generally advisable. The indoor cyclists also frequently close their eyes. The course doesn’t include curved roads, potholes, traffic lights, or buses. Instead, the combination of music, low lighting, and mirrored walls create an atmosphere of unreality that seems somehow appropriate to the activity. Indoor cycling programs occupy some nether realm of exercise—somewhere between a bike ride imagined by Stanley Kubrick and the real thing.

Indeed, the term coined by Mad Dogg for its program says it all. Spinning. For what participants are turning, just as surely as the wheels of their stationary bikes, are notions of indoor and out, nature and artificiality, real and unreal. Indoor stationary cycling may well represent the way we approach sports in the 1990s, and The Johnny G Spinner Pro, the Schwinn stationary bicycle used for the workout and named for its trainer/designer, is a piece of equipment that clearly reflects these ambiguities. The slick geometry of its racing design and its various cycling components reflect a recognition of how sports have been traditionally practiced outdoors—and how those traditions are evolving. Indeed, the variety of sports equipment available today suggests that skills in negotiating the natural world are essential to the overall fitness of the contemporary athlete.

Historically, sports have been practiced outdoors. Today, however, exercise machines, synthetic climbing walls, and a host of other virtual sports equipment all relocate, and at times dislocate, the athlete; they are pieces of equipment that often function as instruments we use to negotiate and revise our relationship to nature. Indeed, for all their precisely calibrated parts, their balance, resilience, and strength, what this equipment may enable us to do most skillfully is balance a profoundly ambiguous—and at times confusing—view of the natural world.

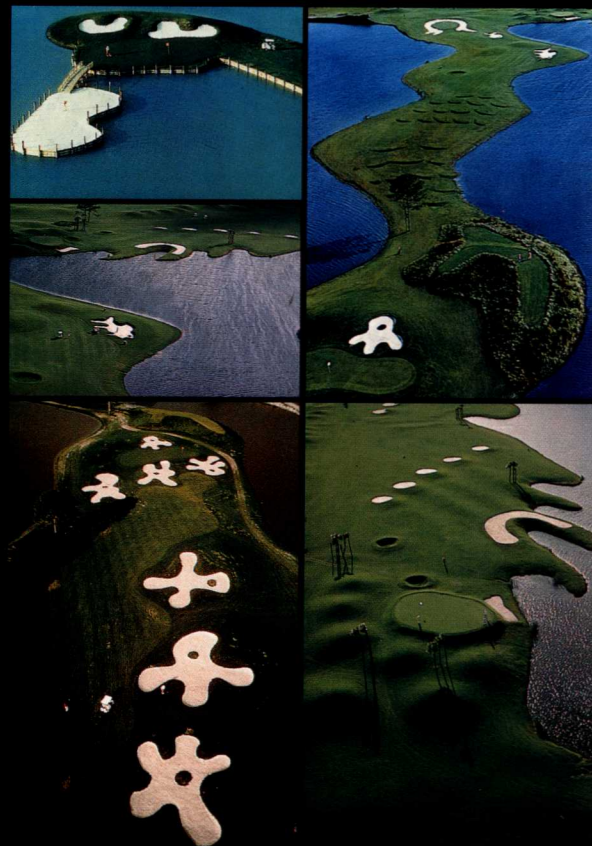
This ambiguity may have its roots in televised sporting events. Televised images give fans an unprecedented proximity to sporting events, allowing viewers to witness more precisely the swing of a tennis racket, the tackle of a quarterback, the split-second slide into second base. In golf, the TV camera delivers viewers right onto the putting green. In baseball, the camera can do even more: it can zoom in on the pitcher on the mound, focus on his grip of the baseball—obscured from the batter by the pitcher’s glove—and predict whether he’ll throw a fastball or a curve, allowing viewers to know seconds before the batter what the pitch will be, thus transforming entirely the narrative suspense of the game. Such proximity only enhances the viewer’s experience of the game.

But aside from proximity, instant replays, the expressions and gestures of professional athletes when they succeed—or fail—to make an important play, the halftime interviews with players, interpretations of controversial referees’ calls, and the announcers’ commentaries have all become part of the game. Today some fans go to the stadium with portable television sets to watch the game on the screen and on the field simultaneously. And we have come to accept the fact that, while a twelve-

inch, two-dimensional TV screen in some way distances us from the three-dimensional reality of the game, the electronic translation of the game also confers its own intimacy. Or, to put it another way, the camera makes it more real. Televised sporting events introduced us to the idea that the mediated event brings us closer to the truth; proximity is both enhanced and diminished, thereby suggesting that ambiguity may be a condition for the spectator’s enjoyment of sports.

But our contemporary paradoxical view of nature and sport has precedence on the actual playing fields as well. Traditional upper-class sports such as skiing and golf have both cultivated their own illusory relationships with the natural world. Golfers often speak of the pleasures of practicing their sport outdoors, extolling the fresh air and stroll across the grassy eighteen-hole course as though it were an excursion through the realm of nature. But the landscape on which they practice their sport has, of course, been precisely engineered, and the elitism and luxury that have been traditionally associated with golf are in part derived from the great cost required to construct and maintain such highly artificial and vast terrain.

Sculpted by bulldozers and earth moving equipment and maintained by elaborate irrigation networks, golf courses rely upon the lavish exploitation of natural resources and extensive use of pesticides, all of which can have significant impact on neighboring environments. Whether it is because golf course designers intend to manufacture a challenging course or to entertain the imagination of players, an afternoon on the links may frequently be an excursion to a fantasy landscape. Among the design features offered by legendary golf course designer Desmond Muirhead at the Aberdeen course in Boynton Beach, Florida, is the Marilyn Monroe



**Aberdeen Golf Course, Boynton Beach, FL (1986).** While golfers may be accustomed to thinking of their sport as a sojourn in nature, such precisely sculpted landscapes as Desmond Muirhead's Aberdeen Golf Course illustrate the exotic artificiality of the terrain. Courtesy Transeastern properties of Southern Florida, Inc.

hole, composed of two immense breastlike mounds. Another hole, when viewed from the air, resembles a mermaid, a forked tee forming her tail and a pot bunker positioned at her presumed navel.<sup>1</sup>

Though picturesque in a different way, the synthetic ski slope demands even greater industrial intervention, and in recent decades has anticipated further the revised relationship with nature we are engaged in today. In his essay "The Nature of Reality and the Reality of Nature," Albert Borgmann catalogs the industry of the ski slope:

*A high-speed chairlift scooped you up, rushed you along, and deposited you gently. Now you are flying down a run that has been cleared of trees and rocks, reshaped by bulldozers, and planted in grass. Underground there are miles of lines for water and compressed air, connected to snowguns that line the side of the run. At the bottom of the hill, a pumphouse and a compressor building supply water and air that, guided and monitored by computers, are mixed by the guns into the quality and quantity of snow needed at the time. It has taken a \$20 million system with a thousand snow guns to produce the snow at a cost of \$2,700 per acre-foot. But this is not all. An army of snow cats, \$150,000 apiece, has worked all night to groom the slope to the shape of an undulating corduroy-surfaced ballroom floor.<sup>2</sup>*

So advanced has the ski industry become, Borgmann notes, that genuine snow can even be the object of disdain, thwarting drivers from faraway urban areas and otherwise simply being too messy.<sup>3</sup>

Nevertheless, for all the industrial interventions that have gone into the construction of these

artificial landscapes, generations of skiers have maintained the illusion that these mountains are part of the natural environment and that skiing down them provides a sojourn to the extremes of nature in climate and height alike. Today, however, such illusions are no longer necessary. We embrace artificiality more wholeheartedly and more directly.

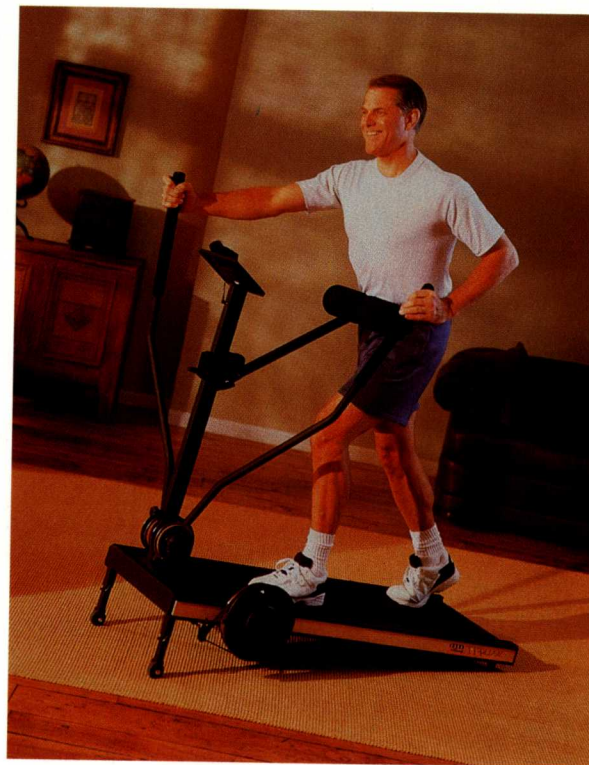
From the beginning, artificiality was an essential component to the cultural, social, and artistic revolutions of the early twentieth century that became known as the modern movement. The mass production espoused by modernists was fueled by a humanitarian ethos—the belief that new, "artificial" materials and technology could make available more goods for more people at lower cost. But if some modern architects and designers were driven by the vision of a new social order, the fervor of their beliefs was matched by new energy in the corporate laboratories that produced a catalog of new materials during the twenties, thirties, and forties. By the late forties, plastics in the form of cellulose acetate, Plexiglas, vinyl compounds, polystyrene, and polyethylene were reshaping our tableware, appliances, and furnishings. Our homes and offices were sheathed in vinyl, our clothes woven from synthetic threads of nylon, rayon, viscose.

Yet human tastes being what they are, the very nature of the synthetic material—its relative indestructibility, its permanence, its availability—have all been cause for its diminishing appeal. As its material cost decreased, so too did appreciation of the material, until the term "plastic" came to mean commonplace, contrived, insubstantial. The disposability of plastic objects, once meant to be liberating, was interpreted as insufficient, superficial. The countercultural ethos—as opposed to the mainstream perspective—of the sixties and seventies was the

abhorrence of inorganic materials. All manner of synthetic materials were interpreted as counterfeit goods, the dubious rewards of scientific sorcery and metaphors for cultural fraudulence at large.

Today, however, the effort to get back to nature has itself become suspect, simply because there is less of nature to get back to. We have recognized the frailties of our ecology and accepted that our environment is increasingly endangered, its organic materials precious and to be used sparingly; if we are to demonstrate our respect for the natural world, it is by ceasing our reckless exploitation of its materials. Our rampant consumerism has produced mountains of synthetic refuse to which a burgeoning recycling industry must now address itself. Not surprisingly, then, we find ourselves reconsidering the moral value of plastics, and the very qualities of plastics we once despised—endurance, disposability, inorganic sources—all give us cause to accept them. A sweater made from recycled soda bottles is worn as an emblem of social conscience, and a moral value has attached itself to wearing such synthetic apparel; microfiber has a political and cultural cache that polyester did not. We have become open to the possibilities today of recognizing in plastics the integrity we once valued in organic materials; and we have come to accept artificiality as a way of expressing our commitment to the conservation movement.

But it is on the landscape of contemporary sports equipment that the rewards of the artificial realm proliferate most obviously. Machines that enable us to row boats, ski across fields, and ride bicycles in our living rooms all attest to a radically reconstructed relationship with the natural world. More to the point, as the manufacturers of this equipment are fond of pointing out, practicing these sports indoors is often an improvement on



TOP: **WaterRower (1987).** With a flywheel that has been built into a water tank, the WaterRower duplicates both the physical exercise of rowing and its attendant sounds of rippling water. Courtesy WaterRower Inc., Warren, RI

ABOVE: **NordicTrack WalkFit 5000.** Indoor power walking is the objective of NordicTrack's Walkfit 5000. Used by permission of NordicTrack, Inc., Chaska, Minnesota, U.S.A.

the original activity. In 1911 Edward Chauncey Worden, preeminent historian of the celluloid age, remarked that "the manufacture of cellulose nitrate-camphor containing plastics is essentially an imitative industry and a forgery of many of the necessities and luxuries of civilized life.

But unlike many forgeries, these plastics possess properties superior to those of the originals which they are intended to simulate."<sup>4</sup> Similarly, many of the imitations of outdoor exercise that we participate in today are perceived to enhance the original.

Certainly we accept the fact that the simulation of fitness machines often provides a better workout because it can be more effectively regulated. Cross-country skiing, for example, frequently offers a more strenuous workout indoors than out. By regulating the rhythmic patterns of cross-country skiing, indoor fitness equipment not only simulates the sport, but upgrades the workout it offers. Outdoors, the movements are regular and fluid, but only to a point; the skier might pause or swerve to avoid a rock, slow to take in a glimpse of deer in the woods, speed up, and cease the workout altogether when going downhill. While the skier's movements are rhythmic, they are not precisely regulated. Indoors, however, the skier's movements become more mechanical and repetitive. The equipment can be adjusted to various degrees of resistance, and the upper-body workout is improved as well by a mechanism that also offers various degrees of resistance. The smooth motions and domestic landscape of the workout, while not eliminating the threat of injury altogether, surely limit it.

Just as NordicTrack—a leading manufacturer of indoor exercise equipment—has translated cross-country skiing to the indoors, it has looked to other forms of outdoor exercise as well: its WaterRower

exerciser has been outfitted with a flywheel built into a tank of water on the theory that both real water resistance and the audio feedback of the sounds of water give the workout greater authenticity. The company's Walkfit exerciser is a fitness machine for simple walking, but because it regulates the movements, it burns more calories, thereby providing a more effective workout than, say, walking around the block. Ergonomic armpoles also ensure a complete upper-body workout.

Similarly, Reebok's Sky Walker not only eliminates the need of going outdoors, it also eliminates the need to ever hit the ground: the exerciser stabilizes the body and allows arms and legs to swing in natural curves without ever making impact. The exercise has been called "vertical swimming," though contact with water is, of course, precluded. The appeal of these walking machines isn't due solely to the regulated workout they offer. The cache of a costly machine to assist us in an exercise for which the mechanics of the human body have traditionally been sufficient may lie in the fact that its indoor workout acknowledges feelings of insecurity and vulnerability. For a population that feels threatened by the increasingly chaotic and violent world outdoors, exercising indoors is simply safer.

The simulated realm offered by fitness equipment has reached a new dimension with advances of interactive software. And if increased safety and more strenuous exercise are two reasons we are inclined to accept these simulations of rowing, skiing, and cycling, entertainment is another. Consider Computrainer, a computer bicycle training system with an interactive video display on which the cyclist can keep his eyes on the road. The stationary bike unit is hooked up to a computer monitor and



**Computrainer (1986).** This computer controlled, electro-mechanical bicycle can be combined with software for video racing. Courtesy Racermate

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CLOCKWISE FROM TOP LEFT:

**Life Fitness (1995).** The exertainment system by Life Fitness offers users the options of watching TV, the Lifecycle program screen, or a video game, all while working out on a fitness bike. Courtesy Life Fitness

**Cardio Theater (1989).** Cardio Theatre brings entertainment to the fitness club. Offering sixteen channels, Australian Body Works of Stone Mountain, Georgia epitomizes the notion of "exertainment." Courtesy Cardio Theater

**Life Fitness Rower (1996).** Rowers using the Life Fitness Rower and Total Body Conditioner can watch a video with a pace boat, competing rowers, helicopters, and, finally, a threatening shark. Courtesy Life Fitness

allows users to design their own courses with specific grades and road conditions—an advantage to professional cyclists who want to train for specific tours and races that may be many months and thousands of miles away. Cyclists can program in their own weight and the weight of their equipment. Desirable outdoor conditions such as head winds, tail winds, road grade, hills, and flats can be programmed into the course as well. Undesirable conditions, such as wet roads or traffic, are not, again underscoring the intrinsic safety of indoor exercise. The electronic bike trainer offers the realism of the open road without its more distracting components.

The program comes supplied with a "pacer" as well, an electronic biking companion that can interject the competitive element into the workout. With the pacer called up on the screen, the user is challenged further as his electronic opponent makes moves to overtake him. While logistics have heretofore prevented competitive bike racing from moving indoors, with the advent of the modem this is no longer the case.

The computer monitor offers a constant stream of information, cataloging such facts as calories burned, power exerted, target heart rate, speed maintained, and distance covered. Along with the constantly changing degrees of resistance, such information keeps the cyclists from getting bored; some users go so far as to say the ride offered by Computrainer is more interesting and varied than a ride on the open road, simply because so much more information is offered.

The intersection of sports and entertainment is, of course, nothing new. While the Victorians first advocated physical activity as a moral exercise, discipline and health soon became secondary to the sheer pleasures of bicycle riding, swimming, and mountain climbing. Sports became less about

pursuing adventure and more about enjoying the pleasures of recreation. Today, we find that recreation evolving increasingly into entertainment; and that entertainment value is often in direct proportion to detachment from the natural world. Increasingly, sports technology and entertainment technology appear to merge gracefully and effortlessly. The constant influx of information on a monitor such as Computrainer keeps serious athletes in training from getting bored while going through the routine motions of a workout. But the boredom of repetitive actions discourage recreational athletes as well; and fitness machine manufacturers point out the advantages of timing your workout with your favorite TV show, suggesting that television may be a motivating factor in exercise routines. This coincidence of voyeuristic entertainment and strenuous physical activity, of course, precludes any interaction with nature although the exercise itself may be based on sports conceived to be practiced in the outdoors.

As interactive equipment becomes more sophisticated, the entertainment options multiply. Recognizing that health and fitness centers may be competing with restaurants and movie theaters for consumer dollars, the fitness industry has, in fact, coined the term "Exertainment" to describe customized interactive equipment that has entertainment value. Cardio Theatre, for example, offers a host of television and audio programs through fitness equipment mounted with selectors. With headphones, users can customize their programming during their cardiovascular workout. And Life Fitness offers a system that combines stationary cycling equipment with a program screen; video games, training feedback, or a combination of TV shows (one viewed on a large screen, while a second can be seen on a smaller window) can all be

called up on the screen. "Up close and personal" is how the company defines its product.

For all the entertainment offered by interactive fitness equipment, virtual sports equipment removes the user even further from the natural landscape. Sports museums and halls of fame today invariably provide some kind of virtual sport demonstration that enables viewers to share the experience of champion athletes. Such virtual demonstrations were often originally designed to serve as training tools for athletes, but their entertainment value has since superseded their value as training equipment. Consider the MIR Corporation's Power Alley, a video batting system that is used by such Major League teams as the Texas Rangers, Minnesota Twins, and St. Louis Cardinals—along with the Louisville Slugger Museum in Louisville, Kentucky—to entertain fans.

Power Alley is designed to give museum viewers an experience similar to what the batter experiences at the plate. Viewers stand behind a Plexiglas screen approximately 12 feet in front of a video monitor with the image of a pitcher who then throws a 90-mile-per-hour fastball to a model of a catcher positioned directly in front of the viewer and screen. Balls can be thrown by a generic pitcher or from pros like Roger Clemens, Hideo Nomo, and Mike Mussina. (The MIR camera team has filmed over 200 professional pitchers during regular season games and is in the process of editing their pitches and transferring them to laser disc to be included in the system.) Also programmed into the system is the time taken between pitches. Announcements are displayed on a computer clipboard and a sound system reproduces the roar of the crowd.

Similarly, at the Basketball Hall of Fame in Springfield, Massachusetts, one of the most popular displays is a virtual reality fantasy basketball



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**Batter Up (1993).** Batter Up is a 24-inch electronic bat compatible with video game systems. After plugging the unit in, players can face down pitches from the TV set. Courtesy Sports Sciences Inc.

**Virtual Basketball (1992).** Visitors to the Basketball Hall of Fame in Springfield, Massachusetts are invited to play one-on-one Virtual Basketball with legend Bill Walton. Courtesy Basketball Hall of Fame

**Power Alley (1991).** The Power Alley Video Batting System gives players the experience of facing down a 90-mile-per-hour fastball. Courtesy the MIR Corporation, Lilburn, Georgia

demonstration that offers viewers the chance to shoot hoops with Bill Walton. Participants stand in front of a blue screen upon which their image is superimposed and mixed with digitally stored footage of Walton. Viewers devise their own plays using a small monitor placed in front of them that displays images of the ball and Walton. The computer registers the height and hand position of the viewer, returning the ball to the correct place on the screen after each scrimmage. A large overhead screen allows other museum viewers to watch the simulated game.

The irony, of course, is that such virtual experiences can, in fact, make the traditionally distanced spectator more physically and spatially aware of what the professional athlete experiences. In much the same way that television footage brings the viewer into closer proximity to sporting events, virtual demonstrations such as these confer their own peculiar brand of intimacy.

Power Alley carries a price tag close to \$90,000, but video games available at a substantially lower cost enable one to play virtual sports at home. Consider Batter Up, a video batting game designed for home use. Here, a 24-inch foam-covered electronic bat is equipped with transmitters that are compatible with Sega Genesis or Super Nintendo games. A pitcher on a TV screen pitches the ball, and the batter's swing is recorded, with the final speed, distance, and position of the ball appearing on the screen.

Similarly, the ProSwing system is a training tool that allows home golfers to tee off in their living rooms. Its components include a 26-inch club—that has been engineered to replicate the feel of a conventional club—and a base unit containing electronic circuits and sensors. A light in the shape of a specified club head is emitted from the bottom of

the club; it can be changed by a dial on the club from a driver head to a long iron to a short iron to a putter. When the golfer swings, the base unit then records the light from the club and analyzes such information as the position of the club face at impact; the distance the ball has traveled in yards or meters; the club speed in miles or kilometers per hour; and the flight path of the ball, from severe slice to severe hook. A built-in sound system also replicates the various sounds of the driver, iron, and putter hitting the ball. While the system can be used as a stand-alone training device, it can also be hooked up to a PC, with software that allows users to play a full eighteen-hole course with a driving range, chipping green, and putting green. Additional software for specific championship courses from Florida to Hawaii is also available with full graphics representing their verdant landscapes.

If ProSwing was designed as a training tool, PC Golf puts a higher value on the entertainment factor. Rather than analyzing the swing, PC Golf is a system that provides an electronic 26-inch club and a sensor pad with microprocessors and golf ball graphics. When connected to computer software, it enables home golfers to view the speed, angle, and distance of the electronic golf ball on a television monitor. Whether such drives, chips, and putts qualify as training or entertainment depends largely on the perception of the user.

The Chelsea Piers Sports and Entertainment Complex, a veritable sports mall in New York City, offers yet another golfing environment—a year-round, multilevel driving range on a pier that stretches into the Hudson river. Fifty-two heated and weather-protected hitting stalls have been stacked in four tiers. Computerized automatic ball transport systems deliver balls from ground level to these tee stations, where automatic teeing allows



**PC Golf (1990).** PC Golf offers interactive golf for home or office; the flight path of the ball "hit" with a 26-inch club is recorded on a computer monitor. Courtesy Sports Sciences Inc.

**Driving range at Chelsea Piers, New York (1997).** The golf club at Chelsea Piers, a 30-acre "sports village" in New York City, offers fifty-two individual stalls stacked alongside a heated driving range and mechanical tees. Courtesy Fred George

golfers to program individual tee heights before driving balls across the 200-yard range surfaced with artificial turf. Periodically throughout the day, a small cart roams the turf, vacuuming up balls to be delivered back to the tunnels and chutes of the transport system. At the Chelsea Piers range, golfers not only needn't walk; they don't even have to bend over to position balls on the tee: the mechanized tee manages that task for them. Polyethylene netting to prevent balls from straying into river traffic hangs from a series of twelve 160-foot-tall black steel towers that sit on pilings some of which descend 280 feet into the river's bedrock. (For all the technological innovation of the driving range, however, it's interesting to note that the design of the white clapboard golf house maintains a tenacious hold on the culture of golf, conveying a more anachronistic identity: its shingles, portico, white interior wainscoting, and low ceilings all suggest the cozy and genteel elitism of the traditionally exclusive New England country club.)

Whether it is the spectacular driving range of Chelsea Piers or computerized golfing, what these options offer golfers, of course, is not limited to the opportunity to drive balls year round; they also suggest that the sport can be socially repositioned. Eliminated are the traditional camaraderie and exercise golfers associate with their sport. But by also eliminating the need for vast amounts of outdoor space that require constant and meticulous grooming, they reduce the traditional elitism of the sport. Golfers no longer need necessarily to travel to the suburbs or apply to exclusive clubs to lower their handicaps. So in the process of relocation from its traditional acreage of well tended and artificially constructed and maintained courses to an even more artificial realm, the sport becomes more egalitarian, accessible to a wider population.

While fitness equipment, interactive virtual sports demonstrations, and synthetic driving ranges surely manage to reconfigure every manner of outdoor exercise, some also go so far as to simulate the atmosphere as well. Consider indoor skydiving—even its name is a mind-boggling contradiction of terms. Such an assault on logic nevertheless occurs regularly in Las Vegas at Flyaway, a 22-foot vertical wind tunnel; its airspeed of 110 miles per hour eliminates the need for both airplane and sky, components that have traditionally been necessary to the practice of skydiving. Indoor parachutists are encouraged to “achieve the dream” of human flight; wearing flight-suits and helmets they can rent the room for hour-long “flights” during which they can simply practice maneuvers or film their “flights” on video for later analysis. Team building exercises are offered, as are flight parties. There are no bad weather days in tunnel flying, no cumbersome parachute rigs to pack, and, clearly, no danger of falling thousands of feet to one's death: there is simply the experience of being afloat.

The fitness club Crunch in New York City tours a different high atmosphere, offering an oxygen-depleted environment for athletes in training for events in high altitude regions. “Crunch brings the mountain to the gym,” says the promotional material for the Hypoxic Room System, an 8 x 8 foot vinyl chamber that simulates the oxygen level of a 9,000 foot-high mountain such as one might find in the Rockies or Sierras. Unhealthy air components—ozone, for example—are not replicated.

FACING PAGE: **Flyaway (1980–81).** Indoor skydiving at Flyaway in Las Vegas efficiently reduces the risk of the sport by eliminating the need for the plane, the parachute, and even the sky. Courtesy Flyaway





**Hypoxic Room System (1995).** The Hypoxic Room System offers an oxygen depleted environment more traditionally found at a 9,000 foot elevation. Courtesy Hypoxico, Inc.

Athletes acclimate to the room by exercising in it for five minutes, followed by five minutes of rest outside the room in five or six cycles per workout session. While the original purpose of the Hypoxic Room was to train athletes—skiers, boxers, swimmers, cyclers, runners, tennis players—to compete in high altitude regions, it is now being used as a more general fitness conditioning tool. High-altitude exercise lowers the heart rate and breathing frequency, and athletes accustomed to performing in high altitudes generally have better endurance than athletes from lower altitudes. By conditioning

the body to function well on the low-oxygen content of mountain air, physical performance in a more regular environment will also be improved.

It's one thing to bring mountain air into the gym at sea level; it's quite another to bring the mountain itself, but that's the objective in the relatively recent industry of synthetic wall climbing. Artificial surfaces have extended the possibilities of sports since the Houston Astrodome was constructed in 1965. Its nine acres of playing field in an air-conditioned interior were spanned by a clear, louvered Lucite roof. A team of botanists from Texas A&M specified a strain of grass for the outfield that could grow with 20 percent reduced light. But for the more heavily trafficked infield, stadium developers looked not to botanists but to the Chemstrand Corporation for a nylon monofilament woven into a polyester backing with a second backing of vinyl chloride for additional cushioning.<sup>5</sup>

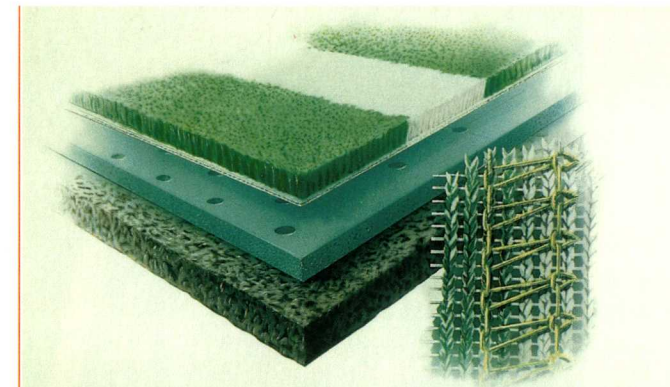
The AstroTurf, as this new surfacing material was known, was so green that the sod outfield was painted to match before the first game. Almost since its first appearance, however, artificial turf has raised complaints from athletes about sports injuries caused by its relatively unresistant surface—research suggests that foot and knee injuries may occur as much as 50 percent more often on artificial turf than on grass. All the same, its low maintenance costs continue to ensure its appeal, and all types of artificial turf have been laid down since the mid-sixties in stadiums and arenas around the country.

As a surface that mediates our contact with the natural world, however, artificial turf was just the beginning. The art and industry of artificial surfaces reached a new dimension with the development of synthetic climbing walls in the mid-seventies. First designed in Europe as an adjunct training device for

outdoor climbers, synthetic climbing soon helped to change the very nature of the sport, affecting both the skill and ethos associated with traditional alpine and rock climbing.

Interior climbing has helped to popularize climbing, and in the process has significantly changed the way the sport is practiced. The concrete polymer used to fabricate most of these walls can be made in panels or to conform to larger, more idiosyncratic shapes. Either way, the material can be easily altered to form any angle of slope, ledge, or overhang, providing climbing routes that require varying degrees of technical skill. Likewise, polyester resin holds can be easily adjusted and moved to mark routes of varying difficulty. Because specific routes can be so easily designed and constructed, indoor climbing lends itself to competitions more so than outdoor climbing; and competitions help to popularize any sport. Add to that the fact that outdoor climbing necessitates a degree of trail erosion and wildlife disturbance, and indoor climbing holds out a moral value as well.

The popularization of the sport has changed it in numerous ways. For safety, indoor routes are usually top-roped from a metal bar overhead, and today top-roping is generally more acceptable outdoors as well. Because it is difficult to reproduce the cracks one finds on rock in synthetic walls, techniques developed to deal with these cracks are not easily learned indoors. Climbing professionals also often refer to a diminished recognition of risk on the part of indoor climbers. Climbers who learn their skills indoors without confronting extreme heights or inclement weather may have an inflated sense of their abilities and fail to recognize the very different risks posed by outdoor climbing. At the same time, indoor climbing has proved a benefit to the sport: the availability of synthetic walls that can be used all year



**AstroTurf 2000 (1996).** The most recent and advanced generation of AstroTurf is the multilayered AstroTurf 2000, constructed of (from the bottom up): a rubber or rubber and stone sub-base; a layer of closed cell foam; and texturized fibers for uniform traction and correct ball roll properties. Courtesy Summit Communications, Arlington Heights, IL

has allowed many rock climbers to train more intensely. And overhangs, unusual in outdoor rock formations, can be easily constructed indoors, allowing climbers to practice and master such gravitational challenges, thereby raising considerably standards of both technical skill and climber physical fitness.

But synthetic climbing walls have not simply changed the sport of climbing. They have created their own new, independent sport that dovetails neatly with the fitness industry. Climbing offers a total body workout that includes endurance, flexibility, and aerobics. Consider Treadwall, a combination fitness machine and climbing wall that represents this intersection of activities. Called "a precision rock climbing simulator," Treadwall is constructed of panels of textured fiberboard that are made to rotate, like a conventional treadmill, by body weight. The angle or slope of the unit can be easily adjusted, while color-coded holds indicate a variety of routes.



**Treadwall (1989).** Both the angle and climbing route—marked by forty-two modular climbing holds—of Treadwall can be easily adjusted to offer a nearly limitless variety of indoor climbs. An automatic counter affixed to the unit measures time, feet climbed, and calories burned. Courtesy Brewer's Ledge Inc.

As its promotional literature attests, users "get all the benefits of mountain climbing without the risk."<sup>6</sup>

While the cost of Treadwall may limit its use to fitness clubs, some inventive climbers have found a different way to hone their skills twenty-four hours a day. By installing polymer climbing holds on load-bearing walls throughout the home, they establish a variety of climbing routes through kitchen, den, and living room. With their range of plastic colors and shapes, these edges, pinches,

pockets, and slopers—as the various holds are called—invariably provide an innovative home design motif, not to mention the literal proof that home is a place that can make you climb the walls.

Aside from being suited to competition and aside from addressing the needs of the fitness industry, indoor climbing also values different skills and attributes than traditional climbing. In the words of one climbing aficionado, "Outdoor climbing is about exposure. It's about the human response of not wanting to die. Indoor climbing is essentially safer."<sup>7</sup> With climbing ropes usually top-roped from above, the landing surface is soft and resilient, the heights less daunting. Not surprisingly, then, indoor climbing places fewer psychological demands on the climber: examining one's inner resources is no small part of the challenge in scaling a 500-foot granite ledge, but those resources are simply less relevant indoors. Instead, indoor climbing is more acrobatic. Because one is in an essentially safer position, one hesitates less to leap or spring for a hold that is beyond immediate grasp. An oversize purple polyester resin hold attached to a polymer concrete wall several feet above the floor conveys greater reliability than a crack in a sheer granite slope. Indoor climbing also puts a high value on physical strength. Because challenging overhangs can be easily constructed, difficult routes can be devised that may place strenuous physical demands on the fitness climber.

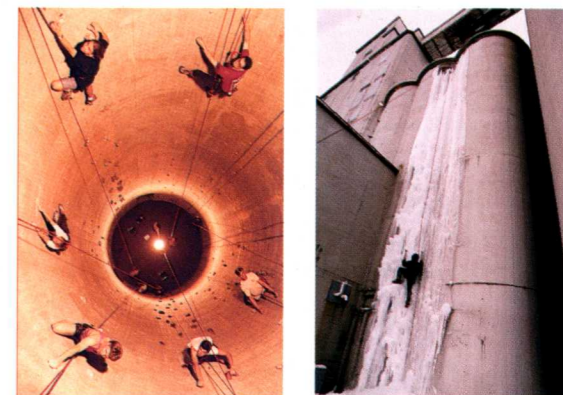
So popular has indoor climbing become that synthetic walls are being constructed in a variety of unlikely landscapes. Surely the most unusual is Upper Limits, the self-described world's tallest climbing gym. Outgrowing their small indoor climbing gym in Peru, Illinois, owners Chris and Pam Schmick purchased a series of thirteen abandoned cement soybean silos outside Bloomington, Illinois.

They cleaned out the residual rotten soybeans, blasted the walls clean, and installed a variety of climbing routes ranging from 30 to 145 feet by placing some three thousand climbing holds into the cement walls. To sculpt overhanging routes constructed around roof areas, spray-on concrete was used. Depending on local weather conditions—a nod to the sentimental notion that natural climate can be a player in rock climbing—ice climbing is sometimes offered in winter months.

That alpine climbing can be practiced in the flat prairies and cornfields of the Midwest says something about the way we have developed the ability to disregard the confines of the natural world. And like those other sports disciplines mentioned here—like modem biking, virtual baseball, and high-altitude exercise chambers—silo climbing suggests that the conditions of the natural world are becoming increasingly irrelevant to the practice of sport; and that if the conditions set forth by nature don't satisfy, are impractical, or are otherwise inconvenient, we can simply devise a synthetic alternative. It is an approach to sports that would suggest that nature is replaceable, a view that is very possibly consistent with a larger cultural attitude.

In his elegant treatise on the passing of nature, "The End of Nature," Bill McKibben writes that

Nature has become a hobby with us. One person enjoys the outdoors, another likes cooking, a third favors breaking into military computers over his phone line. The nature hobby boomed during the 1970s; now it is perhaps in slight decline (the number of people requesting permits to hike and camp in the rugged backcountry of national parks has dropped by half since 1983, even as the number of drive-through visitors has continued to increase.) We have become in rapid



**LEFT: Upper Limits Rock Gym, Bloomington, Illinois.** Five abandoned grain silos have been reinvented as Upper Limits Rock Gym, the world's tallest climbing facility. Courtesy Upper Limits

**RIGHT: Ice Climbing at Upper Limits Rock Gym.** In a quaint nod to the conditions of the natural world, the silos of Upper Limits may be transformed to artificial frozen waterfalls for ice climbing in winter months. Courtesy Upper Limits

order a people whose conscious need for nature is superficial. The seasons don't matter to most of us anymore except as spectacles. In my county and in many places around this part of the nation, the fair that once marked the harvest now takes place in late August, while tourist dollars are still in heavy circulation. Why celebrate the harvest when you harvest every week with a shopping cart?<sup>8</sup>

Insofar as the artifacts of the physical world are documents of our civilization, the sports equipment we use today reaffirms this view that the natural world is disposable. In the landscape of

contemporary sports, nature is, if not superfluous, then negotiable. Nature is no longer an absolute that we must confront, but a single component of modern experience, one of many that can be selected on an as-needed or as-wanted basis. Where sports are concerned, the synthetic realm may offer a more rewarding workout; it may be safer, it may be more entertaining, and it may be more egalitarian. Technology has allowed us to break down the components of different sports. The physical activity, the landscape it takes place in, the condition of the terrain, the climate, the feel of the equipment, the sounds of the sport—all of these have traditionally been the conditions that, when added up, define each particular sport.

Today, they can be experienced separately. And they can be manufactured separately so that we can enjoy some components without others. Golf clubs can be reassembled as shafts of light; towers of ice can be sculpted into vertical speed climbing walls without the extremes of wind and temperature associated with conventional Alpine climbing; we can breathe thin mountain air in urban fitness spas and ride bikes on traffic-free video monitors. All of these increase our options. "And our desires count," writes McKibben. "Nothing is necessarily going to force us to live humbly; we are free to chance the other deviant route and see what happens.... there is no certainty we must simultaneously cut back on our material desires—not if we're willing to live in a world ever more estranged from nature."<sup>9</sup>

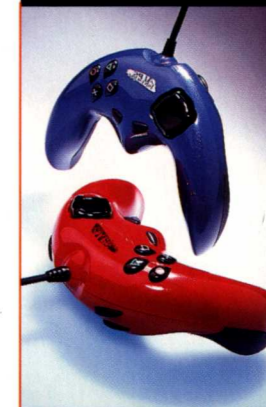
Part of satisfying out material desires is having an ever-expanding range of options. Tucker Viemeister, a creative director for frogdesign in New York City, suggests that the design and technology of sports equipment has not simply allowed new possibilities for the practice of established sports; he also suggests that these allow contemporary

sports to occupy a far broader realm of activity today than they have before. In 1996, Smart Design (for whom Viemeister was then a principal) designed the Alps Interactive Game Pad, a reconfigured controller for video games. With its streamlined form and rubber grips, the controller was marketed as a piece of sports equipment: "As advanced sports medicine shaves nanoseconds off Olympian performance, the embedded ergonomics amplify microfinger movements to actually improve scoring performance," reads its promotional literature.<sup>10</sup> Viemeister suggests that video games indeed qualify as sport. "You can run around with no equipment at all," he says. "Or, sports can be all about the equipment. In my view, the hand/eye coordination and the game aspect of video games qualifies them as sport. Just because you're not using your legs doesn't mean it's not a sport. Video games are as much about sport as football. There, you just have a lot of robots running around. Both of these are all about equipment."<sup>11</sup> That video games qualify as sport may be an extreme view; certainly it is one that reaffirms the estrangement from nature alluded to by McKibben.

That said, the estrangement is not absolute. While the virtual basketball display is one of the most popular exhibits at the Basketball Hall of Fame, curator Mike Brooslin observes that another exhibit consisting of a conveyor belt that delivers real basketballs to visitors so they can shoot real hoops remains by far the best attended. At Chelsea Piers, an effort was made to focus sports and fitness programs on total body activity; while the center does offer an interior climbing wall, there are no virtual sports demonstrations. And at the Reebok Club, sports simulators have been replaced by conventional fitness machines. When the club opened it had installed a MetroSki simulator that pivoted on

seven axes, creating G-forces similar to those that might be felt skiing down a mountain. A video monitor placed in front of the skier re-created the slopes of Vail. For those more inclined to warm weather sports, a virtual windsurfing machine could simulate a variety of wind conditions. Both simulation machines have since been replaced by a host of more conventional exercise machines that were in greater demand by clients.

We are all, to some extent, like those rock climbers at Upper Limits who seem so effortlessly to navigate their routes between the natural and artificial realms. The tableau they create is strictly postmodern—climbers in bright Gore-Tex and fleece outerwear hoisting synthetic gear across immense silos. Integrating the traditional monuments of rural America with the contemporary fitness industry, the imagery concocts its own visual logic; and in doing so, boggles the imagination. Indeed, for all the skilled rappelling and climbing at Upper Limits, one of the most graceful and tenacious maneuvers that occurs there—and elsewhere in the landscape of contemporary sports—may be in how the athletes tread that balance between the natural and synthetic realms. And it is a part of our identity as residents of the late twentieth century not to find this disruptive, but rather to accept it, indeed embrace it, as a condition of modern living.



**Alps Interactive Game Pad (1996).** With its streamlined form, implicit demand for hand/eye coordination, and recognition of the competitive element, the Alps Inter-active Game Pad designed by Smart Design may epitomize the future of sports equipment. Courtesy Smart Design

#### Notes

1. John Strawn, "Voluptuous Earth," *Metropolis*, July/August 1989, 49.
2. Albert Borgman, "The Nature of Reality and the Reality of Nature," *Reinventing Nature* (Washington, DC: Island Press, 1995), 37.
3. Ibid.
4. Stephen Fenichell, *Plastic: The Making of a Synthetic Century* (New York: HarperCollins, 1996), 12.
5. Ibid., 298.
6. Treadwall brochure, Brewer's Ledge, Inc., Boston, MA, 1994.
7. Eric Reff, interview with the author, Island Rock climbing facility, Plainview, NY, January 1979.
8. Bill McKibben, *The End of Nature* (New York: Anchor Books, 1990), 69.
9. Ibid., 193.
10. "Announcing the End of Video Game Toys," press release, Smart Design, New York, NY, 1996.
11. Tucker Viemeister, telephone interview with the author, 30 January 1997.