STEELE MACKAYE: INVENTOR-INNOVATOR

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The problem of this thesis is to discover the extent to which Steele MacKaye has contributed to modern American theatre through his inventions and technical innovations. Sources include theatre histories, periodical articles, theses, and Percy MacKaye's biography of his father. Data concerning specific inventions are taken from patent specifications from the U. S. Patent Office. The first chapter presents a general overview of the physical environment of nineteenth century American theatre. Chapter Two summarizes MacKaye's contributions in three general areas of theatre--MacKaye, the teacher, the actor-playwright, and the director-manager. Enumeration and description of MacKaye's innovations and patent devices are provided in Chapter Three. The fourth chapter illustrates how MacKaye made use of his inventions and innovations in the Madison Square Theatre, the Lyceum Theatre, and the Spectatorium and Scenitorium. Chapter Five considers the implications of MacKaye's work in terms of the development of modern American theatre.
Steele MacKaye is remembered today for the introduction of the Delsarte system to America and sometimes for the double stage he installed in the Madison Square Theatre, but too few people today realize the significance of his later inventions, innovations, and concepts of theatrical production. As a director, MacKaye firmly established on the American stage the function of the director-regisseur as later advocated by Craig and Reinhardt. David Belasco and Daniel Frohman, both of whom worked under MacKaye at the Madison Square and Lyceum Theatres, were influenced by his conception of the director as the creative center, maintaining total control over every facet of production.

MacKaye anticipated numerous theatrical effects of the twentieth century. For example, he introduced a dream sequence in Paul Kauvar and made the mob a leading character in the play. His set construction seen in Money Mad anticipated the new stagecraft of Reinhardt by twenty-two years. He was the first to install a totally electric lighting system in an American theatre and the first to use electricity for the movement of stage scenery and equipment. His fire safety standards later became required by law. Production techniques planned for the Spectatorium predated by a generation methods later adopted by the motion picture industry.

Without doubt, MacKaye's introduction of the Delsarte system to America was important. Of greater significance,
however, is the fact that Steele MacKaye was the first American to articulate certain concepts of the new stagecraft for American theatre.
STEELE MACKAYE: INVENTOR-INNOVATOR

THESIS

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements For the Degree of

MASTER OF SCIENCE

By

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Denton, Texas
December, 1970
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CHAPTER I

INTRODUCTION

The Problem

During the last quarter of the nineteenth century, American theatre evolved from a theatre dominated by European tradition and influence into an entity that could be identified as truly American. Actors, born and trained in the United States, were performing plays about America written by American-born playwrights. The theatres were being manned by American-born directors, producers, and technicians. We are familiar, of course, with names like Edwin Booth, possibly the best known actor of his day, and David Belasco, the dean of American theatre, and their contributions to the development of theatre in this country.

Among the leaders who contributed to the independence of American theatre is James Steele MacKaye. MacKaye's career started in the early 1870's as a teacher and lecturer on the Delsarte system of vocal expression which he introduced to America. His impact on modern American theatre goes well beyond that of the introduction of Delsarte, however. From the
1870's until his death in 1894, MacKaye contributed to our theatre as an actor, a playwright, a director, a producer, a manager, and as an inventor-innovator.

Research has been done on MacKaye's general contributions to the American theatre, although apparently only two works have been written on his contributions in particular areas of theatre. Wade Curry, at the University of Illinois in 1958, studied MacKaye as a producer-director;¹ and Harold Marienthol, in 1966 at the University of Southern California, studied the Lyceum Theatre under the management of Steele MacKaye.² Both these writers question the validity of the only complete biography of MacKaye because of its supposed lack of objectivity. Epoch: the Life of Steele MacKaye was published by his son, Percy, in 1927.³ Apparently no definitive study has been made of MacKaye as an inventor-innovator.


During his relatively short career in the theatre, MacKaye was one of the first to promote realism in the stage productions of his day and to take an interest in the comfort and safety of his audience. He is credited with the invention of numerous stage and theatre devices such as the elevator stage, the elevator orchestra pit, the folding theatre seat, a mechanical ventilation system, and numerous special effect systems. He was perhaps the first to make extensive use of techniques and devices probably invented by others such as electrical stage and theatre lighting and fire prevention equipment. Although his importance in the history of American theatre is recognized, the extent to which his inventive and innovative pursuits benefited modern American theatre has yet to be clearly defined.

To discover the extent to which Steele MacKaye has contributed to modern American theatre through his inventions and technical innovations, it is necessary to examine a large number of sources, including theatre histories, periodical articles, theses, and Percy MacKaye's biography, which is a chronological compilation of his father's achievements and ideas. No single body of information exists which deals specifically with MacKaye's inventions. The problem of this thesis will be to compile such a compendium. The purpose of this study will be to enumerate and describe the theatrical inventions and innovations of Steele
MacKaye and to determine the implications of MacKaye's work as inventor-innovator in terms of modern American theatre.

Method of Organization

Because Steele MacKaye had an extremely diversified career in American theatre, it becomes the duty of this thesis first to establish MacKaye's place in the over-all picture of the theatrical world of his time, and then to expand on his inventive and innovative contributions to that theatre. Therefore, the remainder of the first chapter will present a general overview of the physical environment of the nineteenth century American theatre, followed in Chapter Two by a summary of MacKaye's work in three general areas—MacKaye, the teacher, the actor-playwright, and the manager-producer. The third chapter will present Steele MacKaye, the inventor-innovator. This chapter will include enumeration and detailed descriptions of many of MacKaye's theatrical devices and innovations. Chapter Four will show how MacKaye used his inventions in three of his own theatrical ventures. An account of his work in the Madison Square Theatre, the Lyceum Theatre, the Spectatorium and the Scenitorium will be included. The fifth and final chapter will consider the implications of MacKaye's inventions and innovations on the development of modern American theatre.
A review of the history of the American theatre of the nineteenth century, to be complete, must include an extensive amount of material covering playhouses, plays, actors, directors, producers, managers, and every phase of theatre. For the purposes of this paper, however, emphasis will be focused on a brief history of the physical concept of theatre: the physical plant, the means of production, the house, the physical environment. The actors, playwrights, managers, directors, and other specific theatre personnel will be covered only when mention of them is essential to the development of the physical theatre.

For the United States, the nineteenth century was a period of great movement and expansion on many fronts. Macgowan and Melnitz write that "the nineteenth century saw more changes wrought in more areas of human activity than any other comparable period in the history of civilization." A review of the development of the nineteenth-century American theatre reveals that the story of the theatre of this period closely follows the development of the country itself as it moved

"westward" both literally and figuratively. From 1800 to 1825, America had few theatres, with only one theatre, as a rule, in any of the theatrical centers in the eastern cities, which, at that time, were still quite small. New York City, for example, had a population of only 100,000 in 1815. The Park Theatre, at that time, was open only four nights a week, with daily changes of bill.5

During the early part of the nineteenth century, Philadelphia was the theatrical center of the United States, but from the 1830's on, New York surpassed it in importance and quickly became the center of theatrical activity. According to Vera Roberts, "More than forty theatres were built in New York during the century, their construction following the movement of the population from the City Hall area to Fourteenth Street, to Herald Square, and thence to the present theatrical center between Forty-second and Fifty-ninth Streets."6

As the theatre began to move westward with the population, actors performed in hotel dining rooms and social halls; specially-built playhouses were to follow soon. Cincinnati got its first playhouse in 1820; Mobile had one in 1824; and

5Ibid., p. 370.

the St. Charles Theatre in New Orleans, in 1835, became the first theatre west of the Alleghenies to be lit by gas.\textsuperscript{7} Roberts writes that the frontier theatres were rough affairs and quite hazardous for the few ladies who might attend. "The showfolk were a hardy race, much put upon their mettle not only for mere survival but also to engage the attention of the rough audiences."\textsuperscript{8}

During the second quarter of the century, businessmen and theatre folk built many new theatres and rebuilt the old ones as fast as they burned down. It was during this part of the century that gas lighting was initiated, doubling the number of theatre fires. The first record of gas lighting was at the Chestnut Street Theatre in Philadelphia, in 1816, but this new form of illumination did not come into extensive use until the middle 1820's.\textsuperscript{9} Between 1824 and the Civil War, New York opened ten new theatres, nearly all of them with the new gas lighting.\textsuperscript{10}

In the mid-twentieth century, American playgoers have become accustomed to the most luxurious and comfortable theatres in the world, with perfect seating arrangements, well-disciplined attendants, and well-mannered audiences. It is almost impossible

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\item[7]Macgowan and Melnitz, p. 370. \hfill \textsuperscript{8}Roberts, p. 382.
\item[9]Macgowan and Melnitz, p. 371 \hfill \textsuperscript{10}Ibid., p. 371.
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for the modern theatre-goer to visualize the typical theatre and audience of the earlier part of the previous century.

Arthur Hornblow, quoting Richard Grant White, describes the Park Theatre in New York of 1845:

Its boxes were like pens for beasts. Across them were stretched benches consisting of a mere board covered with faded red moreen, a narrower board, shoulder high, being stretched behind to serve for a back. But one seat on each of the three or four benches was without even this luxury in order that the seat itself might be raised upon its hinges for people to pass in. These sybaritic inclosures were kept under lock and key by a fee-expecting creature who was always half drunk, except when he was wholly drunk. The pit, which has in our modern theatre become the parterre (or, as it is often strangely called, the parquet) the most desirable part of the house, was in the Park Theatre hardly superior to that in which the Jacquerie of old stood upon the bare ground (par terre) and thus gave the place its French name. The floor was dirty and broken into holes; the seats were bare, backless benches. Women were never seen in the pit, and, although the excellence of the position (the best in the house) and the cheapness of admission (half a dollar) took gentlemen there, few went there who could afford to study comfort and luxury in their amusements. The place was pervaded with evil smells; and not uncommonly, in the midst of a performance, rats ran out of the holes in the floor and across into the orchestra. This delectable place was approached by a long underground passage with bare whitewashed walls, dimly lighted except at a sort of booth, at which vile fluids and viler solids were sold. As to the house itself, it was the dingy abode of dreariness.¹¹

In spite of this dismal description, the Park, when first built in 1798, was probably New York's first fine theatre. In

this early theatre, the pillars to support the boxes had been omitted and "contemporary comment remarked on the unobstructed vision thus possible from every part of the two-thousand-seat house." In this Park Theatre, there were three rows of boxes with a gallery rising from the top of the last row to the back of the house. In 1808, J. J. Holland installed four rows of boxes, using columns to support them. This theatre was destroyed by fire in 1820 and rebuilt the next year with a seating capacity of twenty-five hundred. In the new Park, a pit extended under the first row of boxes and three tiers of boxes of fourteen each were supported by columns, with a gallery above the boxes. This is probably the theatre that was described by Hornblow.

Augustin Daly opened his Fifth Avenue Theatre in 1869 with no boxes at all except those in the proscenium arch, two stepped-up galleries, and seats with backs in every part of the house. Booth's Theatre, opened the same year, used the same construction. This type of construction eliminating the side boxes seems to be an American development, although the horseshoe

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12 Roberts, p. 393.  
13 Ibid., p. 394.  
15 Roberts, p. 386.  
16 Hughes, p. 203.
shape, apparently inherited from English theatres, persisted. Many American theatres of today have similar interiors.

Most American stages in the nineteenth century used the wing-and-shutter system which had been developed by Inigo Jones in the court masques of James I.\textsuperscript{17} This system of staging was a very practical and economical arrangement for theatres offering a constantly changing bill. The stock sets, usually consisting of a palace scene, a garden scene, a cottage, a cave, woods—as much or as little as the particular theatre could afford—were standard throughout most of the nineteenth century. "It was a system capable of infinite refinement, particularly adaptable to theatres where set changes were done in full view of the audience."\textsuperscript{18} Drops to conceal scene changes were not common in the theatre until the 1870's and 1880's.

During the nineteenth century, the continual elaboration of the wing system was accompanied by increasingly complex stage effects. Much use was made of stage traps. The Star Trap, the Cauldron Trap, and the Bristle Trap, and many other "trickworks" on the nineteenth century English stage quickly spread to America and became increasingly popular. "Various ascents, descents, and flyings were also continued and developed

\textsuperscript{17}Roberts, p. 395. \textsuperscript{18}Ibid., p. 395.
in this period, with overhead machinery to operate them, even to the extent of performers seeming to fly out over the heads of the audience and back again."\textsuperscript{19} It was during this period also that the counter-weight system for handling scenery was developed and used both below and above the stage.

Garrett Leverton gives a detailed description of the construction and functions of the wing system in use in the American theatre during the nineteenth century.\textsuperscript{20} Behind the teaser and tormentor, which are virtually a part of the prosce- nium, were rows of wings and borders. The wings were flat pieces on either side of the stage and spaced behind the tor- mentors. They could be painted to represent woods or garden for outdoor scenes or to represent the walls of a house for interior scenes. They formed the edges of the set and masked off the backstage area from the audience. The borders served the same function for the upper portions of the stage. Entrances could be made between any pair of the wings, a convention which probably would not be accepted by a modern audience but which seemed commonplace to the audience of the nineteenth century. Behind the last pair of wings and extending across the width

\textsuperscript{19}Ibid., p. 397.

\textsuperscript{20}Garrett H. Leverton, \textit{The Production of Later Nineteenth Century American Drama} (New York, 1936), pp. 10ff.
of the set was the drop. This drop could also be painted appropriately for the scene being presented and, with the counter-weight system, could be raised or lowered when needed. On this drop, in an interior scene, would be painted the doors or windows of a room; later the doors were cut out of this drop with another drop used behind the opening to represent the exterior. The floor of the stage was raked upward as it went away from the audience. It was not until near the end of the century that the flat stage replaced the raked one, with the rake effect being used on the floor of the house instead.  

The floors of the stages of the larger theatres during the latter part of the nineteenth century consisted of a complicated series of traps and bridges. Even the very small theatres across the country had at least one trap. A trap was a portion of the stage floor that could be removed to permit the actor to make a descending exit or to permit scenery and properties to be handed up from the storage area beneath the stage. The bridge, which worked in conjunction with the trap, was actually a kind of elevator which was used to lift heavy pieces of scenery to the level of the stage floor. The box set, so common in modern theatre, was not known until near the end of

\[21\text{Ibid.}, \ p. \ 11.\]  
\[22\text{Ibid.}, \ p. \ 11.\]
the century and was not in common use until well into the twentieth century.

Two major advancements in theatre lighting were also developed and perfected during the nineteenth century. Both developments caused considerable controversy when they were first introduced. In 1816, the Chestnut Street Theatre in Philadelphia was the first house to install gas lighting. Many theatre-goers of the period, accustomed to the dim lighting of oil lamps, complained that the gas lighting was too bright; others saw it as a great advantage. Many theatres installed and later removed the innovation. By the middle of the century, however, most theatres had gas lighting systems. The gas lights were installed vertically along the sides of the proscenium arch and across the top on battens. Colored cloth was used to produce red, green, or white lighting effects. The controls for the stage lights and the house lights were separate, and, for the first time, the house could be dimmed during the actual performance. Electrical lighting went through the same period of controversy, with systems being installed, removed, and re-installed. Limelight and arc light preceded the use of the electric bulb invented by Edison in 1879. One major

\[23\] Roberts, p. 398.
advantage of electricity, of course, was a decrease in the number of theatre fires which had plagued the era of the gas light. Roberts reports that during the sixty years that the gas light was in use, there were three hundred eighty-five disastrous fires in theatres in England, France, and America.\footnote{Ibid., p. 400.}

By the end of the nineteenth century, the larger cities, particularly those in the East, had huge theatres elaborately equipped with a variety of mechanical devices, trapped stages, and more comfortable houses. Near the end of this period, the box set was being used; electric lighting had been installed; and the tendency was toward more realistic productions. It was, without doubt, a period of scenic development and innovation.

The America that invented the telephone, the incandescent bulb, and the sewing machine in the '70's and '80's could not be kept from inventing stage machinery. Not just theatrical railroad engines and sawmills that threatened to destroy the most precious of the dramatis personae, but also devices for changing scenery quickly, creating new lighting effects and making theatre-going pleasanter.\footnote{Macgowan and Melnitz, p. 394.}

In this age of industrialization and mechanization, the time was right for the appearance on the theatrical scene of a man with the inventive genius of Steele MacKaye.
MACKAYE as Teacher

Steele MacKaye's first notable success in the United States came with his lectures on the Delsarte system of expression. After studying with the great teacher in Paris, MacKaye became convinced that the Delsarte system was the ideal method to train actors. He returned to the United States with the intention of establishing a school similar to Delsarte's. His plan was precluded, however, by the news that Delsarte had been forced into destitution by the Franco-Prussian War. He immediately began making plans for a series of lectures to raise funds for his old friend. He delivered his first lecture on the Delsarte system at the St. James Hotel in Boston on March 21, 1871.¹ This was the first time that the name and philosophy of Francois Delsarte had been presented to the American public. Probably even Steele MacKaye could not realize at that time what an overwhelming influence this new system would have on the future of theatre and speech education in this country. In

April of the same year, the lecture was twice repeated at the Tremont Temple in Boston. During the next two months, MacKaye lectured at Harvard University, at Steinway Hall in New York, and in Brooklyn.²

During the next few years, MacKaye became a popular and noted lecturer. He continued to expand his ideas on the occult nature of emotion and to develop lectures on the science of expression, which he illustrated with pantomime. Adding his own ideas to the Delsarte system, he devised a pattern of aesthetic gymnastics, illustrated by chromatic scales of emotion in the face and figure.³ During the fall and winter of 1874, MacKaye went on an extensive lecture tour under the sponsorship of James Redpath. In Boston alone, he had an engagement of twenty nights. Nine of these lectures were given under the heading "Philosophy of Emotion and Its Expression." The lectures were listed as follows:

1. The Mystery of Emotion
2. Gesture As a Language
3. The Philosophy of Laughter
4. The Mystic Law of Beauty
5. The Marvels of the Human Face and Hand
6. Nature's Art
7. Masks and Faces of Society

²Ibid., p. 208.

8. The Emotional Significance of the Serpent
9. The Philosophy of Love

In 1878, MacKaye presented a series of twelve lectures on the Philosophy of Expression in the Boston School of Oratory at Boston University. This series of addresses, attended by the entire school, was the most important of all MacKaye's lectures. They seem to have influenced directly the teaching of elocution or expression and probably did more to set the pattern of Delsartism than any of MacKaye's other writings or lectures.

There is no discounting MacKaye's enthusiasm over the Delsarte system; his interest was deep and his execution apparently vivid. Moses relates an incident in which Edwin Forrest, while listening to one of MacKaye's lectures, jumped up and exclaimed, "By God, my noble boy, you have let in a flood of light!" MacKaye's first school of acting at the St. James Theatre in 1872 was popularly spoken of as the Delsarte House.

MacKaye firmly believed in the need for and the benefit of schools where actors could be properly trained for their profession. He emphasized this need in an interview in 1883:

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4Wallace, p. 208.  
5Ibid., p. 209.  
6Moses, p. 335.  
7Ibid., p. 335.
If public schools are a benefaction, if medical schools, divinity schools, schools of music, are essential to the progress of mankind, then dramatic schools should have been established long ago, because there is no one factor in civilization that wields a more powerful influence than the art of the theatre. . . If men like Edwin Booth, William Warren, Lester Wallack, Joseph Jefferson, and Dion Boucicault could be brought together, each contributing his experience to education for the stage, in less than ten years we should probably have in this country the finest corps of artists in the world.8

In the prospectus for his first acting school, MacKaye expanded his philosophy on the need for good schools:

When managers can produce fine art with success, personal pride and self-respect will lead them to prefer it to all others; but actors and actresses of inferior culture and character can only give life to plays on a level with themselves, and the public, though quick to sympathize with what is aspiring, and anxious to applaud what is good, can never be induced to patronize a play, however noble in itself, whose ideals are only half realized, or are rendered ridiculous by those who attempt to interpret them. It is far more agreeable to see something commonplace well done than to see something fine unworthily done; for nothing is more revolting than the abasement of the sublime from its high and modest simplicity by the loud, vulgar, or weak action of the mediocre and trivial actor.9

And from the same prospectus:

There can never be a healthy vital drama until there is a safe and sure school where the dramatic aspirant may go as a student, and where he will be guaranteed the best social and moral associations, as well as the most thorough practical and aesthetic preparation for the profession.10


9Ibid. 10Wallace, p. 558.
MacKaye's work as a teacher should be considered under two heads: 1) instructing private pupils, and 2) organizing schools of acting. To his private pupils, MacKaye taught Aesthetic Philosophy—"being his own philosophical deductions from the teachings of Delsarte, the Transcendentalists, and the Evolutionists of physical science; Aesthetic Gymnastics, a system evolved and invented from his work with Delsarte; and Principles of Stage Business, which were deduced from his Aesthetic Gymnastics in relation to his own practical experience in the theatre.

During his career in the theatre, MacKaye organized five acting schools. The first was the St. James Theatre School, organized in 1871. Because of financial difficulties and poor public reception, this school was short-lived. In 1877, he organized the School of Expression, or Conservatoire Esthetique, at 23 Union Square in New York. The Lyceum Theatre School was founded in 1884. After losing control of the Lyceum, MacKaye organized another school a year later that was known as MacKaye's School of Acting and Expression in Art. Again poor management brought failure. His final attempt at establishing a school came with the Stage School of the MacKaye Spectatorium,

11MacKaye, p. 151.  
12Ibid., p. 152.
organized in 1893 in Chicago. Because of the failure of the Spectatorium, this school never really got started. Of these five attempts, only the Lyceum Theatre School was lasting, although not under the management of MacKaye. When MacKaye left the Lyceum in 1885, this school was taken over by Franklin Sargent, one of MacKaye's pupils. The Lyceum School later became the American Academy of Dramatic Art, which still exists.

Even though Steele MacKaye was a financial failure in establishing his acting schools, he was possibly the most important single influence in the establishment of formal actor training in the United States. He began his career in the theatre as an actor and as a teacher of actors.

MacKaye as Actor-Playwright

Steele MacKaye had perhaps once envisioned himself as a professional actor, but he found less success in this endeavor than in any of his many theatrical projects. His brief career as a professional actor began in 1872, when he appeared in his own play, Monaldi. Moses says of MacKaye as an actor, "His pale, classic features, his aquiline nose, his sensitive mouth, his intellectual and quiet expression, all tended to mark this

tall, slender, and graceful man with distinction."^{14} Moses quotes an unidentified critic describing MacKaye's ability as an actor:

If he were paralyzed from the neck down, he could express more with his face than nine-tenths of justly celebrated actors could with all the appliances which nature and art have given them. His speechlessness is as crammed with expression as a thunder-cloud with electricity.\textsuperscript{15}

Although Steele MacKaye apparently attracted some attention with his attempts at acting, the quality of his portrayals seems to be highly questionable. Percy MacKaye quotes a review of his father's performance in \textit{Monaldi}:

He does not copy the traditional models, nor mouth after the manner of a generation of predecessors; he has not borrowed his stock in trade; his representation is thoroughly imbued with his own intelligence, as a man of intellect and feeling; it is a good deal unlike the ordinary theatre, but generally above it; it is \textit{sui generis}, and we accord to it the rank which belongs to a work of genius.\textsuperscript{16}

Such glowing reviews of his father are to be found throughout Percy MacKaye's writings. But Wade Curry also provides several reviews of Steele MacKaye's work as an actor. A critic for \textit{Our Society}, in reviewing MacKaye's acting in \textit{Monaldi}, wrote the following analysis:

\textsuperscript{14} Moses, p. 336. \quad \textsuperscript{15} Ibid. \quad \textsuperscript{16} MacKaye, p. 158.
We think that Mr. MacKaye has abundantly proved the absurdity of trying to portray emotion by any stereotyped process of facial expression. . . . If to grow stiff and limp by turns, to roll the eyes uncomfortably, to gasp convulsively, to make wry faces of a distracting variety, and, in fact, to present all the distressing symptoms of imminent sea-sickness—if this, we say, were sufficient to constitute acting, then, perhaps, Mr. J. S. MacKaye might hope in some distant day to be enrolled in the list of prime tragedians.17

Curry notes that the reviewers found many of the same faults in MacKaye's pupils who were appearing in the same performance. Nearly all of the reviews contained in Curry's thesis run in the same vein.

Little mention of MacKaye as an actor is given in most of the theatre histories surveyed. Several historians, like James Cleaver, merely list MacKaye along with "some of the finest actors of the day" employed by Lester Wallack in his theatre during the early 1870's.18 Percy MacKaye writes that even though his father was proficient in acting and devoted many years to it, he made it his primary profession only once for a brief period. MacKaye refers to the period in 1873 when his father worked as an actor under the management of Tom Taylor.


performing the title role in *Hamlet* in Paris and London. Steele MacKaye was the first American actor to perform this role in London. Percy MacKaye says that during most of his theatrical career, Steele MacKaye "practiced [acting] from motives indirectly related to the histrionic, as to exemplify the underlying laws of expression, or to assist it in the casting of his plays."\(^{19}\) Even though Steele MacKaye was not primarily an actor, he did make frequent appearances on the stage throughout his career, mostly in his own plays.

MacKaye devoted more time and energy to playwriting than to acting. He wrote twelve original plays and worked as adapter or collaborator on thirteen more. Moses notes that MacKaye began his career as a playwright in collaboration and adaptation, the two dominant methods of the day.\(^{20}\) MacKaye's long list of plays certainly points to technical activity, but Moses says his plays do not impress one as being strikingly original. Percy MacKaye, on the other hand, quotes a critic of the New York *Evening Post* who seems to disagree:

> In all the plays of Mr. Steele MacKaye there has been an intellectual quality, together with great vigor and directness of purpose, which has elevated them to a plane far above the ordinary comedy or melodrama of the day.\(^{21}\)

\(^{19}\)MacKaye, p. 158.  
\(^{20}\)Moses, p. 337.  
\(^{21}\)MacKaye, p. 157.
In his playwriting, MacKaye fell readily into the atmosphere of his time, but his plays seem to lack the flexibility, the humor, and the grace present in the works of other writers of the period. His plays were constructed along purely conventional lines, but many writers and critics of the time considered him a defier of tradition in his approach to the outward scope of theatre:

However much MacKaye may have had the correct idea regarding the close treatment of drama, it was only in the expansiveness of outward detail that he dared depart from the conventional structure. No man realized more philosophically than he that a good play must contain some deep knowledge of human nature, some wide experience of life, and some surety in dealing with the craft of the stage.²²

The majority of MacKaye's twenty-five plays were successful in their day and some were played by stock companies for years. The only one remembered today, however, is Hazel Kirke. This play, which opened at the Madison Square Theatre in 1880, ran for 486 performances, a record long run which stood for more than forty years.²³ Hazel Kirke is remembered as a pioneer play not only because of the exceptionally long run, but also because of its quality of quiet naturalness. This was, perhaps, the beginning of realism in American theatre. As a pioneer in

American realism, MacKaye wrote,

Since the realistic is that element in art most thoroughly comprehensible to the common people, I have labored, first, to increase and improve the element of realism in stage art, and then so to combine that with the spiritual and poetic as to make the fascinating force of realism a means of popularizing idealism. . . . I also devised a new order of theatric art, the aim of which was to unite the mystic with the realistic for the moving presentation of the themes of human history, in such wise as to illumine the philosophy of historic fact, and to awaken even the most ordinary minds to the ideal value of the ideal. 24

With Hazel Kirke, Steele MacKaye achieved several other "firsts" in American theatre. Not only did the play establish a record long run in New York, it was also the first play to be performed simultaneously in various parts of the country. The idea of duplicate road companies originated with MacKaye. 25 Hazel Kirke was played steadily for many years, and with the possible exception of Uncle Tom's Cabin, has had more performances than any other American play. With Hazel Kirke, MacKaye was the first American playwright to remove the conventional villain, with his mustache, whip, and high boots, from contemporary American drama. 26 Hazel Kirke was possibly the first American play to be acted so extensively throughout the world. Percy MacKaye reports that it has been performed in England,

24 Ibid., p. 344.


Australia, Hawaii, Japan, and elsewhere throughout the world.\textsuperscript{27}

While MacKaye had some very definite ideas, some of them original, on acting and how an actor should be trained, he also had some revolutionary ideas on what qualities a dramatist must possess:

Mechanical instinct, poetic fancy, sensitive sympathies, passionate fervor and vivid imagination, thoroughness in preparation, industry in elaboration, conscience in revision, courage in excision, and dominating all this, that breadth of mind which breeds humility, and that depth of heart whose understanding love goes out in charity to all mankind. . . . The master playwright combines the constructive faculty of the mechanic, and the analytical mind of a philosopher, with the aesthetic instinct of a poet, and the ethical ardor of an apostle.\textsuperscript{28}

MacKaye as Manager-Director

Steele MacKaye's interest in theatre moved quickly and perhaps naturally from acting to managing and directing. MacKaye was described by James Cleaver as somewhat erratic, but versatile and inventive.\textsuperscript{29} The flair for innovation that MacKaye brought to his acting and his teaching of acting he also brought to his theatrical management and directing. According to Freedley and Reeves, MacKaye was perhaps the only theatre manager during his time who really cared about the artistic

\begin{thebibliography}{9}
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essentials of production. "Other managers were willing for their actors to appear in front of such settings as had done service for the past two hundred years, without any real attempt to assimilate new ideas of staging," but not Steele MacKaye.

In January, 1872, MacKaye rented the St. James Theatre in New York which he intended to become the American Comedie-Francaise and Conservatoire where actors could learn and apply the Delsarte system. In this new theatre, no salaries were to be paid the actors; instead, the hoped-for profits from the productions would be divided equally among the artists. Parts, according to the original plans, were to be given by rotation, but in the two plays MacKaye produced in the St. James, he played the leading man, his sixteen-year-old pupil, Miss Griswold, played the leading lady, and veteran actor A. H. Davenport played the villain. In this first attempt at theatre management, MacKaye tried to apply what he had learned from Delsarte and to continue his own ideas. He personally supervised all aspects of the productions working as producer, director, teacher, adapter, and performer.

In 1875, MacKaye planned and directed a production of his Rose Michel at the Union Square Theatre in New York. Wade

31 Curry, pp. 30-31.
Curry describes MacKaye as "an excitable, eccentric director whose quick temper and autocratic methods made him several enemies."32 The actors in *Rose Michel* objected to being corrected and objected to MacKaye's departure from tradition. Rose Eytinge, a noted actress of the time, nearly walked out of the show because of MacKaye, but she said of him later, "While it must be confessed that Steele MacKaye could not act himself, he knew all about acting, and his stage direction was most masterly."33 In the production of *Rose Michel*, MacKaye used many mood-setting devices that had already become trite symbols such as the tolling bell, the moaning wind, and the chanting of the monks. His interest in stage effects was evident in the detail of his wing and drop sets. On the backdrop were painted stairs, beams, furniture, a stove, and part of the floor. Although the window opened, its frame was painted on the backdrop. Every scene was painted in rich colors with many details.34

MacKaye's play, *Won At Last*, was first produced by Lester Wallack in December, 1877. MacKaye felt that Wallack had not done the play justice and was not at all satisfied with the

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with the production. Therefore he formed a company and, to show how it should have been done, determined to produce the play himself. He carefully explained to the actors his interpretation of the play and the roles they were to portray. He rehearsed them for three weeks, a long rehearsal for plays of that day, directing their movements, line readings, and characterizations. Curry says that during the fourth week he paid the actors full salaries in return for five complete run-throughs daily.35 A critic of the New York Dramatic News wrote that "the piece from beginning to end had been so thoroughly rehearsed, every position, every gesture, every tone of voice had been so carefully studied, that there was hardly a possibility of failure."36 In his advertisements for Won At Last, MacKaye emphasized the handsome settings and realistic properties to be used. One of the special effects to be used was a stage moon that glittered on a rippling sea. "The moon was to move across the sky on a gauze-covered track, change colors, disappear behind clouds, and reappear; the sea was to ripple as a boy revolved a barrel behind the backdrop."37

MacKaye prepared the productions for Rose Michel and Won At Last far more carefully than was common for his day. He

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35Ibid., p. 53.  
36Ibid.  
37Ibid., p. 55.
supervised all phases of preparation. He explained his interpretation of the plays and the characters to the actors and frequently interrupted rehearsals to demonstrate personally stage business and movements. He continued to base his directing, teaching, and acting on the Delsarte system in spite of critics' complaints that it led not to "artistic" acting but to bad acting. His interest in scenery and special effects continued to grow through the use of naturalistic mood-setting devices and realistic settings that represented real places. In *Won At Last*, he used a box set filled with properties.38

When MacKaye took over the Madison Square Theatre in 1879, he planned to produce plays of high moral quality with special attention to the delicacy and polish of the performance. In this new theatre, he hoped to produce only American plays and to encourage American playwrights by giving them twenty-five percent of the profits. The leading actors of the company were to share another twenty-five percent. For his first production at the Madison Square, MacKaye revised *Won At Last* to emphasize the comedy, renaming the play *Aftermath*. For the first time, MacKaye was to produce a play in which the acting was to be

reserved. This change in acting style was not a change in MacKaye's philosophy but was forced by the physical limitations of a very small theatre. Most of the actors MacKaye hired for this new theatre had worked for him and with each other before. The acting was unified and the performance polished.\(^{39}\)

After the initial production at the Madison Square, MacKaye convinced his backers to finance a complete renovation of the theatre. During the remodeling, MacKaye carefully rehearsed his cast for the opening production of *Hazel Kirke*, which he had planned for November 1, 1879. Because of construction problems, however, the renovation of the theatre took much longer than expected. During this time, Daniel Frohman took the cast on a ten-week tour. On the tour, the production received good reviews but lost money, possibly because it had not yet played in New York.

With the long rehearsal and the ten-week tour, the *Hazel Kirke* company had developed a highly polished production. The acting of the company, to be appropriate, must have been quite sentimental, although the actors did rely heavily on pantomime and stage business. Curry notes that the most touching moments during the play were Lady Travers' heart-attack and Hazel's

\(^{39}\)Ibid., p. 60.
silent reaction to her father's soliloquy. The play opened with mill boys carrying grain bags across the stage; one character swept, cleaned carrots, and dusted. Others smoked cigarettes, drank water, and ironed clothes. MacKaye succeeded in building an ensemble spirit among the company. He forbade them to speak of each other's acting in the green room and encouraged each one to believe that he was important to the production. One critic wrote, "Every actor leads, and each one feels that by no possibility could the piece 'go' if he or she were left out." 

On the usual wing and drop sets were painted ornaments, draperies, and unused properties. MacKaye insisted that all of the properties that were used were solid. In other scenes, MacKaye used solid, heavy furniture and real Turkish rugs and bric-a-brac. The sets were far more detailed and more realistic than was common for that time.

A serious contract dispute with the Mallory brothers, who owned the Madison Square, caused MacKaye to leave the theatre before Hazel Kirke closed. The production was one of the great financial successes in the history of American theatre up to

\[40\text{Ibid.}, \text{ p. 72.}\] \[41\text{Ibid.}\] \[42\text{Ibid.}, \text{ p. 75.}\]
that time. However, because of the poor contract with the Mallorys, MacKaye realized almost nothing from the venture. After a period of barnstorming around the country, in 1884 MacKaye joined the Lyceum Theatre where Gustave Frohman had just been named General Manager. Frohman appointed MacKaye Stage Director, and they joined in a plan to draw the patrons away from the successful Madison Square and bankrupt the Mallory brothers. The backers of the Lyceum agreed to extensive renovation of this theatre also and MacKaye put into it all of his inventive talent. He and Frohman planned polished productions of high moral quality in a safer and more comfortable house. They hoped eventually even to raise the prices at the Lyceum and make it into a fashionable, exclusive "club" for its wealthy patrons. To compete with the road companies of the Madison Square, MacKaye and Frohman organized road companies of their own with MacKaye directing them. Frohman commented:

In drilling these various companies, Mr. Steele MacKaye will be in his element. It is in this direction that he is strongest. He can balance up a company and get more really good work out of inexperienced people than any stage director I have ever seen.43

Complete renovation of the Lyceum cost over $90,000, far more than the original estimate. In this new theatre, all of

43 Ibid., p. 83.
the 614 seats commanded a good view of the stage. MacKaye claimed that the seats were safer and more comfortable than the folding chairs he had used in the Madison Square. The seats were arranged in groups of four. They folded together upon posts between the first and second and between the third and fourth seats to form wide aisles between groups and narrower aisles in the center of each group. MacKaye also made use of his draw curtain, the elevator orchestra platform, elevator traps, and, for the first time, totally electric lighting for both the stage and the house.\footnote{Ibid., p. 86.}

The new Lyceum opened April 6, 1885, with a production of MacKaye's \textit{Dakolar}. Professional actors took the major roles with Lyceum students taking minor roles and standing as understudies for the major roles. Most critics disliked \textit{Dakolar} intensely, calling it false, unrealistic, and artificial. The play closed May 23 with serious financial problems.

To regain financial stability for the Lyceum, MacKaye proposed to the board of directors a plan for low-expense one-act plays for novelty, a quickly changing repertory, and frequent press notices. The directors accepted his plan and named MacKaye as General Manager. Apparently changing his plan,
MacKaye opened his *In Spite of All* at the Lyceum on September 16, 1885. Critics liked this new play far more than *Dakolar*; many of them noted *In Spite of All* as the most realistic of all of MacKaye's works. To ease the financial burden of the play, MacKaye agreed to accept a token royalty of only ten dollars per night instead of the usual twenty-five dollars. He estimated later that he lost about $4,000 in royalties on this one play. *In Spite of All* lost money and closed November 7. In a dispute with the backers, MacKaye resigned immediately. When MacKaye became manager of the Lyceum, the theatre was $90,000 in debt; when he resigned, the debt stood at $250,000.45

In the fall of 1886, MacKaye joined Nate Salsbury and Buffalo Bill Cody to direct the indoor production of *Buffalo Bill's Wild West* at Madison Square Garden in New York. MacKaye advertised the production as "the inauguration of the most stupendous and in every respect grandest, most unique, thrilling sensational, perfect and superbly artistic and realistic exhibition every seen or attempted in the metropolis of America."46

Under MacKaye's direction, workers transformed the Madison


Square Garden into a huge theatre. They painted the walls and covered the roof and skylight with material and hung gaudy flags and streamers from the beams. At one end they built a huge stage. Instead of backdrops, which were difficult to hang in the Garden, semi-circular canvas drops forty feet high and 150 feet long were painted with appropriate scenery. To move these panoramas, MacKaye cut through the roof and built temporary housings for a counter-weight system. For this production, MacKaye was primarily interested in the visual effects. To heighten audience interest in the spectacle and because he was working with inexperienced actors, MacKaye did not try to attain detailed characterizations. Instead, he devised a pantomime for each actor, and through long rehearsals, carefully drilled each cowboy and Indian in his part. Critics found the production novel and exciting, praising the huge panoramas. Most reviewers considered this production a distinct improvement over the outdoor version.

The Wild West was exceptionally popular. It attracted from 10,000 to 18,000 persons a day for more than 100 performances in Madison Square Garden. Later the production was taken to London where it ran for more than six months drawing an average daily attendance of over 35,000. More people saw Wild West than any other MacKaye production. Its popularity and success
led him to include spectacular effects in all of his later productions.47

In 1887, MacKaye left Wild West and again attempted an independent production of one of his own plays. Anarchy was first produced in Buffalo, New York, in May, 1887. For special effect, MacKaye and Julian Mitchell trained fifty supernumeraries to play the mob of anarchists. These "supers" were paid twenty-five cents per rehearsal and fifty cents per performance. Because MacKaye believed that the success of the play would depend on the mob, he held long rehearsals with the supernumeraries and with the actors with small parts. The day prior to opening, he rehearsed the mob from eight p.m. until two a.m. The public and critics liked Anarchy. The mob acted so naturally that one critic said "the line between simulation and reality was overstepped."48 During its run in Buffalo, MacKaye made considerable cuts in the production so that it would play quickly and smoothly. With the revisions made, and for political reasons, MacKaye renamed the play Paul Kauvar for its New York opening.

For the New York production, the company of Paul Kauvar had grown to 118 members. To obtain a unified presentation and

47Curry, pp. 106-110.  
48Ibid., p. 116.
to control such a large cast, he enforced these rules:

1. Fifteen minutes will be allowed for possible differences in watches in timing the call for the beginning of rehearsals. All delays, thereafter, will be charged to the delinquent at the rate of One Dollar for each and every consecutive fifteen minutes, or any fraction thereof, that any member of this company may lose in reporting to the stage manager.

2. Every member of the company must remain on the stage or within easy call of the stage manager's voice from the stage during all rehearsals. Any delay at rehearsals caused by the violation of this rule will be charged the offender at the rate of One Dollar for each and every such delay.

3. Absence from rehearsal, without the permission of the Director of rehearsals, will be punished by a fine of twenty percent of the salary of the offender.

4. The business of the play, as determined by the Director must be faithfully followed. For each and every violation of this rule a fine of One Dollar will be imposed.

5. Gagging will be punished by a fine of One Dollar for each offense.

6. Guying, or any action on the stage calculated to detract in the least from the stage illusion of the play will be punished by a fine of Five Dollars for each and every such offense.

7. Insubordination will be punished by a fine of Ten Dollars for each offense or discharge—at the option of the management.

8. Stage waits during a performance of this play will be punished by a fine of Five Dollars for each offense.

9. It is the business of the prompter to carefully note, and faithfully report all violations of the rules by this
company—and his failure to do so will be punished by a fine of Five Dollars for each offense.\textsuperscript{49}

MacKaye himself directed all rehearsals, holding an unlighted cigar in his mouth, strutting like a general, and giving orders quickly and confidently. While the company rehearsed he swaggered up and down the aisles frequently interrupting them with shouted comments. When he saw something he did not like he would stop the rehearsal, leap upon the stage, and correct the actor by taking his part and showing the actor what he wanted. He would sometimes assume the character for an entire act.\textsuperscript{50} Percy MacKaye noted that his father, as director, never gave instructions to anyone involved in the production unless he knew he could do it better himself.\textsuperscript{51}

The culmination of Steele MacKaye's life came with his final attempt as a manager-director at the Chicago Exposition in 1893. His theatrical extravagance ran riot in his plans for the Columbian Celebration Company organized to exploit his Spectatorium. In this giant theatre designed to seat ten thousand people was to be shown a grand scenic display combined with oratorio, in which stage realism was to be carried to perfection. The theatre was to contain stage appliances of every

\textsuperscript{49}Ibid., pp. 118-119. \hspace{1cm} \textsuperscript{50}Ibid., p. 120.

\textsuperscript{51}MacKaye, p. 163.
conceivable power to create illusions never before seen. Because of the financial panic of 1892, the Exposition was delayed a year in opening, the Spectatorium could not be finished, and the backers lost over $800,000 on the venture. The Scenitorium, a much smaller scale of MacKaye's plan, was built in Chicago the following year, but MacKaye was too ill to see it through and died before its success or failure could be properly evaluated.

After MacKaye's death in 1894, Daniel Frohman described MacKaye as a director:

Steele MacKaye would have been the ideal director of... the New Theatre because he combined so effectively the imagination of the writer with high ideals, and the sound, sane knowledge of the practical mechanic.52

Steele MacKaye's innovative talents are evident in each of the three areas of theatrical activity covered within this chapter. As a teacher, MacKaye is best known, of course, for the introduction of the Delsarte system of expression into the United States. His lectures and demonstrations on Delsarte started a trend which had a profound and lasting influence on American theatre and speech education. MacKaye was the first major exponent of actor training in the United States.

52Ibid., pp. 113-114.
MacKaye the actor contributed little to American theatre. Perhaps his most notable experience was being the first American to portray Hamlet in London. As a playwright, he added twenty-five plays to American dramatic literature, the most worthy being *Hazel Kirke*. With this play, he started the movement of American realism, removed the traditional villain from American drama, originated the idea of duplicate road companies, and established a record long run that stood for more than forty years.

Although MacKaye was a poor manager, he made some significant contributions to American theatre as a director. To prepare his shows for production, he used longer rehearsal periods than had ever been known, developed more believable characterizations, built extremely realistic sets filled with properties, and made extensive use of the box set. He was among the first American directors to be concerned with the artistic essentials of production.
CHAPTER III

STEELE MACKAYE: INVENTOR-INNOVATOR

As has been seen, Steele MacKaye was a man of his time; he worked in all areas of theatre and made significant contributions in several facets of play production. Steele MacKaye, the man with ideas, was, at the same time, a man who knew how to bring those ideas to reality. The previous chapter dealt with MacKaye's concepts of the over-all philosophy of theatre; this chapter will be concerned with MacKaye's specific contributions to the physical plant itself.

Percy MacKaye states in the biography of his father that Steele MacKaye was the inventor of about a hundred appliances for the improvement of stage mechanics and lighting and that nearly all of these devices were patented by the United States Patent Office. However, a search of the Official Gazette of the U. S. Patent Office reveals only fourteen patents issued to Steele MacKaye, and one of those fourteen had nothing to do with theatrical appliances.

This chapter will discuss, first, MacKaye's concern with safety in theatres and his inventions and innovations resulting from his almost-catastrophic experience at the Brooklyn Theatre and the experiments in fire prevention that followed. The major portion of the chapter will be a discussion and description of the function and use of all of the theatrical appliances on which Steele MacKaye was granted patents by the U. S. Patent Office. Drawings from the patent Specifications will be included.

Safety in Theatres

In December, 1876, Steele MacKaye nearly lost his life while a member of the audience at the Brooklyn Theatre in New York. A fire which started in the fly loft area quickly spread throughout the scenic department and into the auditorium, killing more than three hundred people. This incident called widespread attention to the question of safety in theatres. A number of theatre people displayed concern and started projects to prevent such disasters in the future. Within a short time, however, as usually happens, the shock of the catastrophe wore off and people again became apathetic.

The Brooklyn Theatre fire reinforced MacKaye's awareness of the need for safety devices and safety standards in all
public buildings where crowds gather. The results of his thinking and a part of the work which grew out of it are explained in The North American Review in one of his few published writings. In this article MacKaye stresses not only the need for safety devices in theatres but also the need for the enforcement of standards of safety by the appropriate government officials, and offers suggestions as to what those standards should be.

In "Safety in Theaters," MacKaye relates that immediately after the Brooklyn Theatre tragedy he and Dion Boucicault began making experiments in the fire-proofing of scenery at Wallack's theatre. Experiments began with the scenery because MacKaye believed that the scenic department of the theatre was by far the most dangerous part of the house for potential fire hazards. The results of these experiments seemed so satisfactory that MacKaye and Boucicault believed they had found the ideal method for preventing fires in the scenic department. They coated all of the scenery with tungstate of soda. Within a short time, however, they found that even though this method proved satisfactory for preventing fires, it deteriorated the scenery so

badly that within a week, the flats were totally unusable. Little by little all the paint came off the flats, and the canvas fell apart as a result of dry rot. Experiments continued with the hope of overcoming the defects, but after many failures MacKaye and Boucicault abandoned their attempts to fireproof the scenery.

MacKaye knew, however, that with the gas lights in use at that time, every hour the stage was lighted the danger of fire existed. If a fire could not be prevented, he reasoned, theatre people must be prepared to handle a fire when one occurred. Therefore his future research on fire safety centered on three basic problems: 1) how best to limit the area of any fire that may occur; 2) what construction of the stage department renders it least dangerous, in case of fire, to those in the auditorium; and, 3) what constitutes the most nearly perfect preparation for the speediest extinction of any fire that may start.

Since the scenic department must of necessity, because of the scenery, remain the most dangerous part of the house, the best way of containing any fire that might occur would be to construct the stage area, or at least treat the wood of the stage area, with some material that would neither burn nor conduct heat. After much experimenting, MacKaye determined that a mixture of papier-mache with clay and powdered asbestos could be
rolled into sheets from a quarter- to a half-inch thick and could be nailed to the whole of the stationary wood-work of the scenic department. This covering would enable the wood to resist the fiercest fire likely to be produced from burning scenery. If the entire scenic department were treated with this material, the scenery could burn without destroying the building around it.

In terms of lives lost, the Brooklyn Theatre fire was so catastrophic because once the fire started in the scenic department, the smoke and flames had no place to go but into the auditorium. To prevent future disasters of such magnitude, MacKaye devised two techniques or devices to help prevent the spreading of the fire. MacKaye determined that since the audience and the scenic department were usually separated by a thick brick wall, with the only opening of any size being the proscenium arch, it would be simple to convert the entire stage area into one immense chimney through which all the smoke and fire could escape. Such could be accomplished by building into the roof of the rigging loft a series of trap doors that would fall open automatically, when needed, and create a draft which would carry the smoke and flames upward instead of out into the auditorium. To further prevent the spread of the fire, MacKaye encouraged the use of a curtain of zinc or of the same
material used for treating the wood-work. Both the roof traps and the fire curtain could be rendered completely automatic by attaching their fastenings to iron pins, placed in the rigging loft, and secured in solder so softened with bismuth that it would melt at a temperature of one hundred sixty degrees. Any fire large enough to be dangerous would quickly melt the solder and free the pins, allowing the roof traps and the fire curtain to fall of their weight, thus automatically opening the roof, closing the proscenium arch, and helping to prevent the spread of the fire into the audience.

When a fire started, however, some means must be available to extinguish it as quickly as possible. To accomplish this, MacKaye encouraged two resources which seem only common sense today but were apparently not available in the theatres of the early 1880's: 1) having at hand and in working order the best known means for extinguishing a fire; and 2) organizing and training the employees of the theatre for the wisest use of these means. An immediate command of water was the first essential resource. MacKaye recommended that water pipes and hose be installed in all portions of the house in the least degree inflammable. These pipes and hose would be useless, however, without sufficient water pressure. Since the pressure in the city water supply was unreliable, MacKaye suggested
constructing in some part of the theatre a large air-tight tank capable of holding sixty to eighty thousand gallons of water. A small air-compressing pump attached to this tank could easily produce enough pressure to throw a volume of water forty to sixty feet. MacKaye also recommended the installation of the automatic sprinkler systems which had but lately been invented. He felt that such systems should be required by law.

Having the water system available would be of no benefit unless people were trained to use it properly. MacKaye believed that the stage carpenters, the machinists, the property men, the ushers, and all employees of the theatre should be organized into a regular fire company. To each man should be assigned a specific task in the event of a fire, and the men should be drilled once a week by an experienced fireman supplied by the fire department of the city. This fireman would also, with MacKaye's plan, be detailed to the theatre and remain behind the scenes during every performance ready to direct fire-fighting operations when needed.

Looking into the safety factors of the auditorium itself, MacKaye realized that the arrangement of the seats in the auditorium was also a source of danger. To help solve this problem, he invented his folding chair which would instantly convert the house into a series of aisles in all directions to
permit faster exit in an emergency. The construction and use of this chair will be discussed later.

Double Stage

On December 2, 1879, Steele MacKaye was granted Letters Patent Number 222,143 for his double stage. Within the specifications set forth in this patent, MacKaye states that the objective of this invention was to facilitate the speedy setting of the scenery for a stage play or opera, to economize on space within the auditorium, and to concentrate the light upon the stage with the least inconvenience to the audience. To achieve these ends, MacKaye built two movable stages, one above the other, supported by posts, with the necessary appliances for lifting and lowering them. With this double stage arrangement, the orchestra platform was to be located above the proscenium with stage lights concealed beneath it.

While the first scene or act of a play was being performed on the lower of the two stages, the upper stage, concealed by the proscenium arch, would be set for the second scene. At the conclusion of the first scene, the whole apparatus would be lowered so that the upper stage would become visible to the

audience, putting the lower stage into the basement area of the theatre out of sight. During the second scene, the set on the lower stage could be changed, if necessary, for the third scene. The moving and re-setting of the stages would continue as many times as was necessary for the play being performed.

Without doubt, one of the major advantages of this device was the saving of the time formerly lost between acts in changing the scenery. Prior to this invention, long intermissions were required for every set change; MacKaye wanted to save his audience these fatiguing waits.

MacKaye envisioned two advantages in placing the orchestra above the proscenium. First, the space ordinarily given up to the orchestra in the auditorium could be saved for the audience. Probably more important, however, was the lighting advantage. MacKaye planned to conceal the stage lights beneath the orchestra platform, eliminating the footlights. Not only would this plan provide better lighting for the stage, but it would provide a way to screen the lights from the eyes of the spectators, especially those sitting in the boxes and the upper tiers.
MacKaye's interest in the comfort and safety of his audience prompted his invention of the folding chair. MacKaye constructed his chair and its supports to provide a broad aisle in every direction when the chair was folded and to provide a seat just as comfortable and stable as an ordinary chair.

MacKaye's chair, considerably more complicated than the folding chair found in modern theatres, was connected by a hinge apparatus to a post-like standard which occupied but a fraction of the depth of the seat. When the chair was vacated, the seat portion would automatically be lifted against the back portion just as a modern theatre seat functions. At the same time, the arms of the chair lifted to a vertical position against the back. At this point, the chair was free to swing to the rear, creating an unobstructed aisle in one direction, the width of the seat. The unconfined half of the entire chair would then fold in upon the other half by means of a vertical hinge mechanism, creating an aisle in the other direction equal to half the width of the seat. The completely folded chair was held in place by a lock device until it was released by a patron.  

Fig. 2—Folding chair (1)
Fig. 3--Folding chair (2)
Fig. 4—Folding chair (3)
MacKaye intended his folding chairs to be mounted in groups of four, with two chairs attached to opposite sides of the same standard. Therefore, when all of the chairs were folded, the auditorium had wide aisles between groups and smaller aisles within the groups. The obvious advantage of this arrangement was providing a means for the audience to move quickly in and out of the auditorium.

Spectatorium

After working with Buffalo Bill's Wild West, Steele MacKaye's interest in spectacle continued to grow until he began to build his ultimate dream. For the Chicago Exposition of 1892, MacKaye planned to construct his Spectatorium. The patent specification states that the object of this invention was to provide a building specially adapted for the presentation of a new order of entertainment which MacKaye termed a "spectatorio." This new form of "drama" would combine to the best possible advantage advanced realism in scenic art with pantomime and music.

This new structure was to contain two basic areas: the auditorium and the scenic department, which MacKaye called the scenitorium. The scenitorium and auditorium were to be circular

Fig. 5--Spectatorium (1)
in form with the proscenium arch being struck on the arc of a circle, the center of which would be considerably to the rear of the foremost tier of seats in the auditorium. With this design, the proscenium arch would, then, surround a part of the audience on three sides. A chorus gallery was to be located above the auditors at the rear of the auditorium; a second chorus gallery was to be on a lower level at the rear of the scenitorium, behind the scenes so as to be out of view of the audience. The foundation floor of the scenitorium was to form a water-tight receptacle to accommodate floating stages, canoes, or other floating objects. The scenitorium also was to contain the very latest in lighting, sound, and scenic devices, many of which MacKaye had invented especially for this theatre and which are to be described in the remainder of this chapter.

With his dream theatre, MacKaye hoped to attain certain perspective and acoustical advantages which would be necessary for his new order of entertainment. These advantages could be secured best by combining a segmental or semi-circular scenitorium with an auditorium constructed in the form of an opposing arc. The circular form of the scenitorium would also conserve space for the folding of the telescopic stages and would be essential for the concealment of such stages from the view of the audience. MacKaye's circular form would also
provide the broadest view of the stage effects with the most complete concealment of the stage machinery.

Announcer

Upon the side of the proscenium arch in his Spectatorium, MacKaye was to have mounted a silent unfolding announcer which he had invented. This rather simple device consisted of a traveling sheet of paper or cloth of any desirable size attached at top and bottom to rollers. On this paper would be printed the words being sung or any necessary explanatory material relating to the scene being presented. As the scene progressed, the paper would be moved at the appropriate speed by the rollers, which were to be powered by electric motors. The device would work somewhat like an automatic electric scroll. The paper would be lighted by a series of electric bulbs mounted on the sides of the announcer and properly shielded so that the lights would neither shine into the eyes of the audience nor interfere with the highly specialized lighting effects on the stage. MacKaye invented this device so that the presentation on the stage would not have to be interrupted by vocal explanations or introductions.

Proscenium-Adjuster

The Spectatorium was to be equipped with a device to regulate the size of the proscenium opening to conform to the requirements of the various scenes to be presented. For MacKaye's Spectatorio, it would sometimes be necessary to change the size of the opening quickly and without distraction. This device would consist of laterally moving slides or wings suspended from rolls adapted to travel upon a track from either side of the proscenium arch and a vertically moving slide or drop extending across the width of the proscenium opening. These lateral slides and the vertical drop were all attached by cords or cables to a set of rotary drums located behind the proscenium arch and powered by electric motors. The drum and pulleys for the vertical drop would be of the correct proportional size to move that drop at the proper speed so that the vertical opening would always be in correct proportion to the lateral opening of the proscenium. These slides could be easily and quietly moved during the presentation without stopping the action on the stage.

Fig. 8--Proscenium adjuster
Luxauleator

Because the proscenium of the Spectatorium would be extremely large, MacKaye invented what he termed a Luxauleator to replace the curtain which was normally used to conceal scene changes. The luxauleator, a simple device, consisted of a series of light bulbs surrounding the proscenium opening. These lights were backed by reflectors and were focused in such a way that their rays crossed each other and blended at a point several feet in front of the proscenium, putting the entire stage area into shade. Such a device would have two immediate advantages. The slow and tedious process of manipulating the drop curtain could be eliminated, and the lights in the auditorium would not have to be extinguished at any time during the intermissions. At the same time, the spectators in the audience could not see any of the activity behind the proscenium opening.

Telescopc Stage

For his Spectatorium, Steele MacKaye invented a number of devices and appliances specially designed for use in producing and exhibiting scenic effects. One of these devices was his telescopic stage. The specification on the patent for this device states that the primary objective of this appliance is to provide a means for causing set-scenes, part scenes, or scenery or objects of any description mounted on moving stages or sections of a stage to be brought successively into the view of the audience for the purpose of exposing these scenes or objects in the proper sequence.9

MacKaye's telescopic stage would consist of a series of independent stages, or stage wagons as they might be called today, of any desirable size and shape, one placed behind (upstage) the other. There could be as many sections as needed. On these sections would be mounted whatever scenery was needed for the production, with the sections arranged in proper sequence to move in the desired order to exhibit the scenery at the proper time and in the proper perspective. When the sections would be extended to their full scope, a panoramic effect would be created. Each section would ride on rails or

Fig. 10—Telescopic stage
on wheels and would be connected by cable to pulleys on either side of the stage. Each section would also be connectable to the adjacent section by an automatic coupling device at predetermined intervals so that the sections could be locked together in any relative order or position and could be moved either independently or in unison.

This device would help create for the audience a feeling of greater depth in the set and would also project the illusion of movement past or beyond a fixed point on the stage.

**Sliding Stage**

MacKaye's sliding stage which he invented for use in his Spectatorium was really a very simple device consisting of a platform mounted on wheels. On this platform could be mounted any scenery or part-scenery desirable. The platform could be of any size or shape. Probably what made MacKaye's platform different from anything ever used previously was the steering mechanism attached to the underside.10

The platform was designed to have four wheels, one at each corner. The two wheels on one side would be connected to each other by a rod system similar in principle to the tie-rod system used in automobiles today; these two rod systems

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Fig. 11—Sliding stage
would then be connected to a steering rod which would extend beyond one end of the platform. By manipulating this rod, one person could easily steer the sliding stage in any direction.

The obvious advantage of this appliance is speed. In a theatre the size of MacKaye's proposed Spectatorium, new devices to increase the mobility of the set pieces were imperative. His sliding stage would make set changes easier and faster.

Floating Stage

For his first production in the Spectatorium, which was to concern Columbus's discovery of America, MacKaye developed a floating stage. The stage as a whole would consist of a body or hull that would actually float when the Scenitorium was flooded with water. The floor or deck, on which the action would take place, would be suspended above the bottom of the hull a sufficient distance to allow a person of average height to stand inside to manipulate the propelling mechanism. On the deck of the stage could be mounted the superstructure of a ship or any other suitable scenery.

On the bottom of the hull would be mounted four wheels, one located centrally on each side and on each end of the

stage. At the appropriate time, these wheels, either in opposite pairs or in unison, could be lowered to touch the floor of the Spectatorium stage to propel the floating stage in any direction. When it was desirable for the stage to float, these wheels would simply be raised off the floor. Lowering the wheels to touch the floor would also, of course, stabilize the floating stage to keep it in one position.

MacKaye's obvious objective with this device was heightened realism for scenes which might be set on an island, a wharf, or a ship. He envisioned his Spectatorium to be the most thoroughly realistic production ever seen on the stage.

Illumniscope and Colorator

MacKaye's interest in realistic scenic effects and his recognition several years earlier of the importance of the electric light in theatrical production led him to invent several lighting devices for his Spectatorium. Among these were the illumniscope and the colorator. These two appliances were devices for illuminating and coloring stage scenery and for providing a means for the improvement of scenic illumination and the increase of realism in stage effects. The basic purpose of these combined appliances was to imitate the shades and tints

Fig. 13—Illumniscope and Colorator (1)
of light which color the landscape from the darkness of night through sunrise, early morning, noon, afternoon, evening, sunset, twilight, moonlight, into the darkness of midnight again.

The colorator would consist of a rotary drum of any suitable transparent or semi-transparent material such as paper, glass, celluloid, or gelatine, together with an electric lamp properly supported within it so that the light would pass through the tinted circumference. The covering of the drum might be dyed or painted with the various tints of the hours in their order of succession.

The illuminiscope or duplex reflector placed within the drum would be composed of two segments fitted together so as to move one within the other. The inner concave surfaces of these segments would be made of or covered with a reflecting material. By rotating the segments of the illuminiscope, the opening for the passage of light would be enlarged or decreased at will, thus controlling the direction, amount, and extension of light that might be desirable for illuminating the stage.

The colorator, also, could be rotated, independently of the illuminiscope, at any desired rate of speed to produce the effect on the scene of the gradual changes produced by nature throughout the day and night. Additional colorators with variously tinted coverings could also produce the effects of
a cloudy or stormy day or night or any combination or sequence of fair or foul weather.

By properly adjusting the colorator and the illumniscope the light could be centered on any part of the scenery or spread over the entire set. By using these devices in series and operating them either independently or simultaneously, any desired lighting effect could be produced on the stage.

In addition to this basic design, MacKaye included in his patent several modifications which might be used in special instances. In one modification, the colorator might consist of a band or belt of properly tinted material arranged to travel in front of a suitable reflector and light source with the belt being wound upon rollers top and bottom much like a scroll. In another variation, the colorator might be made of a vertically adjusted frame holding a suitably tinted material which would be suspended by weights in front of a reflector and by raising or lowering the frame, the lighting effects on the stage would change.

MacKaye preferred to use the illumniscope in connection with the colorator, but the two devices could be used independently and would be applicable for general lighting purposes in theatres, public halls, or other places of amusement. He also preferred to use electric lights, but other light sources
such as a gas jet might be used. The patent specification suggests that these lighting appliances be placed above the scenes, either in front or at the sides and that they could be operated either by hand or by machinery.

Cloud-Creator or Nebulator

MacKaye states in his patent specification that the object of his cloud-creator or nebulator is to provide an improved means for producing the effect of clouds or cloud shadows moving upon or over a landscape for the improvement of realism in land and water scenic effects. This invention consisted essentially of a cloud cloth having the cloud forms or shadows thereon and adapted to move in front of an illuminating lamp to cast the cloud shadows over the landscape. The cloth might be made of any suitable material, with the cloud forms painted on it, or cut from another material and attached to the cloud cloth. The cloth might be secured to a sliding frame or attached to rollers so as to move easily in front of the light source. MacKaye had planned to use the cloud creator in connection with the illuminoscope previously described.

The nebulator would be placed in an oblique position a short distance away from the illuminoscope so that the cloud

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Fig. 15—Nebulator (1)
Fig. 16—Nebulator (2)
forms or shadows projected by the light source would fall on the sky foundation at the rear of the stage setting. There might be as few or as many of these devices as needed, extending either partly or entirely across the fly gallery parallel with the illumnisopes. The umbrator or shadow maker would be the same type of device attached beneath the illumniscope so that the shadows cast would fall upon the ground or floor of the stage setting. The nebulator and umbrator could be used singly or together and each could have its own light source if desired.

With these devices, MacKaye hoped to produce the effect of clouds or cloud shadows moving through the sky or over land or water, and the appearance of a cloud rising above the horizon, passing in the desired direction, and descending the sky at any desired rate of speed. The anticipated movement, of course, would be obtained by moving the cloud cloth in front of the light source in the proper direction at the proper speed.

Wave-Maker

MacKaye's wave-maker was designed for use in producing wave effects similar to those found on large bodies of water, to give the effect of a gentle wave, a succession of waves,
or a choppy or rough and stormy sea. This appliance would, of course, be used in connection with his floating stages in the flooded scenitorium.

The wave-maker was a relatively simple device composed of a vibratory arm or pendulum-lever which would be pivoted at its upper end to a bracket attached to the side wall of the building with a wave plate or blade attached and pivoted to the depending end of the pendulum-lever so that when the lever would be moved forward, the blade would be thrown upward parallel to the arm to push the water forward. On the reverse movement, the blade would drop into a position perpendicular to the arm so that it could move back to the starting position without causing a wave. The pendulum-lever could be moved by any source of power either electric or manual. This mechanism would be located off-stage on either side out of view of the audience. The lever could be moved as far as needed at whatever speed desired to create waves of whatever force or frequency desired.

For the purpose of controlling the direction of motion of the waves, MacKaye provided channels in the bottom of the flooded scenitorium extending across the stage in several

directions. These channels were about half the depth of the water on the stage to control the course of the wave currents without interfering with the floating stages. A series of channels were used, each connecting a water conduit on one side of the stage with a cooperating conduit on the opposite side. The wave-plates and operating mechanisms could be duplicated at opposite ends of the channels so that waves could be created from either side of the stage.

Realism in Scenic Effects

In Letters Patent Number 490,490 dated January 24, 1893, Steele MacKaye explains and illustrates the uses of most of the inventions already mentioned as he intended them to be used within his Spectatorium. Included in this patent is a repeat of information previously stated about the sliding stages, the proscenium adjuster, the floating and the telescopic stages, the wave-maker with the water channels, the illuminiscope and colorator, the nebulator and umbrator, and the luxualeator.

Three additional appliances for producing realistic scenic effects are also included: a wind-maker, a rain-maker, and a

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fog-maker. The wind-maker consisted of a large fan mounted in the dome of the scenitorium co-operating with several smaller fans mounted at the sides or ends of the scenic department in communication with ducts so that the air could be forced through the scenic department in any direction to produce any wind effect from a gentle breeze to a howling storm. The wind could be accompanied by thunder and lightning, rain and fog.

MacKaye's rain-maker was a series of perforated pipes connected to a water supply and fitted with suitable cocks or valves by which the water could be circulated through the pipes and sprayed upon the scenery to produce anything from a gentle shower to a drenching rain. Associated with the rain-maker was the fog-maker. This device could be constructed of any suitable material in the shape of a trough with an open top above which would be suspended by weights and pulleys a perforated receptacle containing quick-lime which would be lowered into the trough filled with water. The quick-lime entering the water would produce fog, which could then be forced over part or all the setting by the wind currents produced by the wind-maker. Both the rain-maker and the fog-maker would be suspended from the fly gallery below the illuminoscope and in front of the nebulators and umbrators.
Fig. 18—Apparatus for increased realism (1)
Fig. 19—Apparatus for increased realism (2)
Fig. 20—Apparatus for increased realism (3)
Fig. 21--Apparatus for increased realism (4)
Fig. 22--Apparatus for increased realism (5)
Fig. 23--Apparatus for increased realism (6)
Fig. 24--Apparatus for increased realism (7)
Fig. 25--Apparatus for increased realism (6)
Steele MacKaye was not only a man of ideas but an inventor and innovator of practical devices and appliances to improve the physical environment in which he worked. His intense interest in the comfort and safety of his audiences, a rare consideration for theatre men of his time, led to workable techniques which modern theatre patrons take for granted. His desire to simulate nature on the stage and his penchant for spectacle motivated the development of the equipment necessary to produce scenic effects never before seen on the American stage. The construction and use of MacKaye's inventions and innovations will be considered in the next chapter.
CHAPTER IV

MACKAYE'S THEATRES

Madison Square Theatre

In March, 1879, Steele MacKaye rented a tiny concert hall known as Fifth Avenue Hall or Minnie Cumming's Drawing Room. In this theatre he planned to produce plays, with special attention to the delicacy and finish of the performances.¹ After producing one show in this theatre, MacKaye realized that if he were to achieve large scale realistic staging, extensive remodeling of the theatre would be imperative. The existing auditorium was so brightly decorated that spectators could concentrate on the stage only with difficulty. Because of the low ceiling, the theatre quickly became hot and stuffy, and there was virtually no means of providing ventilation. The stage was too small and the wings provided no storage space for scenery.

Remodeling to MacKaye meant tearing out the entire interior of the building, leaving only the outer shell standing and rebuilding from below ground level upward. MacKaye estimated the

cost of the renovation at $20,000 and hoped to finish the work by November, 1879. After the Mallory brothers, who were providing the capital, approved the project, actual construction began in August. Because of construction delays, the new theatre did not open until February 12, 1880.

For the auditorium of his new Madison Square Theatre, MacKaye selected a decor like that of the mansion of a wealthy man—rich, simple elegance. The boxes, balustrades, and proscenium arch were of elaborately carved mahogany with designs of silver and old gold. The hand-embroidered drop curtain had been created by Louis Tiffany. From every seat in the parquet and from most of the seats in the two galleries, spectators could see all parts of the stage.

As noted previously, MacKaye was one of the first theatrical producers to show an interest in the comfort and safety of the audience. In the Madison Square, he built a ventilation system which allowed sensitive control of the heat and purity of the theatre's atmosphere. Through 364 large tubes in the basement, filtered air was directed into the auditorium. Fumes and heat

\[^2\text{Ibid.}, \ pp. \ 62-63. \quad ^3\text{Ibid.}, \ p. \ 63.\]

\[^4\text{George C. D. Odell, } \text{Annals of the New York Stage} \ (\text{New York, 1938}), \ p. \ 20.\]
from the gas lights escaped through separate flues attached to the glass boxes in which the lights were enclosed. A pump in the basement supplied drinking water to several hydrants on the stage and in the auditorium. MacKaye organized his stage-hands into a volunteer fire department, with each man assigned a specific task in the event of fire. On February 26, 1880, the Tiffany embroidered curtain caught fire when an inexperienced boy lighting the gas jets touched his torch to the curtain. MacKaye's "fire department" extinguished the fire in less than three minutes, although the beautiful curtain was damaged beyond repair. After the fire, MacKaye installed gas lights that could be ignited by electricity.5

MacKaye's most notable innovation in the Madison Square Theatre was the double stage. One stage measuring thirty-one feet by twenty-nine feet was built twenty-five feet above another stage of the same dimensions. Either stage could be raised or lowered into view by a series of cables, pulleys, and counter-weights, by four operators, one at each corner. While action took place on one stage, the unused stage could be set for the following scene. The change required less than two minutes. Because of this saving in time between scenes,

5Curry, p. 65.
performances at the Madison Square started at eight-thirty instead of the usual eight o'clock and ended at about the same time as the other New York theatres using the earlier starting time. With the double stage, MacKaye was able to use heavier, more realistic scenery, and more properties than any other theatre in New York at the time, and he claimed he needed sixteen fewer stagehands. Curry disputes this claim, saying that only eight stagehands worked at the Lyceum theatre.

With its tremendous advantages, the double stage also brought problems. Audience restlessness or costume and property changes sometimes made the intermissions as long as in any other theatre. Also, when a setting was used twice, the stagehands had to reset it on the same stage that held it before. If that stage was used in the previous scene, the change had to be made during the intermission. The double stage was seldom used as MacKaye had envisioned it. Usually the production's most elaborate setting was mounted on one stage, and simpler set changes were made on the other one during intermission. Lighting for the double stage came from overhead lights hidden beneath the orchestra platform, which was located above the proscenium arch.

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7 Curry, p. 66.
This overhead illumination used to supplement the floods and spotlights and minimize the use of the footlights was a marked improvement over previous stage lighting.  

On February 14, 1880, the New York Dramatic Mirror reported the opening of the Madison Square:

The opening of Steele MacKaye's Madison Square Theatre was an event looked forward to with great interest, and Wednesday night saw gathered within its auditorium a brilliant audience, composed of many elegant and fashionable people whose ensemble was in keeping with the theatre itself. So much has been written about the house, its portable stage, elevated orchestra, ventilating system, and all other particulars, that it is unnecessary now to describe the features at length. All the innovations proved successful, and everything worked smoothly and to the complete satisfaction of the projector. The obvious advantages centering about the elevator stage were at once noticeable. Aside from the avoidance of long and tedious waits, it does away with the annoyance occasioned often by the carpenter's hammer and the sounds emerging from behind the curtain when a scene is being struck and the succeeding one set; it permits an elaboration of every detail connected with the furnishing and adornment of the stage.

Marienthal states that MacKaye is exclusively credited with the Madison Square's national reputation and lasting success.

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10 Marienthal, p. 58.
In 1884, MacKaye became Stage Director for the Lyceum Theatre in New York, under the general management of Gustave Frohman. Here, too, MacKaye continued to work toward more realistic stage effects and again completely rebuilt the theatre to his own liking. When the new Lyceum opened on April 6, 1885, it displayed MacKaye's inventive genius even more than had the Madison Square five years earlier.

MacKaye was one of the first major American producer-directors to recognize the immense potential of electricity for theatrical production. His newly remodeled Lyceum was the first theatre in the United States to have a totally electric lighting system for both stage and auditorium, a concept that was rapidly imitated by theatres and auditoriums throughout New York City.\(^\text{11}\) The electrical system for lighting the Lyceum theatre was designed and installed by Thomas Edison, who invented the special projection lamps for its stage. The source of power for this system came from a steam boiler complex located under the carpenter shop below the main stage area, with the dynamos placed under the sidewalk in front of the theatre.\(^\text{12}\)

\(^{\text{11}}\)Ibid., p. 102.

\(^{\text{12}}\)Ibid., p. 107.
In this theatre MacKaye again demonstrated his concern for the audience. The Lyceum had one balcony, which could be entered either from the street or from the lobby. Before MacKaye's renovation, the stairs led steeply to the top of the balcony. MacKaye changed this construction so that the stairs led, instead, to an entrance near the front two rows of the balcony, a common location for the balcony entrance in modern theatres. Such a change not only reduced the sharp pitch of the stairs but saved many steps for those patrons who purchased the lower and better balcony seats. The shape of the balcony was also changed to provide better sightlines. MacKaye's ogee configuration was probably the first use of a recessively curved balcony with a forced curve projection at the box line since the Teatro Sabbioneta in 1588. This method of balcony construction provided improved sightlines for those patrons in the balcony boxes, and, because it eliminated a large portion of the balcony that normally projected over the main floor, gave those in the rear seats of the parquet an obstructed view of the entire proscenium arch. One further aid toward improving the sightlines for all patrons was the generous rake of the floor both in the balcony and on the main floor.

\[13\text{Ibid.}, \text{p. 111.}\] \[14\text{Ibid.}, \text{pp. 111, 116.}\]
The parquet, as the main floor was called, was unusual in its seating arrangement, which featured the MacKaye folding chairs. It contained six aisles with four chairs in each row between the aisles, making every seat in the house either an aisle seat or one seat off the aisle. MacKaye stated:

In order to provide these six aisles, I had to sacrifice ninety seats, or an income of a great many thousand dollars a year; but it will facilitate moving about the house, and if a foyer is ever to be of any practical use as a place for resort and conversation between the acts, the beginning can be made here.¹⁵

The folding chair MacKaye installed in the Lyceum Theatre was an improved model of the one described in the patent specification. The original chair had first been introduced to the public at the Union Square Theatre in 1882, causing considerable dissatisfaction. MacKaye therefore modified his invention before it was used in the Lyceum. Most of the faults of the original chair had been corrected, and the new chair was considerably more comfortable although still quite complicated. In the Lyceum Theatre two chairs were mounted at adjacent corners to a common standard. The chairs would then swing back to back to create an additional aisle between each two posts. To occupy the chair, the theatre patron first placed his hat in a rack on

¹⁵Ibid., p. 116.
the bottom of the chair. Then he swung the chair forward toward the stage; when the chair reached the correct position, the seat portion would descend, carrying the hat under it. The top of the chair at the post formed a loop which could hold an umbrella or a cane. While seated, the patron could manipulate the chair into a reclining position similar to the operation of the chair on a modern bus or airplane. The arrangement was such that even if one patron reclined his chair completely, he did not interfere with those seated in front or in back of him. When the patron arose from the seat, it folded automatically, leaving a large space between rows. When he swung the seat back into its original position, the patron found himself in an aisle leading to the lobby.16

For the stage of the Lyceum, MacKaye had originally intended to use the same type of double stage that he had invented and installed in the Madison Square. Limited funds, however, forced him to change his plans and build a more conventional proscenium stage. The basic idea of the double stage, however, was incorporated into the orchestra platform in the new theatre. The musicians occupied a frame about five feet deep extending across the stage. At the beginning of the play, the double lateral-sliding curtain, another MacKaye invention, would open, revealing

16Ibid., p. 125.
the orchestra, which appeared to occupy the entire stage. When
the overture was finished, the orchestra platform was lifted
into the flies, where the front of the frame formed the top of
the proscenium arch. The hoist device used was comparable to
that which lifted the double stage at the Madison Square
Theatre.¹⁷

MacKaye's inventive genius was also evident in the venti-
lation and fire prevention systems used in the Lyceum Theatre.
An article in the New York Times states,

On the sixth of April last, Mr. Steele MacKaye opened a
new theatre in New York. Already indebted to this
gentleman's exertions, not only as a writer but as an
actor, his countrymen have now to thank him for a public
service of another kind. He is builder and manager of
the most luxurious place of amusement in the world.
Among other ingenious inventions, which it is not necessary
to mention in this place, he had contrived to associate
an evening at the theatre with the sanitary results of
a visit to the seaside. His lucky audience breathes
"ozoned air."¹⁸

The "ozoned air" came from a ventilating apparatus operated by
piston air pumps which fed pure air through an ozone chamber
into steam-heated or ice-cooled chambers and finally into the
auditorium.¹⁹ Not only was the air treated and circulated, it

¹⁷Ibid., p. 136.
¹⁸New York Times, August 1, 1885.
¹⁹Marienthal, p. 139, identifies this ventilating device
as a MacKaye patent, but a search of the U. S. Patent Office
Official Gazette reveals no patent issued to MacKaye for such
a device.
was also heated or cooled as the season demanded.

All of the fire safety features which MacKaye had advocated in his essay in 1882 were incorporated into the Lyceum Theatre. Built into the stage roof were trap doors held in place by a heavy rope fastened at stage level. In the event of fire, cutting the rope would allow the traps to fall open creating the flue through which the smoke and flames could escape. A similar arrangement covered a portion of the auditorium. If no one thought to cut the rope, the heat of the fire would release the traps. Marienthal reports that MacKaye also used a means of fire-proofing the scenery, although the specific method used is unknown.  

Certainly MacKaye's efforts in the Lyceum Theatre did not go unappreciated by the theatre's patrons. Marienthal cites an article from the *Spirit of the Times*:

> It [the Lyceum] is fitted with every modern contrivance for comfort and convenience, and with some which Mr. MacKaye has invented expressly for this house. Among the novelties are the ozone air; the elevator cars; the folding chairs; the electric lighting, and the extra aisles. In summer the atmosphere will be cooled by the same apparatus which heats it in winter. The ideas of Steele MacKaye have been called impracticable; but we have seen them carried out not only practicably but profitably, in the miraculous Madison Square, and they appear

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20 Ibid., p. 143.
to be equally practical, and likely to be equally pro-
fitable, in his new theatre. He has done wonders of
work in preparing the Lyceum for the public.21

Spectatorium and Scenitorium

Steele MacKaye's ultimate dream of realistic stage pro-
duction came with his plans for a massive new concept in theatre
which he prepared for the Chicago Exposition of 1892. His
Spectatorium was to be a theatre like none ever seen in the
world. MacKaye claimed that in this elaborate theatre filled
with his inventions he would be able to reproduce any effect
nature could demonstrate.

Construction began in September, 1892, on the building,
which was to be six stories high with a frontage of 480 feet,
an average depth of 311 feet,22 and a height at the dome of
270 feet.23 The total structure, including studios and power
house, would occupy an area of 600 square feet.24 The planned
auditorium contained 7,710 seats and the balcony located in
the wings of the scenitorium seated an additional 2,500
spectators.25 The audience chamber of the Spectatorium

21Ibid., p. 140. 22Curry, p. 159.

23Percy MacKaye, "The Theatre of Ten Thousand," Theatre
Arts Magazine, VII (April, 1923), 116-126.

24Ibid. 25Curry, pp. 159-160.
comprised about one-sixth of the total structure. Its aisles were to be wide, and each aisle was to have its own entrance and box office. The exits were to be located at the side of the building so that one audience could enter as another left.

MacKaye referred to the stage area with its adjacent wings as the scenic department or scenitorium. It was designed in the shape of a semi-circle surrounding the audience on three sides. Although the inside perimeter of the arc measured 600 feet, the only portion to be open to the view of the audience was the 150-by-70-foot proscenium arch which was located at the center of the arc. The distance between the curved parallel walls of the scenitorium was to be 180 feet. The scenic department was the space between these two concentric arcs.

The scenitorium was to have a cement bottom with cement sides eight feet high, making a water-tight box on the floor of which were planned six miles of equi-distant concentric lines of railroad track. On these tracks twenty-five stages of various sizes and shapes would move. The stage manager, located forty-five feet above the stage, could control the speed and

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26 Hewitt, p. 265.  
27 Curry, pp. 159-160.  
28 Hewitt, p. 265.  
29 Ibid., p. 265.
direction of their movement with a series of electrical switches and signals.\textsuperscript{30} Percy MacKaye notes that the Spectatorium was the first theatre design which proposed electricity for both scenic lighting and stage motor power.\textsuperscript{31} The rear wall of the scenitorium was to be covered with a sky "cyc" of linoleum measuring 400 feet by 120 feet. To be projected onto this background were the constellations of the southern hemisphere, each star being given its proper magnitude and set in its correct position in the firmament.\textsuperscript{32} To operate within the scenitorium were MacKaye's sliding stages, floating stages, and telescopic stages, each with a scene permanently mounted on it.\textsuperscript{33}

MacKaye intended the scenery to be as realistic as possible. He sent his scene designers to Spain to study the locations which would be represented in the spectatorio. Real trees, shrubbery, and plants would be used whenever possible, with painted representation avoided. Costumes, properties, and musical instruments used were to be historically accurate.\textsuperscript{34}

More than in any of his other theatre projects, MacKaye wanted the lighting in the Spectatorium to be totally realistic.

\textsuperscript{30}Curry, p. 160. \quad \textsuperscript{31}MacKaye, p. 120. \quad \textsuperscript{32}Hewitt, p. 266. \quad \textsuperscript{33}Curry, p. 160. \quad \textsuperscript{34}Ibid., p. 162.
Rheostats and lighting devices which he had invented especially for this theatre were to be used to represent, realistically, sunlight, moonlight, and the stars. His illumniscopes and colorators were designed to produce every shade and intensity of light from the darkest midnight to the brightest sunshine. His cloud creators would project the images or shadows of clouds passing over the scene. He even planned to project a rainbow.  

Using his wind, rain, and fog machines, MacKaye would be able to produce any effect from the gentlest breeze to a howling whirlwind on the stage without the slightest draft in the auditorium. The wave-makers could create river currents, the tide washing upon the shore, the wake of a ship, or waves beating against the reef or tossing a ship at sea. A storm of almost any degree of violence might be reproduced on the Spectatorium stage.

MacKaye did not intend to use an act curtain in the Spectatorium. Certainly the size of the proscenium arch would have made a curtain impracticable if not impossible. Instead he invented his luxauleator or light curtain to block the view.

35 Ibid., p. 163.  
36 Ibid.
of the audience during quick scene changes. For longer inter-
missions, he planned to use two sliding doors, each seventy-five
feet wide by 100 feet high, to conceal the scenitorium. During
the performance, the size of the proscenium could be changed
quickly and easily with the proscenium adjuster, another
MacKaye invention. At the side of the proscenium was to be
the automatic unfolding announcing apparatus.37

By April, 1893, MacKaye had spent nearly all of the
original $500,000 that had been raised from the initial sale
of bonds and had incurred an indebtedness of over $300,000. In
spending this $800,000, he had completed only about half of the
theatre. Because of the financial panic of 1893, the remainder
of the money needed for completion of the project could not be
raised. The contractors refused to continue work without pay-
ment, and construction was stopped. In October, 1893, the
building was sold for junk for $2,250.38

Although MacKaye was ill, exhausted, and discouraged after
the failure of the Spectatorium, he did not abandon his plan.
From millionaire friends he was able to raise $50,000 to build
a model of the original project one-eighth its size, which he

37 Ibid., p. 164. 38 Ibid., p. 165.
called the Scenitorium. He renovated the Chicago Fire Cyclo-
rama on Michigan Avenue and installed the adjustable proscenium,
the luxauleator, wind and wave-makers, sliding and floating
stages, and lighting devices. He redecorated the auditorium
in dark colors to draw the attention of the audience to the
stage.39

The Scenitorium opened February 5, 1894, with a poorly
rehearsed production of the original scenario. Some of the
elaborate machinery refused to work properly, while MacKaye
himself read the manuscript aloud from a chair on stage right.
Although the audience applauded parts of the spectacle, they
soon became bored. MacKaye's manuscript was long and dull and
filled with mediocre rhymes. Certain effects, while extensive,
were unimaginative; the same lighting effect was repeated four
times to show four days of Columbus's voyage. There were no
actors to provide a focus of attention. The audience of the
day simply was not interested in a dull, familiar, sentimental
story told by machines.40

Again MacKaye faced financial failure. With a benefit
performance, friends raised $1,000 to send MacKaye to California

39Ibid., p. 166.  40Ibid., p. 168.
to regain his health, but he died enroute on February 26, 1894. After his funeral service was held on its stage, the Scenitorium closed.

MacKaye's last two productions show the final evolution of his producing philosophy. His emphasis upon the visual communication, evident since the beginning of his career, led him finally to the spectatorio, a form which appealed to the ear only through music and which had no dialogue and little character delineation. The culmination of MacKaye's career was a theatre without people—a theatre of machines.\textsuperscript{41}

Throughout his career MacKaye was more interested in action and spectacle than in dialogue. Beginning with the Madison Square Theatre, he demonstrated intense interest in production techniques which would increase realism on the stage. His penchant for realism was even more evident in the Lyceum Theatre, particularly with lighting devices. In 1886, with Buffalo Bill's Wild West, MacKaye found his forte in the production of action-spectacle without dialogue. The climax of his career came with the Spectatorium in which he planned to produce what he considered to be the highest form of drama—pantomime with music—his spectatorio.

In his short theatrical career, Steele MacKaye made significant contributions to the progress of American theatre. His career and his life ended while he was fighting for a concept

\textsuperscript{41}Ibid., p. 169.
of theatrical production which was not to be realized until an entirely new production medium had evolved. The implications of his work and his contributions toward contemporary production methods will be considered in the final chapter.
When a study is made of a figure of the past and his contributions to our culture, the man and his work become important only when the results demonstrate significant progress toward our contemporary status. Steele MacKaye is remembered today primarily for introducing the Delsarte system to America and sometimes for the double stage he installed in the Madison Square Theatre, but too few people today realize the significance of his later inventions, innovations, and concepts of theatrical production.

As early as 1923, memory of MacKaye apparently had faded. In April of that year, Percy MacKaye, at the request of the editors, wrote for Theatre Arts Monthly an article entitled "Theatre of Ten Thousand," describing the Spectatorium. The article is prefaced by an editors' note:

For the past fifteen years the experiments of the greater and more radical European directors and artists have led away from the peepshow stage of the twentieth century, and towards a playhouse of new relationships. Reinhardt's gigantic circus productions of the Greek tragedies led him finally to the Grosses Schauspielhaus with its huge auditorium and its orchestra, or acting space, in the midst of the spectators. Copeau evolved the naked stage,
united architecturally with the auditorium. Here in America we talk of Norman Bel-Geddes' scheme for representing Dante's *Divine Comedy* in Madison Square Garden, his remarkable plans for a prosceniumless theatre and Herman Rosse's designs for various playhouses and productions which escape entirely from the old type of theatre. Few of us realize that thirty years ago an American director and playwright, Steele MacKaye, projected a kind of playhouse anticipating in many respects the schemes of present-day reformers.¹

In 1927, Walter P. Eaton wrote that Steele MacKaye was not only one of the most picturesque but also one of the most important figures in American theatre history. He describes MacKaye as "a pioneer into the future, a dreamer of the theatre to come."² MacKaye's Lyceum Theatre, in organization and scope, was a forerunner of the Theatre Guild; it was an early vision of the Art Theatre which has yet to develop fully in our country. Eaton further identifies MacKaye as the veritable genius of the theatre for whom Gordon Craig and others had been calling:

The fusion of arts accomplished by the Guild or by Arthur Hopkins or Winthrop Ames, can be traced back through Belasco, and through Mrs. Fiske's Manhattan Company, to Steele MacKaye. He was the first of our great directors who philosophically knew what he was about, and why.³


³Ibid.
As a director, MacKaye firmly established on the American stage the function of the director-regisseur as later advocated by Craig and Reinhardt. David Belasco and Daniel Frohman, both of whom worked under MacKaye at the Madison Square and the Lyceum Theatres, were influenced by his conception of the director as the creative center, maintaining total control over every facet of production.\(^4\) Percy MacKaye quotes David Belasco's paean: "If Steele MacKaye could return to us, the world would shower at his feet belated tributes for his magnificent contributions to our theatre."\(^5\) Gordon Craig wrote about Steele MacKaye: "His indomitable tenacity to the vision of the theatre's art, even at the cost of death, represents the finest influence in the American theatre."\(^6\) Percy MacKaye describes his father as a man who "exemplified in himself the all-round gifts and training demanded by the much-discussed but seldom-attained ideal of the 'artist of the theatre.'"\(^7\)

Steele MacKaye anticipated numerous theatrical effects of the twentieth century. In Paul Kauver (1888), he introduced a dream sequence and made the mob a leading character in the play.

\(^4\)Marienthal, p. 266. \(^5\)MacKaye, p. 116.  
\(^6\)Ibid. \(^7\)Ibid., p. 119.
A description of a rehearsal by one of the mob indicates that MacKaye not only anticipated Hauptmann's *Weavers* in his social passion for the crowd, but anticipated directors like Reinhardt in his handling of mobs on the stage.\(^8\) In *Money Mad* (1889), MacKaye built a rickety staircase descending into a pit so that actors played on three vertical planes, lighted in a way to accentuate both height and depth. He also constructed a steel draw-bridge that swung out over the audience, creating two horizontal planes of action comparable to and predating by twenty-two years the stage and runway of Reinhardt's 1911 production, *Sumurun*.\(^9\)

When MacKaye installed a totally electric lighting system in the Lyceum, the concept was quickly adopted by New York's other theatres. As stage machinery became more powerful and sophisticated, MacKaye's basic electrical installation was generally used by theatre planners during the remainder of the nineteenth century and was influential in the installation of lighting equipment well into the twentieth century. The importance of electricity for affecting scene changes is borne out by the adoption of a similar system at the Metropolitan Opera House in 1890.\(^10\)

\(^8\) Eaton, p. 831. \(^9\) Ibid.  
In the Lyceum Theatre, MacKaye also re-introduced the ogee-shape balcony. The popularity of this concession to audience comfort, in spite of the greater seating capacity of the projecting balcony form, is seen in its use shortly thereafter in four theatres in New York—the Berkley Theatre, the Broadway Theatre, Harrigan's Theatre (now the Garrick), and the Manhattan Theatre.11

There is little doubt that MacKaye's fire safety features used at the Lyceum Theatre constituted the most advanced system yet devised in any American theatre, setting the precedent for others to follow. Its contribution to the future development of safety standards in theatres can be seen by the fact that New York building laws pertaining to theatres incorporated under Section 500 and promulgated in 1890 specifically incorporate nearly all of MacKaye's ideas.12

While Steele MacKaye was involved in all facets of theatre and gave to the American theatre ideas and apparatus beneficial to almost every area, his primary concern throughout his career was the development of realistic staging. His experiments at the Madison Square, the Lyceum, and his work with Buffalo Bill's Wild West led him to the "ultimate" form of drama which he planned for the Spectatorium.

A. Nicholas Vardac believes that MacKaye had in mind what would eventually become cinematic production. With his theatrical inventions plus the rigid application of the Del-sarte system, MacKaye brought the theatre of the nineteenth century to the very threshold of the silent film. To Steele MacKaye, says Vardac, must be conceded the creation of the most cinematic staging of his time; he sought to overcome the conventional methods of production through the invention and introduction of a number of staging devices in his approach to making theatre altogether graphic.

His basic approach to theatre will be found, first of all, in his plays and dramatic productions. His attempts to enlarge the physical capacities of the stage in the cinematic direction will be found in his mechanical inventions. And lastly, his spectacle stagings, utilizing this inventive ability, illustrate the vast expense and effort consumed to satisfy an aesthetic preference so easily filled by the cinema.

As can be seen with his production in the Scenitorium, MacKaye's concept of acting would have eliminated the need for vocal illusion, for dialogue, completely, as the actor would have become totally subservient to the demands of MacKaye's scientifically created stage picture. MacKaye told his story

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with action, an adaptation which had something in common with the silent film. Dialogue became unimportant as each scene provided a vivid action-picture.\textsuperscript{16}

Traces of cinematic techniques can also be found in MacKaye's earlier work. \textit{Paul Kauvar} was a play of action; it did not depend upon dialogue for success, but like the motion picture, its vital elements were action, incident, and situation. Motion tableaux, or silent pictures, were used throughout the play to present its most climactic moments. "Steele MacKaye, with this production, presented a vital sequence of living pictures in motion more than a generation before the advent of the modern vitagraph."\textsuperscript{17} Like the earliest motion pictures, the incidental music for \textit{Paul Kauvar} was suited to the action. MacKaye's success with this production came with the exploitation of visual values: mass movements, action, and tableaux, with all thoroughly integrated with music. "That he was at the head of the procession racing toward the photographic ideal can scarcely stand dispute."\textsuperscript{18}

MacKaye reached the culmination of his staging ideal just as the cinema was about to appear. The motion picture assumed

\textsuperscript{16}Ibid., pp. 250, 136. \textsuperscript{17}Ibid., p. 138. \textsuperscript{18}Ibid., p. 137.
his work where it was stopped by his early death, and carried his original premise to its perfection by exploiting the aims as well as certain specific techniques which he had invented.\(^9\) MacKaye's Spectatorium was pictures in the round before the invention of the motion picture; it was stage mechanism and electric lighting glorified into living art.\(^20\)

Several of MacKaye's patents for the Spectatorium anticipated cinematic techniques. His luxauleator, or light curtain, in cooperation with his centrally controlled electric lighting was designed to accomplish fade-outs, fade-ins, and dissolve effects, which later became common cinematic devices. The nebulator, or cloud creator, closely resembled a crude motion picture projector. The proscenium adjuster, calculated to provide greater flexibility in the pictorial arrangement of the stage, could provide a rapid change from a panoramic view to a close-up, from a gigantic set to an intimate scene. MacKaye could control the type of stage picture offered in the fashion of the motion picture, with its long shot or close-up, its panorama or tracking shot.\(^21\)

The aesthetic values embodied in the Spectatorium were purely visual. Here there was to be no pictorial illusion

\(^{19}\)Ibid., pp. 150-151.  
\(^{20}\)Eaton, p. 832.  
\(^{21}\)Vardac, p. 143.
of reality but reality itself, the creation of pictures-in-the-round-in-motion, that is, three-dimensional motion pictures.\textsuperscript{22}

The pinnacle of the pictorial theatre of the nineteenth century had been sighted. The quest for the photographic ideal was on the verge of being reached on the stage just two years prior to its demonstration on the screen. While the immense amount of money invested in the Spectatorium must be counted as a loss, the aesthetic and historical value of the project must be recognized. MacKaye had created a living theatre which depended on cinematic techniques before the actual advent of motion pictures.\textsuperscript{23}

In 1927, A. F. Victor, of the Society of Motion Picture Engineers, wrote to Percy MacKaye:

Many of the methods we employ nowadays in motion picture making were originated by your father for use in his Spectatorium. Whether his ideas were remembered and put to use later on, or whether they were rediscovered, it is difficult to state without a certain amount of investigation. . . . It is especially interesting to note that the means employed by Steele MacKaye for the reproduction of atmospheric phenomena, and which were patented by him in 1893, are identical with those now in common practice. . . . The cloud-projecting scheme is an example of such priority of conception. . . . I find every indication that the thing which today had developed into the most powerful form of public entertainment was in his mind, and that he recognized the appeal of that form of entertainment.

\textsuperscript{22}\textit{Ibid.}, p. 146.

\textsuperscript{23}\textit{Ibid.}, pp. 148-149.
... Even titles and subtitles had been recognized by him as an essential to proper presentation, and these did not arrive in the picture industry until after many years of exploitation of the pictures themselves.\textsuperscript{24}

Steele MacKaye not only improved the theatre of his own time but also provided an impetus for the development of future theatre. His fire prevention system was a precursor of systems made compulsory at a later date. The moving stages of the Spectatorium suggested the vast potential of electricity in the movement of stage scenery and stage equipment. His lateral sliding curtain has become standard. Devices for the reproduction of natural phenomena pointed the way for future cinematic techniques. His concept of the all-powerful director-regisseur provided inspiration to men like Daniel Frohman and David Belasco. Without doubt, MacKaye's introduction of the Delsarte system to America was important; of greater significance, however, is the fact that Steele MacKaye was the first American to articulate certain concepts of the new stagecraft for American theatre.

\textsuperscript{24}\textit{Ibid.}, p. 151.
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