Pliny the Elder, writing in the first century A.D., describes two Roman theatres: One sat 80,000 people and consisted of three stories of marble, glass, and wood respectively; the other consisted of two theatres back-to-back which could be rotated with the audience seated inside to form an amphitheatre. It is unlikely that either theatre ever existed, but each conjures up visions of grandeur and technical marvel and both could be considered Classical versions of a “theatre of the future.” Futuristic architecture, theatrical or otherwise, excites the imagination and fulfills fantasies. It uses new materials, unusual shapes or forms, promises greater comfort or luxury than currently possible, and uses new or potential technology to eliminate inconvenience and create wondrous new spectacles. Such architecture is futuristic simply because it satisfies the popular image of what the future should be—the stuff of science fiction and fantasy.

There are really two types of futuristic theatrical architecture. One, like Pliny’s theatres, overwhelms the senses with gimmickry and superficial innovation—the facades and accoutrements are dazzling and new, but the basic facilities remain unchanged. This might be called “cosmetic futurism.” The second type of “theatre of the future,” however, calls into question the central aspect of theatre architecture—the performer-spectator relationship. Since earliest times it has been assumed that the performance occurs on a more or less horizontal plane with the audience, and that the performance occurs opposite—that is, in front of—the audience.

The result has been the three basic stages: end, thrust, and arena. From an architectural standpoint it is difficult to imagine an alternative to these three. The true theatres of the future, however, have done just that.

There are many examples of cosmetic futurism in the twentieth century. Most are fairly well known, although virtually none were ever built. Some notable examples are: Frederick Kiesler’s “Universal Theatre,” first designed in 1926, which is actually a less ambitious version of the rotating theatre described by Pliny—it consists of back-to-back theatres that can be joined through the use of movable partitions and

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rotating stage and seating areas.¹ Kiesler’s "Universal" of 1961 was remarkable for its eggplant-shaped exterior shell and the undulating walls of the adjacent thirty-story tower that gave the whole structure a "soft" look.² Norman Bel Geddes’s "prosceniumless" theatre was essentially a thrust set in a dome, but the effect was unique in 1917.³ Bel Geddes’s six projects for the Chicago World’s Fair of 1933, including the Divine Comedy Theatre, also fit this category well.⁴ Joseph Urban’s "Reinhardt Theatre" did, too — especially the pyramid of electrically illuminated fire escapes on the facade.⁵ More projects can be found in Urban’s Theatres, Edith Isaacs’ Architecture for the New Theatre, and The Ideal Theatre: Eight Concepts,⁶ among other studies. The latter contains several proposals for incorporating film, projections, and other media into live theatre, just as visionaries of the 1920s and 1930s sought to capitalize on fledging television. Perhaps the most spectacular of such theatres, and one of the only to be built, was the Earl Carroll Theatre, built in 1931 and fitted with chromium and black velvet, four-color light circuits, a new lighting control console, and a cooling system.⁷

³ Claude Bragdon, "Towards A New Theatre," Architectural Record 52 (September 1922), 171-82.
In each theatre mentioned, and in those proposed in the studies above, the cosme-
tics are unusual, often Constructivist or Cubistic, the size is grandiose and somehow
other-worldly (or else uniquely intimate), the audience arrangements may be asym-
metrical, and the technology, facilities, and amenities tend to the spectacular, but
ultimately the stages and spectator-performer relationship remain unimaginative
variations on the proscenium, end stage, thrust, or arena. This is in part because
their "futurism" tends to be essentially conservative—dressing up the superficial
aspects while keeping the basic elements comfortable, familiar, and unchanged.

Most innovations in the theatre throughout this century, however, have dealt
primarily with the form and content of the drama, and while the scenography of
many avant garde productions has differed radically in style and intent from con-
temporary practice, often incorporating the concepts and techniques of the art
movement with which they were associated, very few visionaries ever questioned
the basic theatre space. This is logical enough considering that theatres are generally
viewed as structures to house dramatic literature, and virtually all drama is con-
ceived for frontal staging. Only a handful of artists over the past eighty
years—among them Pierre Albert-Birot, Oskar Strnad, Andrzej Pronaszko, F. T.
Marinetti, Walter Gropius, Ferenc Molnar, Andreas Weininger, Frederick Kiesler,
Norman Bel Geddes, Bernard Reder, and Jacques Polieri—seem to have conceived
of a theatre of the future based on the architecture of the theatre itself. They pro-
posed theatres, almost none of which were ever built, in the hopes that a drama or
type of performance would evolve to fill their fanciful spaces—a drama based on the
spatial relationship of the performer and spectator. Rather than proceeding from
the demands of a body of literature, the visionaries began with architecture as a basis
for theatre. Ironically, the closest many of these ideas have come to fruition is in the
pavilions of World's Fairs since the 1930s and in amusement parks, both traditional-
ly the home of futuristic fantasy.

The relationship of the spectator to the stage, of course, has been a considera-
tion of theatre architects since at least the Renaissance, but the conscious manipulation
of space since the late nineteenth century has almost always been in terms of variations
on a traditional theme. "Our theatrical habits make it very difficult to imagine what
freedom in staging could mean, and to visualize a new handling of the elements of
production," wrote Appia in The Work of Living Art. "We cannot conceive of a
theatre, it seems, except in terms of the present-day stage—a limited space filled with
cut-out paintings, in the midst of which actors pace up and down, separated from us
by a clear-cut line of demarcation." But even Appia ultimately sought plasticity on
a proscenium stage.

Most of the reactions against the proscenium were not visionary but backward
looking: the "Shakespeare stages" of Immermann and Tieck and their descendants
down through Copeau's architectural stage were, of course, attempts to recapture the
presumed fluid staging of the Elizabethans. A tripartite stage—the forerunner of the

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8 Adolphe Appia, The Work of Living Art, trans. H.D. Albright (Coral Gables, Florida: University of
caliper stage, but actually a variation of the Teatro Olimpico's perspective alleys—was proposed by Charles-Nicolas Cochin as early as 1765, and a version of this theatre was built at Imola by Cosimo Morelli in 1779 (the idea was revived in the twentieth century by Henry van de Velde in 1914 and Auguste Perret in 1925). Edward Gordon Craig, among others, proposed a return to the open air productions of the Greeks in an attempt to recapture the original spirit of the theatre, at least as he envisioned it; the staging, however, remained essentially frontal. Georg Fuchs's attempt to unify the stage and auditorium through shallow, profile staging, actually emphasized the two-dimensionality of the proscenium stage. Other non- or anti-proscenium suggestions throughout the nineteenth and early twentieth centuries were simply answers to problems of staging and production, or the changing habits of the theatre audience.

The first person to consciously and systematically attempt to alter the consciousness of the audience through architecture was, of course, Richard Wagner in his theatre at Bayreuth. But again, rather than seek an alternative to the proscenium, he reemphasized it through his famous double proscenium and "mystic gulf." The amphitheatrical seating, essentially a return to ancient Greek architecture, was also an attempt to control the focus of the audience. The theatre at Bayreuth is often acknowledged as the forerunner of modern theatre architecture, but its significance lies in Wagner's deliberate attempt to control the spectators' perceptions through architecture. In his theatre, the spatial arrangement had as great, or greater, an effect than the content of the script or the style of production. But neither this nor the other previously mentioned theatres would qualify as a "theatre of the future."

The primary "problem" with frontal staging in general, and proscenium staging specifically, is its two dimensionality. Appia and Fuchs attempted to come to terms with this inherent perceptual difficulty within the context of the existing architecture. The truly futuristic theatres, however, tend to deal with this problem in two ways: the annular stage, in which the stage surrounds the spectators, and the spherical theatre, which carries the annular concept to its full three-dimensional potential.

The first annular stage proposal seems to have been by Guillaume Apollinaire in the prolog he added to The Breasts of Tiresias in 1916. Complaining about the "antique stage" of the day, he called for

A circular theatre with two stages
One in the middle the other like a ring
Around the spectators permitting
The full unfolding of our modern art
Often connecting in unseen ways as in life
Sounds gestures colors cries tumults
Music dancing acrobats poetry painting
Choruses actions and multiple sets.9

Later that year came a less well known but more developed annular stage proposal. Pierre Albert-Birot, a writer and the editor of the short-lived Dada journal Sic, called his plan the “Theatre Nunique.” Albert-Birot set forth his philosophy of “nunisme” in which the humanities were to draw from past knowledge as well as from new scientific and technological advances to create a kind of scientific humanism. His proposed theatre consequently drew heavily upon technology. Basically it employed a sort of space stage, and Albert-Birot insisted that “light alone must be the paint of this theatre.” Like Apollinaire, he called for a mixture of acrobatics, buffoonery, pantomime, film, and other popular performance elements in production. In his manifesto, he stated: “The ‘theatre nunique’ must be a grand simultaneous ensemble, containing all the means and emotions capable of communicating an intense and intoxicating life to the spectators.” The physical theatre consisted of a rotating annular stage, “a circus in which the public will occupy the center, while, on a peripheral turning platform, most of the performance will unfold, still connected to the audience by actors scattered throughout the theatre space.” Albert-Birot provides a little more detail. His sketch seems to indicate a proscenium theatre transmuted into an annular one. The proposal had little apparent influence, and only Polish director Szymon Syrkus, himself virtually unknown, acknowledged any influence from the plan.

Somewhat similar was an annular stage proposal by the Austrian designer, Oskar Strnad. In 1915 he began drawing up plans for an annular stage that he presented to Max Reinhardt in 1917. In terms of flexibility and the use of multiple stages, as well as the sense of space it created, the proposed theatre prefigured the much better known Total Theatre of Walter Gropius and Endless Theatre of Frederick Kiesler. Strnad’s plans were published in 1920 and were shown at the 1922 International Theatre Exhibition. Both Reinhardt and Gordon Craig were excited by Strnad’s proposal, but despite efforts by Reinhardt on its behalf, the theatre was never built.

Strnad believed that “the fundamental element of all dramatic play is to make the infinite aspect of space measurable and understandable, and to make the chaotic and frightening aspects of space comprehensible and felt by means of movement.” Reinhardt and Hans Poelzig, he believed, were heading in the right direction with their Grosses Schauspielhaus, but were unsuccessful because their theatre ultimately emphasized the separation of the stage and auditorium. When, for instance, performers would leave the stage and enter the auditorium, Strnad found this “painful.” Strnad’s solution to this problem was to surround the spectators with the stage action—to place them at the center. Furthermore, surrounding them on a merely horizontal plane was insufficient, he wanted the spectators to feel that they were floating or suspended in space.

Strnad called for a wide, rotating annular stage (bühnenwagen) surrounding a steeply raked, fixed-seat auditorium. Between the front of the auditorium and the annular stage was a semicircular forestage (vorbühne) which partly wrapped around

either side of the auditorium like a caliper stage. The forestage was separated from the annular stage by six columns. Broad steps descending from the forestage led beneath the seating areas, but in the central portion of these steps was a small platform (gegenbühne) that functioned as a thrust stage. Around the annular stage, separated from it by a light trough, was a cyclorama. The pillars seemed to disappear into veillike curtains (velum) at the top, while the steps from the forestage disappeared into the "unknowable" (unkontrolliabare) beneath. This was to create a sense of infinite space. "The audience," Strnad hoped, "experiences no concrete space, so to speak, and floats in the unlimited dimensional dynamics of the stage where everything is experience of dimension, a scene for the purpose of the play... Acting may start on all sides: left and right, coming out from behind the notched boards of the public gallery, from underneath the audience's seats, floating by above in the circular passage, or coming out of some openings and disappearing again through others. Acting from all directions... The actors... may fully utilize all the space around them."12

Even here, however, Strnad could not break entirely with traditional theatre architecture. The fixed seating negated any reason for the annular stage. The sense of audience envelopment, if it existed at all, was psychological rather than actual, and the rotating annular stage served best as no more than a means for changing scenery.

Erwin Piscator, likewise, wanted a flexible theatre for his productions - one which was capable of surrounding the spectators and at the same time would allow the fullest use of technology and other media. He commissioned Walter Gropius, founder of the Bauhaus, to design such a theatre in 1927. The "Totaltheater" was the result, but like Strnad's proposal, it was never built. Unlike Strnad's plan, however, Gropius solved the problem of sight lines by placing the stationary annular stage above the level of the slightly raked auditorium.13 The annular stage circumscribed an oval auditorium area containing fixed seating. Twelve narrow pillars, between which projection screens could be stretched, separated the stage and auditorium. A deep proscenium-type stage occupied the conventional position but two of the pillars sectioned it into a tripartite stage "which embraces the forward rows of the audience like a pair of tongs."14 The great flexibility of this theatre, however, derived from two circular platforms occupying nearly the entire front half of the auditorium which allowed the theatre to be used in a proscenium, thrust, or arena fashion. The larger platform - within and to one edge of the larger one - could be lowered to the basement, have its seats removed, and resurface as a thrust or arena stage, depending on its position.

14 Walter Gropius, quoted in Oskar Schlemmer und die Abstrakt Bühne (Munich: Die Neue Sammlung, 1961) p. 54.
Gropius’s goal was to destroy the implicit psychological separation of the performer and spectator, to eliminate the flatness of the stage picture and create a dynamic plasticity. In so doing he hoped to encourage the audience to “shake off its inertia.” The Totaltheater was to be a “mobilization of all spatial means to rouse the spectator from his intellectual apathy, to assault and overwhelm him, coerce him into participation in the play.”15

The idea of fixed, unidirectional seating, however, seemed to be a given factor for all architects of the period. Other members of the Bauhaus produced unusual theatre plans which are well documented in The Theatre of the Bauhaus. Other significant annular stage proposals of the period came from Filippo Marinetti and Blanding Sloan’s Infinidome.16

Perhaps the most ambitious proposal was that of Polish critic Zygmunt Tonecki published in a 1929 essay, “The Theatre of the Future.” As so many other theoreticians of this century, he chastised what he perceived as a stagnated art and called for a revitalization of theatre through innovations in design and architecture. He took his inspiration from Polish poet and playwright, Adam Mickiewicz, who, in an 1843 lecture, claimed that theatre architecture lagged behind dramatic innovations and that Paris’s Cirque Olympique was the only space he had seen adequate for the creation of a new drama. Influenced by Gropius’s Totaltheatre, Tonecki proposed a rotating annular stage subdivided into smaller individual units. He had advocated the necessity of unifying the stage and auditorium into a physically undivided space and felt that the annular stage did just that: performers and spectators in his proposed theatre would be separated only by light.

He approached an artist, Andrzej Pronaszko, and an architect, Szymon Syrkus, to develop a theatre along these lines, and a model was built for the Polish Universal Exposition at Poznan in 1928. These two men were not random choices; both had been working with alternatives to naturalistic settings and the proscenium stage. Pronaszko had been a member of the Formists, a Polish Cubo-Futurist group, and since 1924 he had worked with the director Leon Schiller at the Polski Theatre producing geometrical, multilevel sets. In 1929 Pronaszko and Syrkus designed a set for a production of The Golem in Warsaw—it was apparently not built—which employed an arena stage circled by tiers of seating. Platforms, ramps and steps cut through the arena and jutted into or through the auditorium at three points.

The model they created for Tonecki for the Poznan Exposition was of an 8,000 square meter concrete and glass structure that would stand twelve to fifteen stories tall. The theatre consisted of two concentric annular stages—the inner one wider than the outer—encircling a 3,000-seat amphitheatrelike auditorium. The two ring stages would be able to rotate independently at variable speeds and in opposite directions. Because the audience section was in the form of a raked amphitheatre,

scenes could be revolved out of sight behind the spectators. On the two stages, which would be operated by some sort of electro-hydraulic system, were to be circular platforms that could rotate independently as well as rise above or sink below stage level.

For Syrkus, movement was the unifying factor of this form of "total theatre." Like the Futurists, he was fascinated by motion. In the proposed theatre, with both rings and all the circular platforms rotating and rising, the result would have been somewhat like a Busby Berkeley spectacular.

In an essay entitled "In Support of a Simultaneous Theatre," Helena and Szymon Sykrus wrote:

Let us imagine. . . both rings are revolving around the auditorium at different speeds and in opposite directions, and that the smaller revolving stages and trap doors are also set in motion — then motion appears as a completely autonomous element in the presentation, a rich and multifaceted element: The orbital movement of the rings at different speeds and in different directions, the rotary motion of the revolving stages, the vertical motion of the trapdoors. The movement of the stage becomes a homolog to the movement of life — but a homolog composed not in the manner of life, but in the manner of the theatre.

They go on to state that this stage will free the playwright to "have his say in full . . . the drama will be renewed. It depends only on the director and the author whether on this stage he will be a creator or a drowning man."17

For Pronaszko, simultaneity — which he felt was equivalent to plasticity — was the chief feature of this theatre. In 1933 Pronaszko built a model for a variant of the annular theatre — a "mobile theatre" (Teatr Ruchomo). It, too, had an annular stage, but the 300-seat circular audience section rotated while the stage remained fixed.

At a series of conferences on the contemporary theatre at Warsaw, Tonecki expanded on his ideas of plasticity and unified space. He referred to his project in a 1936 talk as the "Theatre of Space."

Modern theatre architecture introduced two ideas to the theatre: acting in space and the Activation of the public (in the auditorium). Just as Cubism broke down and expanded the conception of space in Renaissance painting (perspective), so the architectonic theatre of today, that is to say, the Theatre of Space, wants to destroy and abolish the two-dimensional stage. The painting of the Renaissance contemplated reality through a picture frame, just as the conventional theatre wants to contemplate reality through a stage opening. The Theatre of Space seeks to erase this artificial form; it transports the stage into the auditorium and by this means renders the theatre active.18

A variation on this idea was created by French director Edouard Autant who had seen the model of Tonecki's Theatre of Space and was also familiar with Tonecki's writings. Based on this, he drew up plans in 1937 for his own Theatre of Space.19 It

19 See Corvin.
was partly built for the World's Fair at Paris that year, but administrative misunderstandings and red tape caused it to remain incomplete, although specially devised productions were mounted there. It was torn down at the end of the Fair. The plans for the theatre combined elements of scattered staging, annular staging, and open air theatre. The building was a large rectangle about fifty meters in length ("a sort of stadium"). In the center of this space was a smaller rectangle containing various interspersed stage and seating areas that could be rearranged for each presentation. Surrounding the central rectangle on three sides was a "panoramic stage"—a platform for mass scenes, choruses, and dance. Flats, screens, or other scenic elements could be placed about this space, and along the floor were outlets for projectors, fixtures for scenery and access for performers. Mirrors were arranged so that spectators could view scenes otherwise out of their sightlines.

Autant wanted not only a unification of the stage and auditorium but an interplay with the natural environment as well. Thus, suspended above the central area was a mobile platform that could open like a skylight to effect a transformation of the space into an open air theatre. Furthermore, a "transparent atmospheric belt"—a wall of high windows set above the panoramic stage—admitted natural light and a view of surrounding foliage. Autant felt that this would cause the theatre to "dissolve" into the surrounding environment. For those spectators who did not wish to be "bathed in the production," as Autant said, there was to be a giant closed-circuit television screen placed outside, above the entrance to the theatre. Spectators could sit on the mall and watch in peace.

Autant believed that the dispersement of performers throughout the audience—the transformation of the theatre into a unified stage—would inevitably affect acting styles. The acting, he felt, would become truer and simpler. The actor, because he would no longer be directly facing the audience at all times, would learn to act with his whole body. Syrkus had expressed this same idea as early as 1934.

The champion of the rotating annular stage in the post-World War II era was French theoretician-designer Jacques Polieri. Combining the mobile ring stage with the rotating auditorium, Polieri constructed the Théâtre Mobile for Le Festival de l'Art Avant-Garde at Paris in 1960. It was a circular theatre, thirty meters in diameter, consisting of a fixed outer ring, a rotating inner stage, and a rotating central platform, fourteen meters in diameter, which provided a raked seating area for three- to four-hundred spectators. The spectator platform was situated off center in relation to the outer ring so that the inner edge of the ring was five meters from one side of the central platform and ten meters from the other.

Because there were two mobile elements in the Polieri theatre, several combinations of movement were possible. The stage or the seats on the central platform could each rotate alone; the central platform could move in conjunction with the inner stage as a single unit; or the two units could rotate simultaneously but in opposite directions. Because of the off-center position of the central platform, different stage depths were possible through its rotation. When moving in a particular configuration, the spectator experienced a sense of telescopic movement—moving
closer to an object and then receding, creating an effect something like the “whip” ride at an amusement park. The spectator’s angle of vision could range from 140° to 300° around the stage plane depending on his position. Polieri believed that this movement of spectators, albeit passive, made them a physical part of the production— their perceptions of space and action were dependent, at least in part, on the imposed positions and movements. Movement, Polieri felt, was the means of bringing dynamism into spectacle. “One of the essential principles of the Kaleidoscopic theatre is movement. All elements of the spectacle are mobile.” Polieri did not, however, believe in the active participation of spectators. “The theatre of tomorrow,” he wrote in 1955, “will be a theatre of introspection and abstraction, utilizing in all ways the whole range of spectacle; an orchestration of sound, light, shapes, colors and life.”20 By creating a theatre in which all elements were subservient to decor, the perception of scenic components became the primary goal.

Polieri’s Théâtre Mobile concept was incorporated by other designers in two theatre projects—only one of which was actually built. The proposed theatre was designed by Zibigniew Bac, Wiktor Jackiewiz, and others as the studio of the Sebisches National Theatre at Novy Sad, Yugoslavia (1961). It consisted of a gently raked, rotating, circular audience section positioned in the middle of a broad flat stage that filled the room. The other, at the Maison de la Culture at Grenoble, France, was designed by Andre Wogenscky and completed in 1968. It contains two theatres, a large traditional auditorium and a 525-seat studio with a rotating, gradually sloped seating area encircled by a revolving annular stage. A semielliptical platform at one side of the ring forms the main stage. As in Gropius’s Totaltheater, on which it is based, projection screens surround the annular stage so that the audience can be, in Wogenscky’s words, “enveloped by the spectacle.”

The spherical theatre is a uniquely twentieth-century concept, although the sphere has long held a symbolic and esthetic significance for artists and mathematicians alike. For the architect, however, the sphere is an expression of newness since virtually all architecture has been angular and cubic. In the years following the Russian Revolution, for example, many Soviet architects proposed buildings incorporating circles, hemispheres, and spheres. A spherical theatre presents two possibilities for production: performance suspended in the center with audience on the inner surface of the sphere, or spectators in the center with the performance surrounding.

The earliest proposal was not actually for a spherical theatre but rather, for a theatre in a sphere. And it was not an avant garde project but a Coney Island fantasy. The Globe Tower was one of the most colossal futuristic projects ever proposed.21 Conceived by Samuel Friede to be built at Coney Island’s Steeplechase, it was envisioned as a sphere atop a gridwork tower totalling more than 700 feet. Inside the 50,000 capacity structure would be restaurants, gardens, a roller rink, a vaudeville theatre, a bowling alley, the world’s largest Hippodrome (four rings), circuses, a revolving restaurant, concession stands, a hotel, and so forth. The project

turned out to be an investment fraud, but many of the elements were later unwittingly incorporated into Kiesler's Endless Theatre.

The Endless Theatre was originally conceived in 1923 to house the Vienna Theatre and Music Festival the following year. Designed as an ellipsoidal structure within a continuous shell of steel and opaque glass (actually, a double shell that would contain heating and cooling systems) and with a capacity of 10,000, it was meant not only for theatre and display, but was to include hotels, parking lots, and gardens.22 As Kiesler described it, the interior consisted of

an interplay of ramp, platform and elevator—an endless showplace throughout the whole space. . . . a continuous interwining of vast ramps which lead into others on several levels until spectators and actors practically reach the ceiling. The various levels connect through three elevators which are exposed; the elevators are nothing but platforms that take off from one level to another. The players and the audience can intertwine anywhere in space. There, I feel, is a first attempt at an architectural expression of spatial integration. It fully used the construction principles of continuous tension—there was not a single column in the whole structure.23

New York's Guggenheim Museum, designed by Frank Lloyd Wright, with its spiral ramps, captures some of the spirit of Kiesler's design on a much less ambitious scale.

The core of the Endless Theatre was an arena stage (Kiesler's "space stage") with two proscenium or platform stages at either side bisecting the lower seating area and connected to each other by a bridge. There was spectator seating in circular rows, including three rows of stadiumlike benches along the perimeter, and standing room on the ramps. These ramps and platforms could be rearranged to allow endless variations in design. The engineering techniques were to be borrowed from bridge building. This project was the first and, to this day, most complete concept for the total use of space by both spectator and performer. Every inch of space was potentially usable in some aspect of production—the inner surface of the structure, for instance, was to serve as a vast projection screen—and the entire space was capable of virtually continuous change. "The drama," as Kiesler said, "can expand and develop in space." In such a structure the spectator is truly surrounded. No longer is there merely a feeling of being suspended in space, as Strnad envisioned, but the spectator actually is suspended, completely enclosed within an environment.

Next to the "Endless," the best known spherical theatre is the Kugeltheater by Bauhaus member Andreas Weininger.24 Less well known, but equally spectacular are the spherical theatres of Bernard Reder and Jacques Polieri.

Sculptor Bernard Reder proposed his theatre in 1961. He felt that the sphere was the most satisfactory sculptural form "because it is a perfectly unified and uniform

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22 K. Lönberg-Holm, in “New Theatre Architecture In Europe,” Architectural Record 67 (1930), 490-6, claimed that the Endless Theatre would hold 100,000 persons.


24 See The Theatre of the Bauhaus.
volume with no front or back, no top or bottom, no frontality."25 His proposed theatre contained a transparent arena stage with transparent sets suspended in the center of the sphere. The spectators were seated in a single row of seats mounted on a spiral track along the interior of the structure. A stationary ramp behind this track provided access to the seats. During the performance, the seats slowly ascended the track, spiraling to the apex of the sphere and then slowly descended on an opposite track, much like the conveyor system in many world's fair pavilions. Thus, during a performance, the spectators viewed the stage from every possible vantage point and angle including from above and below.

Jacques Polieri has noted his indebtedness to Walt Disney as well as to Gordon Craig and Oscar Schlemmer. He makes no mention of Kiesler, however, whose Endless Theatre and notions of continuous movement were clearly a prototype of Polieri's Theatre of Total Movement. Like Kiesler, Polieri envisioned a multimedia, "total" theatre that assaulted all the senses, with movement as the essential principle.

In 1955 he described the basic impulse behind what he termed the "kaleidoscopic" theatre. "The spectator of the future," he said, is "in a frame of plexiglass. . . . Surrounded by sound, by light, by colors, by forms, by shadows. . . . The rails of the 'performance train' converge, cross, then run parallel for awhile, then separate one from the other in perpetually renewing fireworks and a perpetual festival."26

Polieri first proposed the Theatre of Total Movement in 1957 as a realization of those ideas. A second similar version was proposed in 1962, but neither was built. The building resembled a crystal ball in shape—a circular structure on a concave pedestal. It was to consist of a double shell—the space between the two shells was for storage, properties, sets, and so forth, and a control booth was located in the upper portion of the shell. The audience of about 1000 was suspended in the center of the sphere on rotating platforms. In the first version, the spectators were placed on several platforms, shaped somewhat like paddles and hockey sticks, suspended, mobile-fashion, from a rotating core that contained escalators for access. In the second version the spectators were to be seated in revolving chairs on irregularly shaped platforms placed on "telescopic pipes" so that they could be raised to varying heights. The whole interior of the sphere was a performance space of irregularly shaped projection screens and "telescopic stages." Thus, the "spectators [are] in movement at the inside of the sphere and a moving spectacle [is] on the internal faces of the volume."27

A simplified version of the Total Movement Theatre was built by the Mitsui group for the 1970 World's Fair at Osaka, Japan. It consisted of a large, mobile, circular platform on which were three telescopic platforms for the public. Access to these areas was by three entrances placed at different levels. A small screen faced each platform so that, at the start of the spectacle, there was the sense of three individual performance areas. The production began with films and projections on each screen but soon expanded so as to surround the spectators on all sides. The audience platforms commenced to move in conjunction with sounds and the rhythms of the projections.

In an ideal world, perhaps a spherical theatre could be built that would eventually generate a type of performance suited to the space. But the economic factors that prevent it are obvious—it is difficult enough to build conventional theatres—and there is no artistic need. What sort of production would benefit from a spherical theatre? A new form of theatre seems mandated. The following three projects describe not only a physical space but a theatrical experience that seems to draw primarily from Happenings—a "total theatre" of involvement and sensation. One is an amusement park funhouse, one an artist's fantasy, and the third a world's fair pavilion.

The "Fifth Dimension" is a funhouse in Ayrshire, Scotland. As described by Kenneth Lindley the structure

is built up from a number of interchangeable spherical and tubular units in plastic. The exterior is less interesting than the interior, but once inside the visitor is subjected to a series of changes designed to stimulate all the senses except smell. The lighting changes constantly both in color and intensity, and as the explorer in this dream chamber feels his way from point to point, the surfaces he touches and on which he stands vary in texture from smooth to abrasive, warm to cold. Even the floor changes suddenly from concrete to sponge. Assailed by electronically produced sounds, the visitor is thus completely contained in an environment totally designed for its purpose.28

Quite similar to this funhouse was a 1967 proposal by German artist Otto Piene for "The Theatre That Moves." Indeed, one version of his theatre, the Theatre of Soft Sensation, was intended to travel with fun fairs. Piene rejected the "vulgarity" of Lincoln Center-style theatre architecture and what he considered the sterility of contemporary performance. His ideas borrowed from Artaud, Meyerhold, Marinetti and others.

Imagine: in these theatres, the stage can be moved and the audience can move. There are no stationary seats. The buildings are essentially empty spaces which can be divided and arranged according to the needs of a production. . . . Any sensual phenomena can be amplified. Loudspeakers and projectors are spread all over the space. Rain and wind and heat and cold can be produced inside the theatre. There will be smells, steam and smoke. Light can blind, darkness soothe; the ground can tremble. The floor can be soft as well as hard. People can lie, sit, stand, walk as they please or as the play requires. Parts of the room or the whole room can move, change shape, ascend or descend so that either the action or the audience or both can change positions quickly or smoothly. (The floor can be hydraulically elevated, and the floor, the walls, and the ceiling can be inflatable.) The air pressure can be lowered or raised. The walls can echo or be sound-absorbent. Everything is flexible, adaptable, erectile, collapsible, portable. . . . Let whole flocks of animals walk in. . . . Let everything from bicycles to tanks drive in. Let flames go up. . . . Can you open the roofs to let balloons, helicopters, planes in and out? Can you open the walls to let the street in?29

Another project at the Osaka fair was the Pepsi Cola Pavilion designed and built by some seventy-five artists and engineers working under an umbrella organization called Experiments In Art and Technology. According to the executive coordinator, Billy Klüver, the structure "represented a new form of theatre space, which completely surrounded the audience and where every part of the space had the same theatrical intensity for the individual. . . . It was a tangible space; the effect was not psychological. . . . Instead, the visitor became part of the total experience."30

The pavilion itself was a white, "false" geodesic dome, 120 feet in diameter—a sort of igloo composed of triangular peaks—which was shrouded in a manmade fog. Visitors entered the dome through a tunnel. They were given "handsets" that received audio signals transmitted from beneath the multitypered floor (different floor sections were covered with stone, wood, rubber, carpet, artificial turf, and so on). Sounds heard through the handsets were coordinated with the textures—lawnmowers and birds on the grass, city sounds on the asphalt. From the

tunnel, guests entered the Clam Room—named for its shape—a dark, cavelike room, with flickering lights and shadows in the center. Exiting from the room, visitors walked through a "scintillating shower" of reflected, multicolored laser light. Stairs led up to the Dome Room, whose primary feature was a ninety-foot diameter hemispherical mirror dome designed by artist Robert Whitman. The mirror, because of its shape, produced "real images"—seemingly three-dimensional upside down images as opposed to the conventional "virtual images"—in the space in front of the mirror. A constantly changing environment of light and sound was created by the computer controlled light system, thirty-seven speakers, and the unique optical and acoustical properties of the dome.

There are other projects that might be included in this survey, but they all have one thing in common with those already mentioned: they are projects never built—a somewhat paradoxical situation in a century so strongly dominated by the avant garde in drama. The fact remains that while the many "isms" challenged fundamental thinking about the rules, form, and content, of the drama, they rarely, if ever, considered theatrical space. Artaud and Marinetti called for new spatial relationships in the theatre, but these are relatively minor points in their overall theory. Meyerhold and Piscator came closer than most to seeing their visions of a new theatre become reality, but ultimately the plans for their respective theatres are strongly rooted in traditional staging. While the Futurists and Dadaists frequently sought to destroy the proscenium barrier, they did so more to challenge and discomfort their audience than out of a theoretical approach to spatial relationships. No twentieth-century drama requires, nor indeed would benefit from, a radically new theatre space. Meanwhile, amusement parks and world's fairs turn out fantasy structures that serve as little more than divertissements. We have avant garde drama with no theatres and avant garde theatres with no drama.

Most theatre historians agree that drama has been influenced by theatre architecture—Aeschylus, Shakespeare, Molière all wrote for the possibilities and demands of their theatre spaces. Our drama today tends to be written for proscenium or thrust theatres, or the occasional environmental space. The creators of the theatres-of-the-future have, until now, created their own type of performance to fit the space. What would happen if these theatres were simply built? Might they stimulate the imaginations of future playwrights and thus foster a new style of theatre? Or are they best as fantasies?