Animation predates the cinema itself. Within the Victorian or Edwardian-era home, such optical toys (either using drawings or printed images) as flipbooks, the praxinoscope, zoetrope, and phenakistiscope were commonplace. Emile Reynaud's projected "pantomimes lumineuses" at the Musee Grevin in Paris, perhaps the first projected theatrical presentations of motion pictures, were hand-drawn sequential images, albeit not involving use of a camera. Even before such pioneers as the Lumiere brothers or Thomas Edison pioneered photographic-based cinema, animation was enjoyed by millions internationally. But animation did not evolve in isolation. Even upon their inceptions as photographic media, the cinema at large and animation shared common roots, and, in their early years, were not regarded as distinct. Although earlier historians created a myth of cinema at its origins stunning audiences who had never been exposed to such theatrical entertainment, both live-action and animated cinema grew out of pre-existing mass media. The emergence of film in general and animation in particular must be seen in the context of the advent and development of other media and entertainment forms, which differed from their contemporary plays or novels and from today's feature films in that they were both polyphonic (i.e. having voices of multiple perspectives) and heterogeneous (i.e. having a disconnected arrangement of visual styles, narrative forms, etc.).

The late nineteenth and early twentieth century saw an upheaval in American popular culture. Older, regional forms of popular entertainments began to be displaced by more technologically-based mass media, such as comic strips, sound recordings, and film. And vaudeville, which originated in earlier music halls and museums, became a mass medium in this period: although the form of vaudeville entertainments was that of a variety show, with its hodgepodge of acts varying from singers, dancers, and comedians to animal acts, acrobats, magic lanterns, contortionists, and magicians, behind this was a rigidly centralized business structure, where organizations like the Keith Albee circuit disseminated a standardized cultural product nationally. There were similarities in the newspaper industry and the vaudeville industry that influenced early animation. Comic strips may have appeared as a hodgepodge of different stories, characters, and graphics on the funny pages, but behind them stood businesses like the Hearst Organization, King Features, or McClure's Syndicates, which were as centralized as any vaudeville booking office. But both systems disseminated similar cultural forms. Robert W. Snyder has pointed out that "vaudeville theatre's polypohony was partly caused by the contrast between the old and new popular culture.... They paid close attention to local audiences but knit them into a modern mass constituency. They featured blackface minstrels straight out of Jacksonian America and modern Jewish comedians from the Lower East Side."

Newspaper comics also appeared in a polyphonic format. As in vaudeville, traditional and modern American culture co-existed on the printed page, where strips featuring the middle-class Anglo *Buster Brown* rubbed shoulders with the working-class immigrant strip *The Katzenjammer Kids*. Small town strips like *And Her Name Was Maude*, *Happy Hooligan*, and *Toonerville Trolley* could appear in conjunction with the urban settings of *Bringing Up Father*, *Abie the Agent*, or *Polly and Her Pals*. Fantasies like *Krazy Kat* coexisted with the ordinary family life of *Gasoline Alley*. These cartoons were made by many cartoonists, themselves from many regions of the country, from many ethnic groups and backgrounds, who expressed themselves using many different styles. Rather than being a monolithic cultural expression, comics brought together old and new America, urban and rural, old stock and immigrant into a diverse, modern age composed of many cultural voices.

Both vaudeville and newspaper comics were organized heterogeneously. On stage, musical numbers would be interspersed with magicians, dog acts, jugglers, etc. While individual comic strips, like individual vaudeville numbers, might exhibit narrative coherence, their brevity and random arrangement

on the funny pages were a departure from the more continuous experience of reading a novel or viewing a "well made play."

Animation's silent era was a period of discovery and experimentation in which animation was not yet regarded as a separate subset of the cinema at large. Indeed, in the first years of film's existence as a medium, movies commonly were referred to as "animated films," based on the principle that all motion pictures were still objects (be they photographs or drawings) magically brought to life through the cinematographic apparatus. What were to be the separate forms of live-action and animated cinema both drew on those pre-existing mass media and entertainments. Patrons of magic lantern shows would have been familiar with the use of drawn slides involving simple movement that was induced mechanically. These were a standard feature of illustrated lectures, which themselves were enormously popular entertainments where educators, clergy, and travel lecturers would present projected visual material, drawn or photographic, as part of a verbal presentation. *Lyman Howe's HodgePodge* (1927), animated by Archie N. Griffith, shows how long this lecture circuit tradition continued. Howe was a traveling exhibitor and lecturer, who began using drawn and photographic slides to illustrate his lectures, but moved into motion pictures in the late 1890s. Howe established his own circuit, serviced by many traveling teams of exhibitors of "High Class Entertainment" who put on motion picture presentations in opera houses and other public venues. Howe both contracted out for films and produced his own. Although Howe died in 1919, his company continued in operation for several years afterwards, primarily repackaging older Howe films for more conventional distribution by other companies. In this case, *HodgePodge* uses simple cut-out animation to repackage the detritus of Howe's previous lecture circuit material.

Vaudeville houses were the pre-eminent venue for exhibition of motion pictures in the years before 1906. Many early animators, such as Winsor McCay or J. Stuart Blackton, had experience in vaudeville. And a very large number of animation's pioneers, like John Randolph Bray or Max Fleischer, came to the medium from newspaper cartooning. The animation industry itself originally was centered in New York, in which was located the national corporate headquarters of most major newspaper, vaudeville, and music companies.

One must understand that the earliest films that a modern spectator would regard as animated were shown quite differently than today's theatre presentations. Early cinema exhibition owed a greater debt to vaudeville for the structure of the film program than it did to the conventions of middle-class theatre. The earliest movies were shown in programs mixing together short films on a variety of subjects, sometimes interspersed with live acts, in much the same way as a vaudeville bill of performance would have been organized. Even in the years after film programs had converted to being based on features, many animated films appeared within "screen magazines," such as those released by Hearst International News, or the Paramount-Bray or Goldwyn-Bray Pictographs. These were compilations of shorts by different film makers, consisting of news items along with human interest stories and animated films that played a role similar to comics in newspapers. Even during the classical Hollywood period from the Twenties through the first decades of the sound era, audiences watched animated film shorts combined in a program of entertainment that included live-action shorts, newsreels, previews, and the feature film (which might itself occasionally be animated). The polyphonic and heterogeneous format of a newspaper page of comic strips or the mixed vaudeville bill were similar to the way in which silent animated films were exhibited in theatres. This format was also internalized into the very structure of many silent animated films, where the linear narrative progression that was later institutionalized by such animators as Disney was not yet the dominant form of animated expression. So originally, animated films were part of viewing presentations that were both polyphonic and heterogeneous.

The earliest films in this collection come from the pioneering period of animation when films were chiefly disseminated in vaudeville houses. James Stuart Blackton's *The Enchanted Drawing* (1900) was made for the Edison Company. Before becoming involved in cinema, Blackton's vaudeville act involved what were called "chalk talks" or "lightning sketches." In the "chalk talk," a performer would entertain the audience with some sort of stage patter while drawing characters, still lifes, or landscapes on a blackboard or large sheet of paper. Often, what would appear to be a drawing of one thing would become transformed, either by further drawing or turning the image upside down, into something else. This made not only miraculously rapid creation, but also transformation central to the act. Blackton was not the first to apply lightning sketches to cinema, being preceded by both British and French performers of whose work the English Blackton may have been aware. At this point, his animation technique borrowed strongly from the "trickfilm" cinema tradition popularized by such film makers as Georges Melies, in which magical effects are done by means of stop-action substitution. In the case of *The Enchanted Drawing*, the camera operator would simply stop the apparatus in mid-shot, whereupon a drawn bottle of wine and glass would be replaced by a real one, or a drawing with one expression would be substituted by one with another. This transformational quality augmented the pre-existing tradition of stage chalk talks, and was a transitional stage between a conventional vaudeville performance and animation. But it did establish a tradition within early animation where items were constantly capable of transforming themselves from one thing to another, or where an object might exhibit the behavior of some other object or person. For example, in *How Jones Lost His Roll* (1905), animated letters combine and recombine to form the titles of the film, not only acting in a very innovative way for titles, but transforming their meaning as they do so.

Bob's Electric Theatre (Le Theatre de Petit Bob, 1906), directed by Gaston Velle with animation by Segundo de Chomon, is typical of the vaudevillian influence (as well as demonstrating how the exhibition of French animated films in the United States inspired early American animators). Although the film opens with what appears to be a narrative story, it reproduces a "kid act" of vaudeville, right down to the use of theatrical flats as backgrounds and direct address of the audience. The film combines animation and live action sequentially, as separate "acts" on a vaudeville stage, giving a heterogeneous quality to the work. And, since the opening half is directed by Gaston Velle, and the second part by Segundo de Chomon, the film is polyphonic. In the second sequence, a number of dolls put on a variety of athletic performances for the audience – fencing, boxing, and gymnastics, with the curtain coming down and the performers taking a bow upon the completion of their act, acknowledging (as did the live-action actors) our presence in the profilmic space as if this were a live theatrical performance.

While some of animation's pioneers came from vaudeville, others also were noted newspaper cartoonists. The live prologue to Winsor McKay's seminal animated film *Gertie the Dinosaur* (1914) portrayed McCay (himself both a vaudeville performer and noted comic strip artist) in the company of leading Hearst newspaper cartoonists, including Thomas A. Dorgan. Better known by his pen name "Tad," Dorgan's most popular work was a cartoon panel attached to his *Silk Hat Harry* strip. This panel, called *Indoor Sports*, was so popular that it was republished in several book editions. Dorgan had a rare talent for coining aphorisms and catchphrases. His *Indoor Sports* introduced into contemporary American phraseology such terms as "dumbbell," "hard-boiled," "the cat's meow," "for crying out loud," and "yes, we have no bananas." When Hearst began its International News newsreel series in 1915, the company drew on its stable of cartoonists to bridge media platforms in order to cross-promote both the newspaper comics and the film series by providing animated accompanying material under the studio direction of Gregory LaCava. Although few of the newspaper cartoonists actually animated the films, some, like *Mutt and Jeff*'s creator Bud Fisher, did benefit mightily from studios owned by them but run by employees. Dorgan's involvement in the films bearing his name likely was minimal, as evinced by the animation credit

for Paul D. Robinson.

Hearst's hostility to Britain during WWI resulted in failing business for his newsreels, and in an attempt to cut costs, the animation studio was closed in 1918, and its production transferred under license to rival Bray Studios, Inc. The "Joys and Glooms" series is one of the holdovers from this transfer, in which Thomas E. Power's Hearst strip was animated by Paul Terry's brother John. Both of the Hearst strip-derived films are typical of this period in that they are heavily dependent on conventions of newspaper cartooning. These include the use of dialogue balloons and traditional character design that makes no allowances for the demands of making these characters move. But it was in this period that character design began to be adapted for more easy manipulation in space. This change was dictated by the requirements of animation production. Due to the large number of drawings required and quick production schedules necessary for a small staff to turn out cartoons on a series basis, production efficiencies also required compromises in either character design or in the animation itself. Many of the characters in these films are irregularly-shaped human or animal forms, as was typical of newspaper cartooning. When rotated in space, the character's outlines would change in shape, making it more difficult and expensive to move them in animation. Thus, the animated characters in these films generally do not rotate, and their movement is restricted to two dimensions. Often only their mouths would move. Later, beginning with such figures as Otto Messmer's Felix the Cat, animation characters were designed with production efficiency in mind. Felix, an "inkblot" character with little detail on his form, was basically two black spheres with limbs attached. When the body and head rotated, they still retained their basic circular profile, making the animation of the character's movement in any plane relatively simple. This set the pattern for numerous other "inkblot" characters, most famously Disney's Mickey Mouse.

The "Joys and Glooms" film also shows the use of the cel (or celluloid) method, devised by John Bray and Earl Hurd, and generally licensed for use in the animation industry. By means of the cel method, the background or static elements of each image would be drawn on one sheet of translucent paper or (less frequently, due to greater expense) a clear plastic celluloid sheet. The moving parts of the image would be drawn on a separate sheet of paper or celluloid. When the two sheets were sandwiched together, the composite drawing would be photographed. This would eliminate the retracing of all the static elements in the image, resulting in great savings in labor and much shorter production schedules. However, since royalties had to be paid to the Bray Studios, who were the proprietors of the Bray-Hurd patents, many other companies tried to avoid the use of these – either by the simplification of the image to eliminate backgrounds, or by the use of an alternate "slash and tear" system invented by Hearst staffer Raoul Barre, in which areas of the sheet of paper holding the moving part of the image were slashed away to reveal a drawing of the static parts beneath. Although somewhat less efficient, it was the simplest means of avoiding paying fees for the use of the Bray-Hurd Process, as the Bray Studios did take unauthorized users of its technology to court for patent infringement.

During the silent period, animation studios were economically marginal ventures. Typically, a popular animated series would be distributed on a states rights basis, which meant that an animation producer would get a commitment from a states rights distributor to pay about $1,200 per film on a year's contract, committing to purchase the right to do so for twelve films a year. Using this commitment by a states rights distributor to pay upon delivery, an animation company owner could go to a bank and borrow enough money to finance production – generally about $1,000 per film – leaving him with a profit of $200 per film. But for more marginal producers, income was even lower than this, leading to shortcuts and drastic expense-saving measures. Such a producer was MacDono Cartoons, made by later Disney staffer J.J. MacManus in partnership with R.E. Donahue for the screen magazine Burr's Novelty Review. Live action was far cheaper than animation, and cutout animation much cheaper than cel. In this film,

ANIMATION'S EARLY YEARS
BY MARK LANGER

MacManus would use animation drawn on a photostat blown up from images of the live-action film as a means to combine live action and animation, but also to inexpensively manipulate cut-out photographic images of things such as the billiard balls to lower the costs of production. Increasingly though, such marginal corporations as MacDono Cartoons were forced out. This was because animation production became more and more dependent on the producer of animated films having forged alliances with a major production company with national distribution, rather than on the less efficient states rights system. Theatrical animation by the end of the silent era would increasingly become the domain of larger and fewer companies.

During the 1920s, even as concentration of production in fewer companies was taking place, and with the increasing establishment of the cel method for production efficiency, the industry still self-consciously looked back to its roots. Mid-decade, there was a nostalgic revival of earlier vaudevillian practices in cinema. For example, the practice of "illustrated songs" in which audiences sang along to the lyrics from glass slides projected on a theatre screen was resurrected in Educational's "Sing Them Again" series and the Fleischers' "Song Car-Tunes" in which live-action or animated footage modernized these older entertainments. Max Fleischer's Red Seal Pictures distributed films made by others, such as Cecil Hepworth, Rene Clair, or Jacques Feyder. Among these were a series of simple "Animated Hair Cartoons," produced once a week by *New York Times* cartoonist Marcus. Using cut-out animation, these films inexpensively revived the "chalk talk" or "lightning sketches" through Marcus' quick sketching of drawings that turned into celebrities. In *Animated Hair Cartoon No. 18* (at least half of which was originally released as *Animated Hair Cartoon "P"* in 1925), Marcus presents images that change to reveal themselves as drawings of baseball stars John J. McGraw, Babe Ruth, or Christy Mathewson, labor leader Samuel Gompers, or actress Elsie Ferguson. Using the chalk talk's emphasis on the transformational ability of the artist (by now reduced to a cut-out image of a single hand), Marcus' caricatures often transformed from one recognizable celebrity to another, such as playwright George Bernard Shaw morphing into Baseball Commissioner Kenesaw Mountain Landis. Ultimately, these chalk talk revivals were not successful, as Red Seal went out of business due largely to an unsuccessful attempt to transfer from states rights distribution to an underfinanced, company-owned national distribution network.

Drawn images were not the only basis for animation, nor was the short film format the only form of production during the silent era. Although animation was not considered efficient enough for the production of feature-length films, there were a number of features made in this period that mixed animated sequences with live action, including the scientific instructional film featurettes *The Einstein Theory of Relativity* (1923) and *The Darwin Theory of Evolution* (1924), both produced by Red Seal. Willis O'Brien, later famous for his work on *King Kong* (1933), was the master of stop-motion animation. O'Brien worked as a newspaper cartoonist, before experimenting with clay models and photographing them in stop-motion animation, eventually producing a series of short films with caveman themes for the Edison Company, before teaming with Herbert Dawley to make the featurette *The Ghost of Slumber Mountain* in 1919, combining live action characters with lifelike prehistoric animals. (Footage from this O'Brien film was later incorporated into the Fleischers' featurette *The Darwin Theory of Evolution*). Based on the success of *Slumber Mountain*, O'Brien was hired by First National to provide the animated effects for the feature film *The Lost World* (1925), from the novel by Arthur Conan Doyle. The film was one of the biggest hits of the year in which it was released, in no small measure due to its marketing. The preview to *The Lost World* shows the early use of promotion and product tie-ins that were used by animated films, with The Lost World Puzzle cashing in on the puzzle craze of the 1920s through celebrity endorsement by movie stars. First National was not the only company to exploit the puzzle craze. For example, the Out of the Inkwell Studio made a short film combining live action and animation called *Puzzle* (1923) that did the same thing. But, perhaps more significantly, the First National short was an

early example of the selling of ancillary products for cross-promotional purposes. The short promoted the puzzle which promoted the feature film. This was something that the Walt Disney Company was to turn into a major source of income and advertising for his studio during the sound era.

By contrast to the modest joys of the puzzle promotion, the preview of *The Lost World* may seem an exercise in hyperbole, with its claim that the film is "the greatest achievement the brains of man have ever achieved."   But as an observer in *Variety* noted, "the perfection of mechanical reproduction of the animals...is a work that must have taken a tremendous amount of energy and patience to achieve. But no matter what the cost, either in labor or money, the results fully justify the expenditure." The *Lost World* preview shows not only high points of the feature's action, but also functions as a catalogue of effects that O'Brien used, from stop-motion to cut-out animation. It demonstrates O'Brien's use of mattes, double exposures, and so on, without revealing the means by which these cutting-edge effects were achieved, thus marketing the film as both innovative and technologically mysterious at the same time. In our age of computer graphics imaging, O'Brien's techniques may seem transparent, but not so at the time of the film's release. So mystified were critics by the techniques used that *Picturegoer Magazine* wondered "whether they are really as large as they appear, and are worked by mechanism or even concealed men," while the *Los Angeles Illustrated Daily News* claimed "the tricks of the camera...defy detection and so marvelously are the animals constructed that to all appearances they are alive. In fact, so well is the picture done, it is only by an effort of the mind that one realizes the animals are artificial."

The trajectory of animation history during the silent period is a fascinating subject. It not only provides precedents and models for the industry that matured during the sound period, but suggests alternate paths that ultimately were not taken by the animation industry. Silent animation introduced new technologies (from optical toys to cinema itself), experimented with new techniques (stop motion, the cel method, slash and tear, etc.), provided models for cross-platform experimentation and promotion (with vaudeville, traveling shows, newspapers, and advertising), and developed new genres (science fiction films, fantasies, educational films, etc.). Often overlooked, in part because of the inaccessibility of many silent animated films, it was a period of rich diversity, a portion of which has been preserved and now made available to the public by the University of California at Los Angeles Film and Television Archive.

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