**AFD Ep 404 Links and Notes - Nitrocellulose and Newsreels [Bill/Rachel] - Recording Dec 19, 2021**

Intro: This week's episode is focusing on some of the political and news media effects of another plastic that changed the world: nitrocellulose. While last week's topic of polyvinyl chloride or PVC both allowed for the rise of phonograph records and greatly changed the construction industry, nitrocellulose changed not only mass entertainment but also the way people received their news. Newsreels brought the news to life for audiences. Newsreels became very important during both WWI and WWII, although, as we'll discuss, they didn't tell the whole story of what was happening on the frontlines. As television subsequently became more widespread and available to more people at home, movie theater newsreels struggled to stay relevant in an increasingly fast-paced media landscape. But first, let's discuss the nitrocellulose that made newsreels possible, and the innovations that led to capturing motion on film. Today's episode is going to focus primarily on the newsreel as a medium specifically, but of course we can't separate it from the overall movie industry both at a corporate level and in terms of the physical innovations of the actual industrial processes and products underlying those companies. We'll begin at the beginning, naturally, with the discovery of the relevant plastic in the mid-19th century as the first industrial revolution turned to the second, where we so often begin these episodes. As always, our episode notes and sources will be posted in a PDF at ArsenalForDemocracy.com with this episode.

- Nitrocelluose production in the US. https://en.wikipedia.org/wiki/Nitrocellulose#Film
    - In 1855, the first man-made plastic, nitrocellulose (branded Parkesine, patented in 1862), was created by English inventor Alexander Parkes from cellulose treated with nitric acid and a solvent. In 1868, American inventor John Wesley Hyatt developed a plastic material he named Celluloid, improving on Parkes' invention by plasticizing the nitrocellulose with camphor so it could be processed into finished form and used as a photographic film. This was used commercially as "celluloid", a highly flammable plastic that until the mid-20th century formed the basis for lacquers and photographic film.
    - Before its use in motion pictures, celluloid was used for still photography. *English photographer John Carbutt founded the Keystone Dry Plate Works in 1879 with the intention of producing gelatin dry plates. The Celluloid Manufacturing Company was contracted for this work, which was done by thinly slicing layers out of celluloid blocks and then removing the slice marks with heated pressure plates. After this, the celluloid strips were coated with a photosensitive gelatin emulsion. It is not certain exactly how long it took for Carbutt to standardize his process, but it occurred no later than 1888. A 15-inch-wide (380 mm) sheet of Carbutt's film was used by William Dickson for the early Edison motion picture experiments on a cylinder drum Kinetograph. However, the celluloid film base produced by this means was still considered too stiff for the needs of motion-picture photography.*
    - *On May 2, 1887, Hannibal Goodwin filed a patent for "a photographic pellicle [surface onto which photographs are produced] and process of producing same ... especially in connection with roller cameras", but the patent was not granted until September 13, 1898. In the meantime, George Eastman had already started production of roll-film using his own process.*
    - *Nitrocellulose was used as the first flexible film base, beginning with Eastman Kodak products in August 1889. Camphor is used as a plasticizer for nitrocellulose film, often called nitrate film. Goodwin's patent was sold to Ansco, which successfully sued Eastman Kodak for infringement of the patent and was awarded $5,000,000 in 1914 to Goodwin Film.*

    - The flammability of nitrate film was the cause of many disastrous fires in cinemas as well as film studios and film-processing plants. Storage vaults containing early film reels as well as negatives were destroyed in the early 1900s, also destroying the history of film up to that point. Even if nitrate film wasn't the cause of a fire, it quickly exacerbated flames and escalated the damage.
    - *During the year 1914—the same year that Goodwin Film was awarded $5,000,000 from Kodak for patent infringement—nitrate film fires incinerated a significant portion of the United States' early cinematic history. In that year alone, five very destructive fires occurred at four major studios and a film-processing plant. Millions of feet of film burned on March 19 at the Eclair Moving Picture Company in Fort Lee, New Jersey. Later that same month, many more reels and film cans of negatives and prints also burned at Edison Studios in New York City, in the Bronx; then again, on May 13, a fire at Universal Pictures' Colonial Hall "film factory" in Manhattan consumed another extensive collection. Yet again, on June 13 in Philadelphia, a fire and a series of explosions ignited inside the 186-square-meter (2,000-square-foot) film vault of the Lubin Manufacturing Company and quickly wiped out virtually all of that studio's pre-1914 catalogue.Then a second fire hit the Edison Company at another location on December 9, at its film-processing complex in West Orange, New Jersey. That fire, a catastrophic one, started inside a film-inspection building and caused over $7,000,000 in property damages ($181,000,000 today)*
    - The danger of nitrate film fires led many cinemas to fireproof their walls with asbestos. Projectionists were trained on how to handle the film reels. A training film included footage of a controlled burn of a nitrate film reel. After ignition, the film is submerged in water, where it continues to burn. The chemical makeup of nitrate film includes enough oxygen to sustain the combustion reaction, so starving the fire of oxygen isn't a possible method to fight the fire.
    - Nitrate film is so dangerous that it was banned on the London Underground (as seen on *Inglourious Basterds*). In addition, when a cache of nitrate film was uncovered in Yukon, Canada, the film was moved by military transport for its safe return to Canadian and U.S. archives for transfer to safety film and storage. The circumstances of this accidental archive were unusual: The reels had been buried under an abandoned hockey rink in 1929, and inadvertently uncovered in 1978 during construction excavation. The reels had been preserved by the permafrost, which delayed the deterioration of nitrate film. As nitrate film disintegrates, it releases nitric acid, a highly flammable powder which catalyzes the disintegration process.
    - Starting in the 1940s and 1950s, cellulose acetate film, or "safety film" replaced nitrate film because it was much less flammable. However, its chemical instability has become a major threat to film preservation and archiving.
- Beginnings of Newsreels (1908-1920s)
    - By 1908, the French company Pathé Frères, which had started in the 1890s as a phonograph company, had expanded into the emerging movie production and distribution business and they had already built hundreds of cinemas in France and French-speaking areas of Belgium. At that point they came up with the concept of newsreels, adding a fresh draw to their cinemas by producing current news content around the world. By 1910, they had opened offices all over the world, both to support their new newsreel production and to strengthen their market position in production, distribution, and innovation of film products. (Some speculation from us, not in the source: Newsreels were thus positioned to take the world by storm covering for world audiences the events of the 1911

Franco-German Agadir crisis and then of the chain-reaction of Ottoman wars of 1911 to 1913 in Libya and the Balkans that spiraled into World War I in 1914. We all know of course about newsreels becoming a fixture of wartime government propaganda.) The company Pathé remains to this day one of the major film industry players in the world market, although many of its various divisions were sold off in the years between the world wars, before and during Depression-era financial troubles. [Might cut this from the audio: One executive was handed over to the Nazis during the occupation of France and was killed at Auschwitz. Even before the Third Republic fell, French authorities had specifically targeted him for prosecution in part due to his Jewish heritage.] https://en.wikipedia.org/wiki/Path%C3%A9

- The early newsreels, run weekly in 1909 by Pathé and then spreading to other companies and distributors, were visual or text-based only, or else had a similar live musical accompaniment to the films themselves, but they did not include audio in the reporting. Pathé did produce English-language newsreel content for British and American audiences starting in 1910 and 1911. Pathé was effectively uncontested in American markets for serious newsreel efforts until William Randolph Hearst launched a competitor in 1914. Three other significant competitors launched in the 1920s and one more in the 1930s, bringing the field to six major players in the US. British and American entrepreneurs opened cinemas that solely showed newsreels on a loop all day, rather than showing them ahead of some other movie. It's also worth noting that there were some animated newsreels competing against the traditional newsreels in the very early years, sort of bringing newspapers to a visual medium more than filming news events, but some of the newsreel-only cinemas also showed actual cartoons too eventually. https://en.wikipedia.org/wiki/Newsreel
- In World War I, newsreels were initially quite restricted in their coverage because it was considered an intelligence risk to be publicly showing the situation behind each side's lines. It also probably would have created some home front morale problems to show the visceral horror of the battlefields even at the points of contact between the lines. It was also considered an unacceptable safety risk to the filmmakers themselves, along with still photographers, so things had to be recreated as re-enactments at a safe distance from staged locations. This was also concurrently being done by Americans to cover the wars of the Mexican Revolution happening at the same time. (Mike Duncan covers this on his Revolutions podcast series.) Eventually, some of the production restrictions loosened a bit as governments figured out how to produce explicitly propagandistic newsreel footage of the war. Newsreels overall during the war of course remained heavily censored in terms of message and content. In 1915, German-American audiences made a smash-hit box office success for the newsreel "The German Side of the War," which was one of the few media sources actively showing the German point of view to the US market during the neutrality period, although they were careful to also show the Russians too and to emphasize that every belligerent's army was not going to be defeated quickly and seemed to be in it to win it. The Chicago Tribune provided the news footage from Europe, having been given access by multiple countries on both sides. In 1917, newsreels (including those under the oversight of President Wilson's "Committee on Public Information") became pivotal in producing a very rapid shift in American public opinion specifically, which had been against joining the war and had just re-elected Woodrow Wilson on the 1916 slogan of "He Kept Us Out of War." In 1918, the American government, in concert with the French and British, worked

to deploy newsreels worldwide promoting Wilson's Fourteen Points vision of the postwar situation, even if the French and British governments didn't actually agree with that vision, because they knew it would sway many countries to support the Allied powers over the Central powers as the war wound down. Ultimately within the United States the official government propaganda news efforts ended up being so hamfisted and riddled with absurd fabrications or political attacks that bothered members of Congress, that the US government shifted in subsequent decades such as World War II toward a much less direct propaganda strategy that relied on close cooperation with or financing of malleable private newsreel production studios and newspaper publishers, rather than trying to do everything in-house.
https://en.wikipedia.org/wiki/Propaganda_in_World_War_I
https://en.wikipedia.org/wiki/Committee_on_Public_Information

- Even outside of the wartime context, newsreels tended to present a very specific perspective. In our imagination, we might all think about the dramatic, tragic footage of the Hindenburg explosion – although in fact, the famous and pioneering radio recording was not used at the time in conjunction with newsreels of that event, which instead relied on after the fact narration by others. In reality however, newsreels actually tended to shy away from heavy topics most of the time, according to the Princeton University Library, and they were certainly avoiding presenting the both sides of a debate narrative we tend to expect today from TV news coverage. Newsreels were an entertainment product first and foremost and weighty news or coverage of unpopular political or social fault lines was not conducive to that goal for the proprietors of movie theaters. So a lot of newsreel content was arguably fairly frivolous. This was especially true in the early years. Sometimes later on the focus shifted a bit toward more serious news.
https://libguides.princeton.edu/c.php?g=84226&p=540944
- According to Robert J. Gordon's 2016 statistical compilation book "The Rise and Fall of American Growth," the audience potential for newsreels was significant by the time it was invented. In 1908, there were already 8,000 nickel movie theaters in the United States, known as nickelodeons, with 4 million customers per day. And by 1911, nickelodeons started being supplanted by much fancier movie theaters with more amenities. Within a few more years the era of major motion pictures had begun. By 1922, 40 million Americans per week were going to the movies, overwhelmingly in urban areas. For less than 10 cents or sometimes a couple quarters, moviegoers would spend a few hours at the theater or movie palace watching a news review, educational material, comedy material, various other things, and a feature silent film, accompanied by live piano or organ music. The first talking newsreel was in May 1927 covering the Lindbergh transatlantic flight, a few months before the first talking movie. Just before the Great Depression, weekly movie theater attendance reached nearly three-quarters of the population, although of course that might count some frequent viewers multiple times in reality, and at the worst part of the Depression, weekly attendance was still nearly half of Americans, and by the late 1930s it had crossed back over 60% of the population each week, where it stayed until the TV era. (pp.198-201) That brings us to the heyday of newsreels.

- Peak of Newsreels (1930s through WW2 and the late 1940s)
  - *Motion-picture newsreels were an important means of mass communication from the 1920s through the late 1940s. By the 1930s, some 85 million Americans attended one of 17,000 movie theaters each week. At most film screenings, these moviegoers saw newsreels--short subjects, updated twice a week--from*

*five companies: Fox Movietone, News of the Day, Paramount, RKO-Pathé, and Universal. The newsreel helped the film industry cement political connections with Washington. And it gave many Americans their first look at the "performance" of presidential speeches and addresses, projecting personality in a way that would become increasingly familiar through radio and television in the coming years.* (Smithsonian National Museum of American History: https://americanhistory.si.edu/presidency/4a3.html )

- Robert J Gordon also reports in his book that during World War II a full 23% of Americans' recreational spending (though not of course their overall spending) went to the movie industry (p.414) and by the end of the war something approaching 90 million Americans were going to movie theaters each week, with a newsreel generally always shown between double feature showings.
- Segregation: Accounting for widespread segregation and trying to appeal to a wider market while also incorporating Black audiences into the wartime propaganda efforts, All-American News was established to begin releasing special newsreels for African-American moviegoers in 1942 at 150 Black cinemas nationwide. The Library of Congress holds a collection of these targeted newsreels: *"There currently are 35 All-American newsreels in the National Screening room, released between 1942 and 1945. Topics include sports, music, significant events, success stories, human interest stories, black contributions to the war effort, and of course, black troops fighting in the Second World War."* The newsreels on the war and Black service members sometimes expanded to full documentary films. After the war, the company pivoted to also produce fictional feature films for the same audiences featuring all-Black casts with storylines about Black cowboys and so on. https://blogs.loc.gov/now-see-hear/2019/02/all-american-news-the-first-african-american-newsreel/

- Decline & end:
  - Newsreels, coming out once or twice a week, had always had to compete with the immediacy of newspaper and radio by emphasizing its vivid visual element, but it would struggle against daily television on that front.
  - Early television news broadcasts in the US, which began in 1948, initially drew heavily on the newsreel model and even called themselves newsreels at first. For example, where theaters had sometimes had a narrator in person to accompany silent newsreels or included a voiceover narrator in later talkie newsreels, the earliest TV news programs would use a narrator to contextualize and explain the footage on-screen, and this eventually became the news anchor. https://en.wikipedia.org/wiki/Newsreel
  - Newsreels came to an end in the United States in 1967 after struggling along in the age of television. 10 years later, the New York Times published a sort of obituary for newsreels to mark the release of a retrospective from the Greenwich Village-based nonprofit cinema Film Forum in February 1977. The opening of the article is an interesting wrap-up of the age of newsreels and a summary of its strengths and weaknesses as a journalistic medium:
    - *THE NEWSREELS died on American screens in 1967, but they were in poor shape for 10 years or so before that. There was no way they could compete with television news footage, either in speed or convenience. Nor, generally speaking, in quality. Most of the time they were patchy views of a rather scatterbrained reality. Sneezing contests would alternate with politicians cutting ribbons and South Americans rioting.But once in a while there was something unforgettable: the Hindenburg floated loftily*

*into sight and suddenly settled on the ground like burning tinsel; a middle-aged Frenchman wept at Toulon when the fleet was scuttled. The newsreel cameras and the big screen provided an authority to these things that television equipment couldn't manage. Also there was the effect of waiting a day or two to see a disaster you had read of. World events were discrete, individual, weighty. They did not flood us.*

- Newsreels survived longer in other markets even into the 1990s, presumably mostly places with less TV access in the 1970s and 1980s, but Pathé, the original company making newsreels, stopped in 1970 finally.
- A random aside – Interestingly a lot of countries, including some major ones, didn't ever really develop their own domestic newsreel markets due to the competition from global hegemons like the US, UK, and France. Canada, for example, largely just imported American newsreels, despite numerous advocacy campaigns to try to get a domestic newsreel industry going, including from one Prime Minister. Unlike with the Canadian Content laws that would come into effect for television to grapple with the dominance of American TV content and which were probably inspired in part by some of the not very successful lobbying with regard to newsreel and film content in the 1920s, this kind of domestic content minimums mandate never really happened for newsreels. This was apparently especially infuriating during World War I when American newsreels promoted neutrality as Canadian troops were dying in large numbers on the Western Front and then abruptly pivoted to non-stop coverage of the American intervention again with essentially no coverage of the Canadian contributions to the war for the preceding several years before the US joined the war. Unfortunately British newsreels, which also didn't really emphasize Canada, tended to be so grim about the war that it was considered dangerous for recruitment and morale to show them in Canada. The problem with US newsreels and their perspective repeated again in Canada during World War II, almost unchanged. There were also ongoing concerns about audiences in French-speaking communities in Canada during this period too. The finances and capital constraints of the problem without huge government support are particularly apparent in 1920s Canada, especially in contrast to some of the advantages of the United States: *One of the problems with getting newsreel coverage of Canadian events was that there were not enough cameramen. Despite claims by major international newsreel companies that their cameramen were stationed all over the world, the beats assigned to cameramen were impossibly large and there were never enough freelancers to fill the gaps. In 1920, Fox News boasted that it had 106 cameramen in the United States and Canada, eighty-two of them in the United States. That left Canada with only twenty-four, just about the total number of cameramen in the country. Even so, the cameramen were not just shooting newsreel stories. To earn a living, Canadian cameramen also worked on educational films, travelogues, sponsored films, and other nonfiction films--feature film production being too sporadic to be a significant source of employment. In 1926, Colonel John Cooper, president of the Canadian Motion Picture Distributors Association, asked George Patton, head of the Ontario Motion Picture Bureau, to help supply Canadian news. Cooper said that the newsreel companies found it too expensive to include Canadian stories in their reels, particularly those stories taking place far from Toronto. Cooper suggested that the Ontario Motion Picture Bureau cameramen film the news stories as a pool service for the newsreel companies. Patton was interested in supplying some feature items, drawing upon the bureau's*

*information films about such subjects as agriculture, mining, and tourism, but he said that the bureau did not have the resources to cover spot news and nothing came of the idea.*
https://go.gale.com/ps/i.do?id=GALE%7CA177363438&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=15323978&p=AONE&sw=w&userGroupName=mlin_oweb&isGeoAuthType=true

- https://en.wikipedia.org/wiki/Canadian_content