Disney, Stokowski, and the Genius of *Fantasia*

by CHARLES L. GRANATA

"The beauty and inspiration of music must not be restricted to a privileged few, but made available to every man, woman, and child."
—Leopold Stokowski, 1940

"Fantasia is not the final expression of this new union of color and music and action. It is the beginning of a new treatment and technique for the screen, as well as an indication of the greater development of sound recording and reproduction."
—Walt Disney, 1940

Opening Night

November 13, 1940, 7:30 P.M. The Broadway Theater, 1681 Broadway, New York City.

It's a cold, rainy Wednesday. A new motion picture is to be premiered—an unusual one, with an odd name. A Disney production about cartoons and classical music. . . .

The theater is one of the grandest film houses in New York. Heads are turning, people are buzzing. Walt Disney smiles while shaking hands with reporters. And everyone is making a fuss over a distinguished gentleman with white hair: the conductor, Leopold Stokowski.

The house lights dim, the curtain ascends, and the screen is filled with the loveliest indigo hue. Music stands and a podium anchor the scene; musicians, appearing as shadowy, backlit images, file onto the cinematic stage. The players take their customary seats within the orchestra and begin tuning up.

Enter musicologist Deems Taylor. "What you're going to see," he explains in his filmed introduction, "are the designs and pictures and stories that music inspired in the minds and imaginations of a group of artists. In other words, these are not going to be the interpretations of trained musicians, which I think is all to the good. What you will see on the screen is a picture of the various abstract images that might pass through your mind if you sat in a concert hall listening to the music."

The narration concludes, and a conductor, also in silhouette, takes his place before the orchestra. Suddenly, a vaguely familiar symphonic melody begins to swell. As Stokowski signals the entrance of each instrument, a mélange of colors erupt, and more shadows and light spill across the screen. The graceful curve of the stately harp casts a sensuous, foreboding arch across the azure backdrop. One by one, the string, woodwind, and percussion sections appear; the bell of a lone tuba glows in sync with its staccato entrance. The deeply saturated colors fade from pastel green to fiery orange and back again, as the orchestral snapshots melt into a series of flexible, free-form illustrations. From the skies float abstract images of fiddle bows and strings, their dances mimicking the ebb and flow of the music, stretching lazily across the ethereal landscape. As Bach's *Toccata and Fugue in D Minor* unfurls triumphantly, the warm, throaty roar of the music—which began in the front—begins to envelope the audience. Even a live performance has never sounded this rich, transparent, detailed. The brilliant sheen of the strings is like a velvet cushion: a foil for the crisp brass, rumbling kettledrums, and delicate harp.

Later, as Moussorgsky's *Night on Bald Mountain* tumbles onto the screen, the audience becomes immersed in a pool of pleasurable sound, firing from every direction: sixty-eight loudspeakers strong, pushing the instruments at them, pulling away, following the dramatic movement of the unusual images on the screen. It swoops from the front left and back right, creeping up the aisle like subway steam escaping through a sidewalk grate. When church bells toll ominously from behind, the entire audience turns in their seats, staring at the back wall of the theater in disbelief.

The audience members are talking now, excitedly—remarking on the purity of sound. "Could there have been a live orchestra in the pit . . . ?" These few moments of aural and visual bliss have given them a new respect for cartoons and classical music. A privileged few, they have experienced the world premier of the very first stereophonic motion picture—Walt Disney's *Fantasia*—in all of its original "Fantasound" splendor.

Birth of an Art Form

What makes *Fantasia* so special? Why is it revered as a technical and aesthetic milestone?

Though largely ignored by audiences of its day (and scorned by classical music "elitists"), *Fantasia* was the movie with which Walt Disney stepped boldly into the unknown. Taking tremendous financial risks while pushing every talent at his disposal to maximum capacity, he was hoping to create a masterpiece.

"*Fantasia* was made at a time when we had the feeling that we had to open the doors here," Disney once explained. "This medium was something we felt a responsibility for, and we felt we could go beyond the comic strip and do some very exciting, entertaining, and beautiful things with music, and picture, and color. So, we just went ahead and tried it out."

Disney's notion to produce a film marrying animation and classical music was born long before *Fantasia*'s raw footage hit the editing desk. In 1929, Disney and composer Carl Stalling conceived and produced a non-Mickey short in which music usurped the action. This film (*The Skeleton Dance*) included a snippet of Edvard Grieg's "March of the Dwarfs," and became the first in a series called Silly Symphonies. In 1932, a Silly Symphony called *Flowers and Trees*—set to the music of Mendelssohn and Schubert—became the very first 3-strip Technicolor film.

Disney purposefully kept Mickey Mouse out of the Silly Symphonies. But toward the late 1930s, Mickey's character began to sag, sending Walt scurrying to spice up his image. Thinking of the musical shorts, he devised an ingenious plan: Mickey would star in an animated version of *The Sorcerer's Apprentice,* a Goëthe fairy tale set to the music of French composer Paul Dukas.

Soon after, Disney accidentally stumbled into a great fan of his cartoons—famed conductor Leopold Stokowski. "I first met Walt Disney in a restaurant," Stokowski recalled. "I was alone having dinner at a table near him and he called across to me. 'Why don't we sit together?' Then he began to tell me that he was interested in Dukas's *The Sorcerer's Apprentice* as a possible short, and did I like the music. I said I liked it very much, and would be happy to cooperate with him." Stokowski went to work immediately, focusing on the orchestration and recording of Dukas's music. It was a task the musical demigod relished.

As their work intensified, the pair had lengthy discussions about art and music. Eventually, Stokowski began recommending other classical compositions that could lend themselves to similar treatment. Though admittedly not a classical music lover, Disney was intrigued, and quickly decided that instead of a two-reel short, *The Sorcerer's Apprentice* would become part of a full-length film: a series of vignettes based on classical works of contrasting tempo and tone.

Originally, Disney called it *The Concert Feature*. But as production commenced, he realized the new creation needed a catchier name—one befitting its musical form. He found the title in a musical term denoting "compositions unrestricted by formal design," and soon, the seeds planted by Stokowski and *The Sorcerer's Apprentice* were blossoming into the filmmaker's watershed animated feature.

Abstract Conceptions

Disney's concept of marrying classical music and abstract animation reflected his adventurous nature. Classical music is spiritual and descriptive, and few men possessed the sensitivity, skill, or audacity to blend the two art forms as provocatively as he did. "Walt was first and foremost a storyteller," said animation historian and author John Culhane. "But Walt was the storyteller as techno-buff."

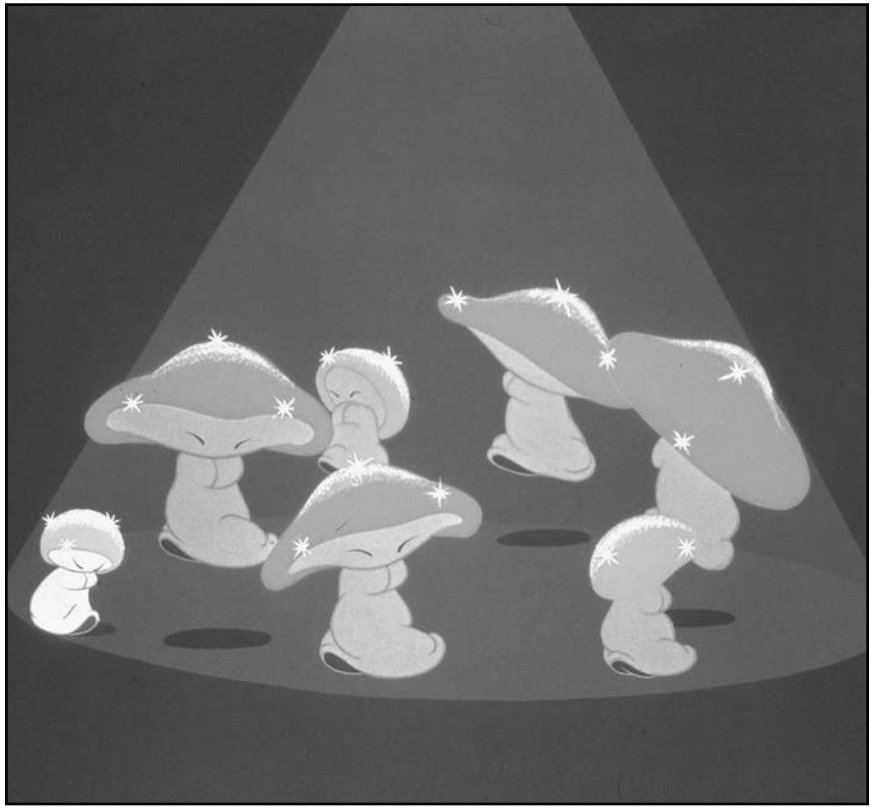
The filmmaker laughed when people probed the meaning of *Fantasia*'s illustrative concepts. "It was just a very arbitrary thing on our part—a lot of people tried to figure out," he said. "They thought that we were very profound about this thing [*Fantasia*], and tried to analyze the whole darn thing. We went ahead and made these forms move. It was just a bunch of stuff thrown in there, you know—splashes of color, movements."

One scene, "The Soundtrack," offers a superb example of Disney's abstraction at its best. A single line (representing a sound wave) assumes the personalities of various instruments in the orchestra—dancing and moving to the "vibes" the studio artists perceived those instruments would create. The segment is playful, informative, and stimulating: sparked by the clever illustrations, viewers are compelled to imagine what shape *they* believe each instrument's sound reflects.

Disney immersed himself vigorously in the subject at hand. He held lengthy story meetings and met often with Stokowski, with whom he listened

to dozens of works, searching for those offering the varied contrasts and textures he sought.

The selections Disney approved represent some of the most expressive compositions in the literature of classical music: Bach's stately *Toccata and Fugue in D Minor,* Dukas's *The Sorcerer's Apprentice,* Tchaikovsky's beloved *Nutcracker Suite,* Beethoven's *Pastoral Symphony,* Stravinsky's bombastic *The Rite of Spring,* Ponchielli's *The Dance of the Hours,* and Mussorgsky's terrifying *Night on Bald Mountain.* For the conclusion, he chose Schubert's heavenly *Ave Maria.* "This covers four minutes in our picture, and it's going to be four precious minutes when we're through," he told his staff when describing the climactic scene. "The beauty we can get from controlled color and the music and everything we use here will be worth it."



A scene from the "Nutcracker Suite" sequence in *Fantasia.* © Disney Enterprises, Inc.

In one of the daily brainstorming sessions, Disney outlined his ideas for the *Nutcracker Suite* sequence. For this interpretation, Disney wisely chose to forego the traditional overture and march—and the toys and nutcracker as well.

> We'll open on the Sugar Plum Fairy idea, with the fairies decorating the setting, and possibly building to the point that they give life to things. Then, we come down from that, and bring in the mushrooms. The little vamp in the music brings them to life, and they begin to dance this cute little Chinese dance. . . .
>
> From that, we lead into the dance of the flutes, and that will serve as a spot to bring in the flowers and things that will dance to that. Even the mushroom personalities won't be out too strong. It's like something you see with your eyes half closed—you almost imagine them. The leaves begin to look like they're dancing, and the blossoms floating on the water begin to look like ballet girls in little skirts. It will be like if you're out in the night, and a firefly comes along, you can almost think it's a fairy, decorating with dew.
>
> You know how I think this oughta come in? With a ripple—no background at all. And the ripple carries life. The petals fall down on the water. It'll all be a ballet of flower petals on the water. Those little flowers? I see no reason why they can't dance right on the water. If you throw a flower blossom on the water, it floats. They could skim right on the water—it would make a beautiful setup.

This free-flowing style was an artistic departure for the animators on Disney's staff, although some experimentation with unusual forms had begun long before Disney dreamed of *Fantasia.* "The abstractions that were done [for *Fantasia*] were no sudden idea," he explained. "Rather, they were something we had nursed along for several years but never had a chance to try, due to the fact that the pictures being made up to that time didn't allow us to include any of this type of material in them. These abstract designs were an outgrowth of our effects department, which we organized long before we had any contact with Stokowski."

The Maestro

In Leopold Stokowski, Walt Disney found his musical counterpart: an abstract thinker with a distinct flair for showmanship. "I enjoyed working with Walt

because of his boundless imagination and simple direct approach to everything," Stokowski explained. "His instinct for perceiving great gifts in young artists reminded me of [Ballet Russe founder] Diaghilev."

Born in London on April 18, 1882, Stokowski studied piano and organ, and at age twelve made his conducting debut in front of a children's orchestra. "That did it," he later said. "That night I didn't sleep a wink. I had but one thought—to become a conductor!"

In 1905, he came to New York, serving as choirmaster and organist at St. Bartholomew's Church. His charismatic persona aided him in securing the post of conductor of the Philadelphia Orchestra in 1912; he remained there until 1940. It was with the Philadelphia that Stokowski carved his reputation, developing extravagant gestures that inspired and delighted musicians and audiences alike. Prior to Stokowski's emergence, few conductors became personalities in their own right; fewer still influenced the masses as strongly as he did. Only Leonard Bernstein, who made his conducting debut with the New York Philharmonic in 1943, enjoyed an equally celebrated presence.

Until the mid-1930s, the conductor's role was largely misunderstood. Composers of the nineteenth century had created works containing far more expressive range than their predecessors, thus compelling the leader to employ musicianship and rhythmic skill to extract the subtle complexities of a score, and aid the orchestra in proper dynamic projection.

Stokowski was a firebrand who altered our perception of the *maestro*, carefully defining his image and function as the interpretive leader of the orchestra. Violinist Yehudi Menuhin once explained why "Stokie" left such a strong impression on us. "Stokowski knew the visual value of the conductor, for the audience as well as the players," he said. "For the first half of the [twentieth] century, Stokowski epitomized for most Americans what the symphony conductor should look like, how he should behave, and in large measure helped to popularize the symphony orchestra in North America."

Moreover, Stokowski was an intuitive collaborator, as passionate about recording technology as he was about the music itself. "In recording, it was always a joy to work with Stokowski," said RCA Victor Red Seal producer Charles O'Connell. "He understands the recording of sound, and conducts his orchestra accordingly." The conductor was so enthusiastic about recording that he once professed, "The recording process will one day produce music better than heard in the concert hall."

Stokowski's interest in sound was exceptional. While many of his contemporaries detested the recording process (the irascible Arturo Toscanini comes to mind), Stokowski embraced it, learning all of its technical intricacies. O'Connell, who spent hundreds of hours in the studio with the maestro, emphasized the conductor's skill at blending the science of recording with the art of performing. "He was always more interested in orchestral tone than any other conductor, and knew more about it: how to produce it, how to employ it, and how to make it register on record. And he decided that, given sympathetic cooperation in the recording room, he could accomplish more by manipulation of the orchestra than by revolving a rheostat. He accomplished his results, therefore, through conducting technique, leaving entirely to me the adjustment of the electronic-mechanical factors."

From his orchestra, Stokowski nurtured a rich, luminous tone known as the "Philadelphia sound." Much of that sound evolved through trial and error, and a good measure of risk taking. In spite of the occasional reproach of fellow conductors who frowned on his offbeat ideas, Stokowski remained accountable to just one individual: himself.

Though Stokowski's positioning of instruments within the orchestra was unconventional, his changes improved the spaciousness and clarity of its overall sound. While other conductors were dictatorial when it came to technique and interpretation, Stokowski allowed unlimited freedom of expression among his players. His string section, for example, was encouraged to "free bow," which meant the players could move their bows up and down as they pleased, thereby producing a *legato*-style sound much smoother than that of the traditional (synchronized) method. All of his players, from bassoonist and trumpeter to contrabassist and percussionist, were encouraged to violate every technical rule of playing—if it ultimately enhanced the beauty of their phrasing, or the sonority of their tone.

Who, other than Stokowski, would dare abandon the coveted symbol of a conductor's power, the mystical baton? *He* did, and despite the absence of a wand, he managed to draw infinite shadings and sweeping musical dynamics from the virtuosi under his command.

Legendary Hollywood violinist Sid Sharp, concertmaster for Stokowski's Hollywood Bowl Orchestra during the 1950s, fondly recalls the master's touch. "Stokowski was inspiring. The way he conducted, the way he looked at you, the way his hands moved . . . you could just feel everything coming out of him. In turn, that unspoken energy transpired, and came into *you*. He

did something to an orchestra that brought out the absolute best in them. Stokowski was the greatest painter when it came to coloring the music of the great composers.

"He was feared, but respected. His expectations were very high, and he wanted the best from his players. When he was on the podium, he didn't want anyone lagging behind. He wanted you to give everything you had. He knew that when he put his hand down to give us a downbeat, we would be there. There was something mystical—*indescribable*—about the sound of Stokowski's strings. Sitting there, in the midst of that tremendous swell of strings, was mesmerizing."

The Maestro and the Man Behind the Mouse

The conductor's passion was of tremendous value to Walt Disney and the technical team responsible for the complex recording of *Fantasia*'s music tracks. Disney welcomed his input on all levels, and the maestro's hand in bringing Disney's fanciful vision to life cannot be overemphasized.

By 1937, Stokowski was a familiar face on the silver screen. He'd appeared in *The Big Broadcast of 1937*, and later backed Deanna Durbin in Universal's *100 Men and a Girl,* a soundtrack recorded with a multi-channel recording technique developed by RCA. This process employed nine microphones, spread throughout the orchestra to capture individual instruments. Though the nine tracks were mixed to a single monophonic track, the sound was far less distorted than it was with previous film recording methods.

When it came to imparting a sense of depth and space in their work, Disney and Stokowski were of one mind. "[Walt] had a sense of place, which meant that you walked in and lived in those wonderlands," explained John Culhane. "You needed a sense of depth, and so he got his technicians to develop the multiplane camera, and with the multiplane camera you go *into* those worlds. But when you went into *Snow White and the Seven Dwarfs* [1937], you had a feeling of going into a story such as the best storyteller gave you with their voice. . . . Walt gave it to you with all your senses involved. Except smell! And he was always working on that. . . ."

That *Fantasia* would take full advantage of Technicolor animation was a given. But the fidelity of a standard monophonic motion picture recording couldn't convey the realism the collaborators were after. For *Fantasia,* the traditional method of recording sound for film simply wouldn't do. What Disney

and Stokowski envisaged was a soundtrack rivaling the vivid boldness of the film's spectacular color: a panoramic showstopper that would suspend the viewer in a rich, golden bath of sound—as if they were sitting in the center of the orchestra at a live performance.

Against tremendous technical odds—and a full fifty years before 5.1 "surround sound" become *de rigueur* for theatergoers—the pair found the answer in a revolutionary system developed by William Garity and the Walt Disney Studios sound department. They called it "Fantasound."

Sound Ideas

When the Disney Studios embarked on developing the first multi-channel "stereophonic" film recording system in late 1938, the technology of film sound recording was still in its infancy.

The Jazz Singer (1927) heralded the birth of the talking picture, although research and development in the area of film sound reproduction was in full swing much earlier at Thomas Edison's West Orange, New Jersey, labs. Improvements such as electrical and optical film recording (made between 1915 and 1927) foreshadowed the inevitable success of the sound film medium.

By the time Disney assigned his staff the seemingly impossible task, both Bell Labs and RCA had made substantial progress in developing multi-channel recording techniques. The focus, though, was on clarity and not on "dimensional" sound. At MGM, the engineers were recording film sessions on four discrete tracks called "angles." Although the individual channels represented different orchestral and vocal views, they were always mixed to mono for the final soundtrack. Film soundtracks (as encoded on their 35mm projection prints and played in the theater) remained monophonic recordings, played back through a speaker behind the screen.

The difference between mono and stereo is like night and day. Monophonic sound has no spatial depth or directionality: all of the sound comes from the center. It is akin to listening with just one ear. Stereophonic sound allows us to perceive recorded music with distinct depth and separation, approximating what we might hear during a live performance.

Disney's Fantasound system differed from others, as it boasted nine separate music tracks (recorded with widespread microphone placement) that were eventually mixed to three-track "stereo." On playback, Fantasound's

dozens of speakers surrounded the viewer with a three-dimensional sea of sound. So impressive was the effect that the Philadelphia *Evening Bulletin* hailed it as the screen's "greatest departure since the introduction of sound."

Stokowski once explained the diffusionary technique used in the system. "In *Fantasia,* we had three separate sound channels [for playback], which put at our disposal several new possibilities. [A] great advantage of three sound channels is that the tone of the various instruments can be blended in the air after the sound has left the speakers. This corresponds somewhat to the blending of colors in *pointillism,* the method of painting in which the colors are not mixed on the canvas, but are blended in the spaces between the canvas and our eyes as we look at the picture."

In the Studio

Technically, it was William Garity (Disney's head sound engineer) and a crew of associates who masterminded Fantasound's design, putting Disney and Stokowski's theoretical concepts to work.

Except for *The Sorcerer's Apprentice* and the vocal portions of *Ave Maria* (which were recorded at RKO/Pathe Studios in Hollywood), the sessions for *Fantasia* were held at the Philadelphia Academy of Music. Ever the eccentric, Stokowski insisted on recording in the wee hours of the morning. "The men drink coffee to keep awake," he confessed. "It makes everybody alert."

Disney director Jim Algar once described the January 9–10, 1938, session. "Stokowski's session for *Sorcerer* [ran from] 12:00 midnight to 3:00 A.M. [With] one rehearsal, Stokowski galvanized eighty-five musicians to a pitch of tenseness that produced, in three short hours, the complete recording of Dukas's music. He then stepped down, soaked with perspiration from head to foot. No mere handkerchief could mop his steaming brow; he was handed two man-sized bath towels." ("I can attest to that," affirms Sid Sharp, commenting on his 1950s performances with the master. "At the end of rehearsal, I had to change my clothes—I was completely wet from sweating. And the same thing would happen in the evening—after the concert performance.")

The stereo sessions for *The Sorcerer's Apprentice* were not without incident. An intricate "shell," designed to isolate sections of the orchestra and absorb unwanted frequencies, failed to work as expected. The recordings were completed, but Disney decided to move the scoring to the Philadelphia's sonically superior Academy of Music. "I remember that in the basement, right under-

neath the audience, was a big, round brick wall," said Disney associate Dick Huemer. "Across the top of this there were stringers, or beams—very much like the sounding board of an instrument. I guess the architect's idea was that the theater would reverberate like a huge instrument or something, and maybe it does, because those acoustics are famous."

In Philadelphia, a temporary control room was set up in the Academy's basement. Fearing a nitrate fire, administrators allowed the recording team to keep just one spare reel of nitrate recording film per optical recorder in the building; a truck was brought in and served as a mobile storage facility and darkroom. Over a two-month period during the summer of 1939, the technicians recorded and processed more than 400,000 feet of sound negative film.

The Academy's concerns were not unfounded, given nitrate's potential for spontaneous combustion. In the 1940s, the risk of nitrate fires and explosions wasn't limited to film stored in vaults: on occasion, theater projection booths became deadly chambers, as heat from a projector's carbon arc lamp could swiftly ignite the fast-burning material.

To faithfully capture the wide dynamic range of the orchestra, engineers placed up to thirty-three RCA 44 ribbon microphones among the musicians. The mikes were fed to a mixer, and the pre-mixed instrumental sections they represented were separated into six discrete channels as follows: (a) violins; (b) violas; (c) cellos and basses; (d) brass; (e) woodwinds; and (f) timpani. The seventh channel was a direct-feed combination of channels one through six, and the eighth channel recorded an overall, distant take of the entire orchestra (thereby preserving the essential "room tone" of the recording hall.)

Sound mixers monitored the recording levels with oscilloscopes, as overmodulation would create distortion on the optical film track. Signals were recorded onto separate strips of 35mm nitrate optical film, using customized RCA Class A optical recorders.

Introduced by RCA and Western Electric in 1930, optical recording was adopted by the major studios in 1935, and quickly revolutionized the industry. With the optical system, a light beam is projected through a series of lenses, which concentrate and focus the light. The condensed light is then passed through a light valve containing ultra-thin ribbons. As the electrical impulses generated by a microphone hit the light valve, the ribbons modulate (vibrate), and as the light passes through a second set of lenses, it is focused directly onto a very narrow portion of the film, which is coated with light-sensitive photographic emulsion.

The Finishing Touch

After the Philadelphia sessions, the separated music tracks were brought to the Disney Studios, and carefully rerecorded (mixed) to a single, four-channel 35mm strip that became the final music track. The film was recorded optically on custom designed printers that could print four tracks side by side. On this master soundtrack, channels one, two, and three contained the stereophonic music and dialog mix, and channel four contained a special tone that functioned as a synchronizing "control" track, automating the fades and pans on playback.

Stokowski himself supervised the rerecording, as John Hench of Disney Story Development recalled. "Stokowski was fascinated by the mixing board," Hench explained. "He recorded each section separately—strings, winds, horns, etc.—and he mixed them all himself. He said this was 'the ultimate in conducting.' He could dial up the strings, or turn down the others, getting exact mixtures of sounds. With the [mixing] panel he could control the whole orchestra. That little sound board on the Hyperion Avenue's soundstage gave him a great sense of power."

The rerecording phase of production is where *Fantasia*'s surround-sound characteristics came to life. Since they were forging new paths in stereo reproduction, Garity and his men were forced to improvise and invent the electronic means that would allow them to take the separated music stems and manipulate the sound to match the on-screen action.

How did they move the sound back and forth across the screen? What makes a particular instrument "fly" from the back of the room to the front? To create these brand new effects, the technicians designed "pan pots"—rotary dial controls that allowed the sound source to be moved around the aural soundstage. (As testament to their ingenuity, many of their innovations became standard tools in the recording industry, and are still in use today.)

The final mix was impressive, and delighted everyone—especially Stokowski.

"In the thunderstorm part of Beethoven's *Pastoral Symphony* are certain phrases for bassoon, clarinet, and oboe, which have an urgent, agitated expression," he wrote in *Music for All of Us.* "These phrases are almost inaudible in the concert hall, because the rest of the orchestra is playing loud and furiously. In *Fantasia,* we were able to give these important passages their true value by making the melodic lines for bassoon, clarinet, and oboe soar above the rest

of the orchestra without emasculating the rushing, stormy music of all the string instruments. Because of the inherent lack of balance in the orchestration, I have never before heard these phrases given their due prominence and tonal importance."

In the Theaters

Presenting *Fantasia* created unique problems.

Scoring a multi-channel motion picture in the early 1940s was one thing; building a practical system to play it back in theaters across the country was an entirely different matter. While most other films contained both picture and soundtrack on the same strip of 35mm film, the Fantasound system called for a separate music track: in a full, Fantasound theater setup, a regular projector would be used for the visuals, and a special four-track "film phonograph" would be employed to play the music track, in synchronization with the picture.

Disney knew that if the public were to appreciate the full impact of the film's glorious stereo soundtrack, he would need specially equipped theaters, suited to flatter Fantasound's virtues. With this in mind, he staged the presentation of his precious experiment decisively.

To add to the prestige, he assembled a "road show" package. As such, the film would be shown twice a day, with reserved seating and advance ticket purchase—similar to a Broadway show or symphonic concert. Handpicked associates were coached by Disney himself and dispatched to theaters as his personal emissaries. They carried with them precise instructions for opening and closing the curtains, setting up the sound and lighting, selling full-size color programs, and ushering patrons to their seats.

The stereophonic soundtrack—the film's greatest attraction—would be presented with Fantasound installations at theaters in major cities. The equipment included eleven amplifier racks, power supplies, two sound film phonographs modified to four-track, two selsyn distributor units, three loudspeaker horns, and dozens of smaller loudspeakers. The amplifiers and power supply racks stretched over thirty feet, and used more than 400 vacuum tubes. "The works" were packed into forty-five cases totaling nearly 15,000 pounds.

The object of celebration itself was three years in the making, and cost the studio in excess of $2.5 million to produce, including a music tab of nearly $400,000. (For reference, if created in 2001, the overall film would cost

roughly $31 million, the music $5 million, and the opening night festivities in excess of $1 million.)

Fantasia had arrived.

First up was the New York world premier. No expense was spared in staging the evening's extravaganza at the Broadway Theater. More, perhaps, was spent on this premier than on any other in Hollywood history, to that point. $85,000 alone went to the manufacture and installation of a custom-designed projection and Fantasound playback system; untold thousands were lavished on publicity, travel, and miscellaneous necessities.

In a post-premier interview, Disney was asked about his taste for classical music. "I never liked this stuff," he told a reporter from the New York *World-Telegram.* "Honest, I just couldn't listen to it. But I *can* listen to it now. It seems to mean a little more to me. Maybe it can give other people the same thing. When I heard the music it made pictures in my head. . . .

"Stravinsky saw his *Rite of Spring,* and said that that was what he had in mind all the time. None of that matters, I guess. This isn't a picture for just music lovers. People have to like it. They have to be entertained. We're selling entertainment, and that's the thing I'm hoping *Fantasia* does—entertain. I'm hoping, hoping, hoping."

Reviews poured in. The critics roared. Classical music purists howled. And public attendance waned.

Bosley Crowther of the *New York Times* raved. "Motion picture history was made last night," he wrote. "*Fantasia* dumps conventional formulas overboard and reveals the scope of films for imaginative excursion. . . ."

Peyton Boswell, editor of *Art Digest,* called it "an aesthetic experience never to be forgotten," and *Time*, which featured Leopold Stokowski on its November 18, 1940, cover, gushed over the sound. "As the music sweeps to a climax, it froths over the proscenium arch, boils into the rear of the theater, and all but prances up and down the aisles. . . ."

Not everyone waxed poetic. Classical aficionados, led by influential critics, applauded the sound—but deemed the dilution of the music a sacrilege. (Most routinely objected to the visual interpretation of *any* classical music, prompting one to wonder what they made of the ballet.) Worse, parents stayed away, resenting the stiff road show prices the theaters charged to admit their youngsters.

It was clear that the masses were not ready for a groundbreaking film like *Fantasia*. People just didn't get it.

While *Fantasia* ran for a year at the Broadway in New York, it cost far more to maintain the Fantasound production than the box office was taking in. The increasing financial instability caused by the war didn't help, and in 1941, all but one of the existing Fantasound systems were dismantled and donated to the government for the war effort. Theaters that continued to show the film projected it in monophonic sound, encoded on the single-track strip next to the picture.

Although a sequel had been planned, the failure of the original precluded one.

Post-premier

World War II and the ravages of time contributed to *Fantasia*'s virtual disappearance after its celebrated premier.

In April, 1942, RKO Radio Pictures released an edited version of the film, slashing it from 133 minutes to a paltry 82 minutes—a virtual desecration. Disney was crushed.

By 1955, the original unmixed nitrate sound negatives had deteriorated and were unusable. Fortunately, the studio had a four-track print, which had survived in good condition. From this sole surviving nitrate print, a three-track transfer was made to magnetic film (via telephone lines) from the only existing Fantasound system at Disney Studios in Burbank to the RCA building in Hollywood. A Superscope wide-screen print was rereleased in 1956, to lukewarm reception.

Fantasia's greatest success came during the following decade, upon its rereleases in both 1963 and 1969. It wasn't until the latter—three years after Walt Disney's death—that the film began turning a profit. Would he have been sad to learn that the group most enamored of his cherished creation was psychedelic thrill seekers, tripping on acid?

Another rechanneled version appeared in 1977, and in 1984, the worst atrocity of all was inflicted on the debilitated classic: the original Stokowski soundtrack, now beyond repair, was removed from the film. In its place, a newly recorded digital version, conducted by Irwin Kostal, took its place alongside the original 1940 visual segments. To those who knew and loved the film, *Fantasia* was now beyond salvage.

There is a happy ending, though.

In 1991, the Disney organization revisited *Fantasia.* Audio restoration techniques had improved tremendously and, for the first time in decades, Hollywood studios were taking inventory, addressing the preservation of their valuable film libraries moldering in the vaults.

The nitrate film stock used by Hollywood studios prior to 1951, without properly controlled storage, has a tendency to shrink, destroying the audio and visual information contained on it. With time, the film disintegrates into a mass of dust. Nitrate deterioration—the bane of every film historian's existence—was responsible for the loss of *Fantasia*'s glorious, first-generation Stokowski recordings.

Could technology overcome this impediment, and restore the luster of the original 1940 Fantasound soundtrack from the 1955 "phone line" transfer? The assignment went to Terry Porter, a recording engineer at Disney's own Buena Vista Sound. As Porter began to evaluate the elements, he realized that—for the first time since its 1940 release—it might be possible to re-create the sonic experience of the original Fantasound presentation.

Employing a wide array of computerized noise reduction programs, Porter de-noised, filtered, and equalized the damaged soundtrack. Poking around in the archives, he found Stokowski's original score sheets. The pages contained the conductor's handwritten notes, explaining in full detail where the music was to go. The notes became Porter's remixing gospel. "It would say 'Left wall, rear wall, kill the fronts' for a certain passage—it was a complete map to exactly what they did in the auditorium," he explained.

Following Stokowski's guide, Porter converted the original Fantasound configuration to the six-channel, 70mm format. "The original Fantasound was six dimensional: screen left/center/right and auditorium left/rear/right," he explained. "I just used all six channels, full-bandwidth, for the music."

After sixty years, the technology inspired by Walt Disney's folly—multichannel, digital surround sound—had come full circle, making his beloved *Fantasia* whole again.

Coda

It was clear, even in 1940, that Walt Disney never intended *Fantasia* to stand on its own. A studio press release from that year explained his philosophy. "After two and a half years which went into the making of *Fantasia*, Disney and

Stokowski feel that it is not a finished product but an indication of the great possibilities the future may develop in this new entertainment medium. . . ."

What the filmmaker surely foresaw was not just the increased use of his ingenious Fantasound recording system, but a perpetually evolving, ever-changing *Fantasia,* designed to reflect the technical innovations and creative sensibilities of future generations. *Fantasia*'s inherent malleability would allow for infinite reshaping, and one of Disney's early ideas was to "update" the feature on a regular basis, retaining certain segments while replacing others.

There are many indications that before the paint had dried on the storyboards, Disney was planning an encore. By October 1940, Disney and Stokowski had begun story meetings, and the filmmaker inked a deal to use several works by Igor Stravinsky, whose controversial *Rite of Spring* was a dramatic highlight of the original film. He also agreed to include Prokofiev's charming *Peter and the Wolf*—a promise he kept by making it part of a 1946 film featuring popular music called *Make Mine Music.*

Though these extensions were never realized, with the original *Fantasia*, Disney succeeded in visually interpreting the infinite subtleties that refined music embodies. The intensity of his creation—musically, sonically, and artistically—has rarely been equaled. Yet, despite the mountains of praise heaped upon his many successes, Disney never considered his craft an art. "Art is never conscious," he said. "Things that have lived were seldom planned that way. If you follow that line, you're on the wrong track. We don't even let the word 'art' be used around the studio. If anyone begins to get arty, we knock them down. What we strive for is entertainment."

Long before Les Paul invented multi-track recording, or magnetic film and tape supplanted optical nitrate and discs as the preferred medium for sound recording, or surround-sound found its way into the mainstream movie houses, there was *Fantasia,* the pioneer of all these innovations, an eminently entertaining film that miraculously turned some far-fetched dreams into reality.

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