



FILM AND EXTRACTION

"Indonesia, Rubber, and Modern Techniques: Goodyear's Conquering the Jungle (1939)"

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In the late nineteenth century, rubber became a precious commodity. Many companies were looking for opportunities to satisfy the market demand by investing in rubber plantations established mainly in colonized lands. In 1916, the Goodyear Tire and Rubber Company, headquartered in the US in Akron, Ohio, acquired 20,000 acres in Dolok Merangir, Deli area, East Sumatra, Dutch East Indies (the region is now part of North Sumatra province, Indonesia), by concession of the Dutch East Indies and the local ruler of the Deli Sultanate. In 1929, Goodyear developed another plantation called Wingfoot, south of the original site, which would soon become the largest rubber plantation in the world. Competing with other companies, Goodyear invested in making their plantation prosperous and profitable. They established a rubber laboratory to explore the latest techniques to cultivate the best crop, extract the finest latex, vulcanize top-quality rubber sheets, and efficiently ship the crude material to their main factory in the United States. The corporation shaped local communities and environments to sustain their economic interests in extracting rubber. Goodyear's initiatives were recorded in *Conquering the Jungle*, a ten-minute educational ethnographic documentary produced in 1920, and subsequently remade in 1939, as a joint venture between the company's motion pictures division and the Educational and Industrial departments of Universal Films. The two films document the land's transformation into an industrial and extractive zone. My paper draws on archival research related to Goodyear's operations, the Dutch East Indies colony, and modern Indonesia. Through a close comparison of both versions of the film separated by nearly two decades, I explore how the techniques of rubbering, extracting latex, and vulcanizing raw materials transformed a tropical rainforest into a space of profitable extraction for the U.S.-based corporation. In so doing, I trace cinema's role in the long legacy of reconstructing a tropical forest as a space of extraction that continues to blight Indonesia's present.

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Introduction

Goodyear Tire and Rubber Company, a household name to many, began substantial investments in a space of extraction on the island of Sumatra to satisfy the rising demand for rubber products in the Global North during the first part of the twentieth century. The investment was informed by Dutch colonial and US capitalist notions of how progress should manifest in a region construed as remote or "faraway" in relation to Western headquarters, despite being foundational to Euro-American industry. The location I focus upon is Dolok Merangir (Windy Hill in Batak, the local language), Deli region. Once it was the heart of East Sumatra in the Dutch East Indies. Today it is a major industrial zone of North Sumatra province, Indonesia. My essay explores its filmic history through key episodes in the early use of film to foster imperial extraction in the region.

On July 10, 1919, a co-production team from the Goodyear Moving Picture Department and the Educational and Industrial Department of Universal Company sent the photographer Roswell Johnson to document the plantation works in Sumatra and Java.¹ Johnson, who previously worked as a cameraman in the Lubin Manufacturing Company, was part of the staff of the Educational and Industrial Department of Universal Company, and one of four photographers dispatched by Carl Laemmle, the president of Universal Company to "bring home" moving pictures of educational and scientific value.² Johnson's main objective was to document all aspects of rubber-making in Sumatra, Java, and Borneo. He was also assigned to photograph the coffee-growing process in Java (*Wid's Daily* 1919, 3). Johnson was to work alone, and he brought equipment, including a developing and printing outfit, that cost Universal Company more than \$10,000 (Thierry 1919, 22–27). Johnson's supervisor Harry Levey, the Educational and Industrial Department manager, claimed that the equipment would help Johnson with "the means of developing negative on the ground" to enable "its shipment immediately" without having to send the negatives back to the United States or a film laboratory (Levey 1919, 41).

Johnson sailed from Vancouver, Washington, in 1919 aboard the SS *Empress of Asia* and spent more than six months in the field "to fulfill a contract for an American manufacturer," Goodyear (Levey 1919, 41; Thierry 1919, 27). The job was completed around February of the following year, and Johnson sent thirty thousand feet of negative film to Universal-Educational from

1 In 1919 Goodyear opened their moving picture department, led by Robert Teed, whom *The Wingfoot Clan* described as "connected" with Vitagraph, Pathé, Gaumont, Frohman, and others (*The Wingfoot Clan* 1919, 1). Little is known about Universal Company's Educational Department. The earliest publication I can trace about this department was published in (*Printers' Ink* 1918, 37).

2 Other film-producing units explored "unknown" territories at the same time Johnson sailed to Sumatra. The Smithsonian-Universal African Expedition was led by naturalist Edmund Heller. William Stowell was the director of this venture, and George Scott was the chief photographer (Thierry 1919). Eddie Polo's group was sent to England to make a serial, *The Thirteenth Hour* (*The Moving Picture World* 1919c). W. F. Alder led the Orient unit with the mission to expose three hundred thousand feet of film (Brand 1919). The fifth and last group, led by Marie Walcamp, left the United States on September 16, 1919, and sailed to Japan (*The Moving Picture Weekly* 1919b).

Shanghai (*Motion Picture News* 1920). An additional amount of film about the natives of Sumatra and Borneo, their manner of living, and the scenic Far East was shipped from India (Levey 1920, 32–33). The negatives did not take long to turn into films to be shown first to the workers at Goodyear in Akron, Ohio. On May 18, 1920, *The Wingfoot Clan* announced a free movie show for all the employees and their family members at Goodyear Hall (*The Wingfoot Clan* 1920, 2). The films, according to Goodyear's executive Hugh Allen, are "about a story that has been told many times: the successful conquest of a faraway island" (Allen 1935a, 3).

Johnson's production team, the Far East Expedition, produced two silent films in 1920: *Conquering the Jungle* and *The Island of Yesterday*.³ Goodyear decided to "remake" *Conquering the Jungle* in 1939, combining the scenes from the two 1920 films, editing the sequences, and adding a musical score and narrator's voice.⁴ The scenes from the 1939 *Conquering the Jungle* were identical to those in the two 1920s films, as there were no reshoots. The multiple versions of *Conquering the Jungle*—two silent source films and one sound film—reveal the accelerating penetration of capitalist expansion and colonial policies related to rubber plantations and add a new layer to the knowledge about Dolok Merangir. The films were part of an industrial process that participated in creating an industrial structure of extraction in this region. Today they show us too how the operation and organization of capitalist plantations built on the back of local labor forces profoundly changed the place and people who lived within or near the estate.

As soon as the first rubber bud was planted on-site, Dolok Merangir's primary identity became that of a rubber plantation. Today, even though Indonesia is a sovereign nation, the location remains under the ownership of a foreign corporation and continues to be an industrial and extractive estate. Dolok Merangir is still inaccessible to the general public, and activities within the region remain linked to rubber operations. The recursive versions of *Conquering the Jungle* offer a unique opportunity to closely examine the politics of the location as it was being developed and modernized to suit extractive colonial interests beyond what has been presented through written historical accounts.

In what follows, I shall look closely at the films themselves and make use of the materials housed at several archives relating to Goodyear's activity in Indonesia. Specifically, I am interested in examining Goodyear's imperial transformation of the vast tropical jungle of Sumatra into an industrial and extractive space to satisfy the demand for crude rubber in the Global North. I analyze the reality glimpsed in *Conquering the Jungle*, first in 1920 and

3 See <https://www.youtube.com/watch?v=uaYQmznHjyk&t=110s> and <https://archive.org/details/Islandof1920>.

4 See <https://archive.org/details/13124conqueringthejunglewvr>.

again in 1939, focusing on how extractive industrialization's "touch" alters a location's face. Between the two iterations of this film, natural resources from a location/environment acquired meaning and value for global development in the first half of the twenty-first century, as a land's flora was converted into a natural resource to be explored, mapped, experimented with, extracted, and transported from one continent to another. The 1939 version of *Conquering the Jungle* borrows most heavily from the eponymous 1920 film and combines this with some of the material from *The Island of Yesterday* and is distinctive primarily because of the addition of sound. The earlier footage is combined and edited to fit a narrative of progress emphasized by a male narrator. The voice-over track is a critical node for the recombined film, as it conveys a narrative of modernity and the accelerating pace of industrial penetration into the jungles of Dolok Merangir.

The location was "developed" by a capitalist venture, Goodyear, a US corporation, with the consent and active cooperation of the Dutch colonial administration. Old European colonialism and American capitalist ambition combined. The scenes of *Conquering the Jungle*—from building a transportation system, turning jungles into rubber plantations, and erecting factories and modern facilities, to experimenting with chemical techniques and carefully planning the shipment of the product to reach its market—were aligned with the Western idea of modernity. As Prathama Banerjee observes, conquest is usually understood "as an event in history rather than as a visitation upon history that disrupted a people's shared sense of chronology" (Banerjee 2023, 475). These films are not about the local experience of feeling violated or being untethered from time by imperial incursions. Nevertheless, the film registers the presence and labor of local workers, particularly in its 1939 sound version. The films also display a few white men representing Dutch colonists or Goodyear's administration personnel. The disparities in how Goodyear represents the two racial populations creates a formula to categorize darker people as field laborers: suitable for hard physical jobs and menial tasks, but not yet ready for skilled or sophisticated work designed for the supervisory whites.⁵ At stake was the fashioning of a white supremacy, in Aldon Morris's words, "as an attribute that endowed its possessors with taken-for-granted natural rights and abilities to rule and exploit darker people across the globe" (Morris 2022, 4). Repetitively, the 1920 and 1939 films position indigenous racialized populations as subservient to the colonial administrators and capitalist managers. Interestingly, both versions of the film offer screen time to the indigenous population. The difference is that in the 1920 version, the modernization process is made to appear wholly

⁵ In a radio talk on August 14, 1933, Paul Litchfield, Goodyear's president at the time, used the phrase "little brown brother" to describe the local workers. The phrase "little brown men" or "little brown brother" has an interesting history in US politics. It was used for the first time by William Howard Taft, the first American general-governor of the Philippines (1901–1904) and later the twenty-seventh president of the United States, to describe the Filipinos during the American occupation to deny their independence. See *The Wingfoot Clan* 1933, 5–6; Wolff 2006; and Miller 1984, 134, 167.

part of American efforts. The film's edits oppose the West's modernizing tools to the local population, who appear inactive, primitive, and lazy in contrast. Although the earlier version is replete with footage of local people and labor, they are not associated with the company's machinic glory. By 1939 this emphasis shifts. The film's narrator elevates the local people by highlighting key moments of rubber plantation work while displaying visuals of the Sumatrans and local workforce as a happy collective. The film is reedited to make the local population appear ready for new tasks as an industrious race. To critically assess the film's scenes is to analyze the social formations of race and labor that were in the process of being developed, maintained, and nurtured by the juncture of colonialism and American imperialism. There was a mass influx of contract workers from the island of Java to Dolok Merangir when the later grew exponentially as a modern extraction site.⁶ Estate workers, peasants, and local Sumatran people who lived outside the rubber estate were the subject of systemic white supremacist social formations. These are the people who appear continuously on screen, doing what they are instructed to do, while the narrator explains the process of rubber extraction and production. It is a vision of instructional imperial capital in operation.

Goodyear's project of modernization led to the massive change in Dolok Merangir. Indonesian historians Hanif Harahap and Waston Malau note that the size of the estate significantly increased from 3,679.42 hectares in 1916 to 18,914.43 hectares in 2012 (Harahap and Malau 2012, 39). Demographics, social stratifications, religions, languages, and lifestyles also shifted. If historical accounts give us this knowledge, the films shot on location allow us to witness the techniques essential to transforming the meaning of jungle from a wilderness into an extractive zone for rubber. The film's production process is a particularly useful archive in this context. It demonstrates the intimate links between US corporations and US commercial cinema's distribution and exhibition wings, as both increased their investment in industrial films during the early twentieth century. Universal Company appointed Harry Levey as the Educational and Industrial Department's managing director in 1917. In 1918 Levey started advertising the department's services aggressively in *The Printers' Ink*, a trade magazine for industrial companies (Levey 1918, 87). Levey also wrote op-eds and articles and spoke at advertiser seminars (*Printers' Ink* 1918, 100–104). As of December 1919, Levey entered into an agreement with Alfred S. Black, president of Motion Picture Exhibitors of America, to pay motion picture exhibitors for screening Universal's industrial-educational films with the aim of enhancing the film's reach across more locations in the United States (*The Moving Picture World* 1919a, 1108; *The Moving Picture Weekly* 1919a, 8–9).

⁶ For detailed accounts of labor conditions in Sumatra plantations, see: Pelzer 1978, 1982; Breman 1989; Stoler 1995.

The agreement was apparently a gambit to compete with Goldwyn Pictures, which served as the distributor of Ford films (*The Moving Picture World* 1919b, 40). Levey's department was able to attract Goodyear as a client on the back of increasing its presence in the field and was commissioned to film the company's rubber plantation in Dolok Merangir in 1919 (Levey 1919, 41). The details of this contract remain unclear.⁷

Goodyear's education program used films to educate its workers. One significant development at the company was the creation of the Flying Squadron industrial training program, which used these films to inculcate the company's values in future managers. As noted by American educational psychologist Colleen A. Moore, "by the 1930s [this program] had grown and become recognized as one of the largest of the industrial educational programs in the United States" (Moore 1982, 8). It was, in this respect, part of the broader efforts to use film as a form of "visual education" to shape new industrial and extractive processes (Vonderau and Hediger 2009, 9–15). I follow Sandeep Ray's argument that these kinds of "propagandistic films commissioned by a diversity of agencies" can "rehabilitate historical moments that have remained unexplored in the archives" (Ray 2021, 2). Both versions of *Conquering the Jungle* demonstrate the transformation of the jungle into an industrial site with the exploitation of labor and implementation of techniques that ultimately made the jungle a "productive" space for the Dutch East Indies. Every scene is produced and edited to be in line with the narrative of modern expansion, the conquest of nature, and domination over other races to generate value and accumulation.

I trace the techniques of rubbering, extracting latex, packaging raw material, and transporting the material to the United States as it is depicted on film, which displays the transformation of a tropical rainforest—the land of yesterday—into what was proclaimed to be a "Dollar Land."⁸ As the 1939 version of *Conquering the Jungle* in particular reveals, Goodyear's three plantations in East Sumatra from the 1920s to the 1940s played a significant material role in shaping US efforts to globalize the Indonesian economy on the back of America's automobile industry. The films display technologies of planning, exploration, and scientific experimentation being operationalized in geographical terrains that were attractive primarily as Western laboratories, because the population could be transformed into low-wage labor dedicated to the production of rubber and latex. In this context, moving images shot at actual locations become an archive of their own kind. I build here on

⁷ Harry Levey was an important figure in the production of industrial film in the United States. A search via the Media History Digital Library of the Wisconsin Center for Film and Theater Research shows roughly more than eight hundred articles or advertisements in different publications including *The Film Daily*, *Wid's Film*, *The Moving Picture World*, *Exhibitors Herald*, *Moving Picture Age*, and *Moving Picture News* about Levey. He held many important positions in film companies that specialized in industrial films; see <https://lantern.mediahist.org/catalog?q=harry+levey>.

⁸ The Deli region was famously known as Dollar Land as it promised significant profits for the foreign plantation. See Stoler 1995.

work stressing the importance of thinking through the accreted visual details of a location to understand the layered socioeconomic and political histories embedded within it (Jaikumar 2019; Rhodes and Gorfinkel 2011).

Film is unique as archival material because it can combine visual and aural registers. Despite their interconnectedness, one register sometimes betrays the other. In the case of *Conquering the Jungle*, the silent version of the film emphasizes that Sumatra is remote and far away from the "center" of civilization—a place of backwardness and squalor that must be conquered for the world's advancement. These intertitles deny the racialized plunder of the location's natural resources, which are nonetheless evident in images of terraformed land. The voice-over of the 1939 version is even more unfaithful to the reality of the location. The sound effectively directs attention to the rubbering process that masks the enslavement of labor we witness on screen, re-presenting rubber extraction as a productive act. In this essay, I dig deeper into the film's contexts to provide critical insights into *Conquering the Jungle* as salient archives of Dolok Merangir and its people, in excess of what is presented through the film's sounds or images.

Goodyear's films showcased the company's achievements and were often used as educational tools, both within and outside the company. These films became parts of educational and useful films that were significant visual forces during the early twentieth century. Film scholars have explored how films are used by organizations to foster their political and economic interests (Dahlquist and Frykholm 2020; Dahlquist and Vonderau 2021; Grieveson 2018; Vonderau and Hediger 2009; Acland and Wasson 2011). Like similar films in this mode, Goodyear's films projected the company's continuous plan of progress through modern techniques and scientific methods. Goodyear claimed that the reedited film circulated widely, and that three million people had watched it by the end of 1939 (*The Wingfoot Clan* 1940, 3). As noted previously, besides screenings in the company's theater,⁹ Goodyear also used the film as part of the educational material in "Flying Squadron," the company's internal training program (*The Wingfoot Clan* 1922, 3).¹⁰ Like other nontheatrical productions in the same vein made during the era, this film was screened for schoolchildren in the United States as well.

Of specific interest in the films are sequences and scenes that emphasize the visualization of modern techniques in each stage of the rubber plantation industry. The scenes visualize the clearing of the land, planting of rubber seedlings, weeding the land, tapping trees, extracting sap, coagulating latex, and pressing, smoking, packaging, and transporting the rubber product from

⁹ Like many other big companies, Goodyear designed their estates to perform the functions of a city. Housing, city hall, shopping centers, schools, churches, hospitals, and sports facilities are standard facilities in each estate, including the ones in Sumatra. See Tully 2011, 207.

¹⁰ The company's internal training program often used film as part of the material, although the title *Conquering the Jungle* was never mentioned. See Moore 1982; *The Wingfoot Clan* 1933.



Figure 1. *Conquering the Jungle* (1939) by Goodyear Tire & Rubber Company. The scene of the natives around Dolok Merangir estate gathered by the river, eating raw fish they caught earlier.

Goodyear's Sumatra estate to their factory in Akron, Ohio. Close readings of the two versions of the same film shot on the plantation's location at this significant point in the globalization of rubber's extraction contribute new layers of information and history about Dolok Merangir as central source of material and labor for the US automotive industry. The film scenes are a unique object of study in understanding how Goodyear offered visual evidence that the planting, cultivating, and extracting of rubber was not only changing the landscape but also "modernizing" the habits of its inhabitants. For instance, in the 1920 film, the titles note that a region that was once "notorious for cannibalism" is populated by those who are "now a peaceful race." In 1939 the narrator's voice-over observes: "These people were to learn a new job and were destined to take their place in world trade and furnish an essential raw material that finds new uses every day." Image and text combine to frame the locals in such a manner that they are made to hover between categories of primitivity (eating raw fish with their hands by the riverside, as seen in [figure 1](#)) and workers in the process of being absorbed into global modernity.

Experiment of Conquest

A rubber plantation is neither a cheap nor a quick investment. Running and maintaining the properties needed meticulous planning and organization of labor and time (Allen 1943; Tucker 2007, 226–82; Tully 2011; Harp 2015; Ross 2017, 99–163). While it promised significant revenue, Goodyear's bargain in investing in Dolok Merangir also signaled potential risks. The geographical distance between their headquarters and Sumatra was a key

obstacle. Dolok Merangir is sixty-two miles away from Medan, the biggest city in the region—today the capital of Indonesia's province of North Sumatra—and in the early nineteenth century, bringing supplies in took a five-day haul (Allen 1943, 81–93). Rubber is also a long-term investment. From the day the seed is planted, it takes approximately four to six years before the trees mature and are ready for tapping (Allen 1943; Tully 2011; Harp 2015). During the planting process, Goodyear carefully considered the distance between trees, tapping methods, chemical processing of the sap, and the packaging and shipping of latex sheets to Akron, Ohio.

Conquering the Jungle is a precise depiction of all these multiple stages of rubber cultivation. Both versions of the film open with information on the geographical location of Sumatra, the benefits offered by the island, and its strategic position in the rubber industry in the United States. Both the 1920 and the 1939 version show the map of Sumatra to illustrate the relative distance between the island and the continental United States, and the distance that the rubber had to travel. The 1920 film's opening card states, "The commercial expansion of Sumatra, an island off the straits of Malacca, is closely allied with the rubber industry of the United States." The film continues to display a map and arranges the scene to imitate a presenter or a teacher pointing to an object in front of their audience. The first scene of the 1920 film shows a world map and then turns into close-up shots of the exact position of Sumatra, the rest of the archipelago, Southeast Asia, and Australia. The map of Sumatra bears pertinent new facts that may have been foreign to American audiences. The next scene, scaling back to a medium shot, shows a pencil emphasizing Dolok Merangir as the point of interest. Seconds later, the audience "travels" through the sea, seemingly illustrating the journey of rubber across the Pacific Ocean from Sumatra to Los Angeles and further inland until it reaches its final destination in Akron, Ohio. Camera movements, edits, and intertitles create a "frictionless path" across space, creating an ideological fantasy of a land that yields itself to the imperial trade and gaze (Jaikumar 2019).

By 1939 a narrator has replaced the intertitles, and we hear a masculine voice explaining: "South and west of the Malay Peninsula lies the world's fifth largest island, Sumatra, cut in half by the equator. It provides ideal growing conditions for rubber, where rubber trees grow best within ten degrees of the equator. Sumatra is a long, narrow island with over seventy high mountains that comprise the Barisan range. Most of them being volcanic." The geographical location of Sumatra is essential to emphasize a couple of things for audiences in the United States. First, the distance between the continent of North America and the island. Second, the volcanic soil, which had been studied scientifically beginning during the late eighteenth century for its suitability for growing rubber (Minasny et al. 2020). In 1920, about the time the first film was made, a published study about "tropical soil" (as it was called) and its suitability for rubber was conducted in 1920 by C.

D. Rockwood, a purchasing agent from Mason Tire and Rubber Company in Akron.¹¹ The extractive motivation of this study of soil demonstrates what Kathryn Yusoff defines as "White Geology," wherein scientific studies serve as a "transactional zone in which ideas of origins, subjectivity and matter are intertwined, with historical materialist roots that span a genealogy of dispossession, uprooting and extreme violence" (Yusoff 2018, 26). In this case, while the film claims to impart disinterested information on the ideal conditions of rubber cultivation, the visuals provide evidence of the decimation of native forest growth at the hands of Indonesian and Javanese populations, who are transformed into near-enslaved or "cheap labor" serving the extended machinery of a North American tire company (Patel and Moore 2020).

The 1920 film begins with a title card: "After a two-hour ride on the Deli Railroad in a most oppressively hot climate, we were glad when the train crawled into Dolok Merangir, one of the important rubber centers in Sumatra." It is followed by a long shot of a train coming into a station where people are busy on the platform. Right after that, another card gives another fact about the location: "We were not keen about loafing in the mangrove swamps of the lowlands for several days before sailing time, so the suggestion to look over the 20,000-acre rubber plantation of the Goodyear Tire & Rubber Company was a welcome one." In the next scene, the film reveals the activity around the train station. A traditional cart pulled by two cows transports rubber cubes into the station. A group of workers load rubber boxes into a train car from the back of a modern truck, where the audience can see "Goodyear, Akron" text on the side of each box. The next scene captures the journey into the heart of the plantation estate through a passage that the film describes as "A glass-like macadam running through the plantation [that] opened up the very heart of a primeval jungle." This information follows a shot of a clean, modern road "cutting" the thick jungle on each side. Local people walk along, and four traditional carts carrying lumber are seen on the road. Soon after, a traveling shot of a vast lineup of rubber trees reveals the intervention of a modern plantation in the area. As far as the eye can see, new plants are being cultivated. Such sequences hark back to cinema's roots in Europe's late nineteenth-century visual devices that offered Western subjects access to virtual travel around the world from the safety of their own homes, particularly in colonial regions projected as dangerous or undeveloped (Ruoff 2006). The film constructs a sense of Indonesia's inhospitable swamps being transformed into a curated plantation through the nurture and systematization of Goodyear.

11 See Rockwood 1920.

The first three minutes of the 1920 film provide sufficient information to understand that our virtual journey is to a tropical island that is being modernized. The following sequence, also reflected in the 1939 version, depicts the essential steps in planting *Hevea brasiliensis*, the commercial rubber plant, to turn the jungle into an industrial site of a modern rubber plantation.¹² The scene begins with three plantation employees, white men in white uniforms, walking through the dense bushes of the tropical jungle and a card that says, "After a short trip through the trackless, swamp-ridden jungle, we were convinced that clearing this primeval forest was a herculean task." It was indeed a herculean task. A camera pans to the left to show the "coolies" clearing small trees. A cut takes the viewer to a long shot of tall trees being chopped down using an axe. The trees are so tall that they need a scaffolding-like structure to make the job easier and more effective. The camera moves closer to the tree, and through a low angle shot, the audience can see that it took four men to cut down one tree. The camera switches quickly to a long shot, slowly tilts up, scans the entire height of a tree, and seconds later, captures the same tree falling to the ground. A larger tree takes no less than ten workers to bring down. One by one, the trees are felled. In order to make the ground suitable for planting *Hevea*, the trees are burned. In nine short seconds, the screen shows the speed of fire wiping out thousands of acres of lush jungle land, followed by a card: "Large bonfires, fed by a vast amount of brush and fallen timber, blazed the trail of this great work of reclamation" (see figure 8, production notes).

As the size of the virgin jungle decreased, thousands of *Hevea* rubber buds were planted as replacements. The films show that as far as the eye can see, what used to be a thick Southeast Asia rainforest has been turned into an industrial rubber estate. The reality of the location has changed. It is being brought into the orbit of global industrial modernity, connected by road and rail infrastructures, and by the construction of housing, markets, and a hospital for contract workers shipped in to work on the plantations. Jennifer Peterson has argued that when images that promote and celebrate the narrative of progress, industrialization, and modernization are reassessed with a contemporary awareness of widespread planetary "displacement, habitat loss and extinction," they "make new spectators of us all" (Peterson 2022, 19). Goodyear's films now make visible these devastating interventions into natural property, reclaimed as spaces generative of capital. For citizens of Indonesia, this film feels like an original encounter with the scene of a profound crime against nation, land, and planet through an arsenal of extractive weapons.

¹² *Hevea brasiliensis* is a native plant of the Amazon rainforest. In 1876 British botanist Henry Wickham pirated the plant and sent it to the Royal Botanic Gardens at Kew, London. See Tully 2011, 185–87; Harp 2015, 17; Mitman 2023, 4.

In the early twentieth century, Allen reports, one of the methods to prepare the land for planting rubber was by using fire (Allen 1935b, 5). As the film tells it, "At the outset, natives worked continually with hoes, clearing the growth underneath the trees as clean as a baseball diamond. This was the general practice at the time so that the trees could get all the fertility from the soil, and fiercely growing jungle growth would not choke the life out of them." The next card notes: "At the edge of the jungle was a vast plain covered with an enormous number of logs and thousands of tree stumps. The result of years of arduous labor." The workers labored in groups to dig around the tree trunks and later used a modern tractor so the stumps would be pulled out more easily. The camera stops for a few seconds to show a pulled-out root of a tree stump. Soon, all the stumps are cleared, and the "baseball diamond" lands are ready for the planting of *Hevea brasiliensis*. In the 1920 version, these scenes last for six of the fourteen-minute duration. In effect, the account of Sumatra's geographical facts and the acts of "reclaiming" the land seem to be half of the material that Goodyear wanted to deliver to their audiences. The people in the United States— among them Goodyear employees, American schoolchildren, and people with an interest in rubber—are taught through these films about a distant, primitive, and unmodernized island called Sumatra, which has a vast jungle inhabited only by workers. The film continuously shows that without the American enterprise of Goodyear, the jungle would be a wasteland generating no monetary value. Civilization and culture, in these terms, would not have developed without Western intervention. To flip that argument, both iterations of the film demonstrate that the terms of "progress" as handed out to Dolok Merangir, a Dutch East Indies colony purchased by a US capitalist enterprise, were founded on extraction and the transformation of land into plantation property. The films are relentless in making an argument for the need to convert a wilderness into a rubber plantation, but seen through the lens of the Plantationocene, these are visual documents of parasitic monoculture decimating land and enslaving people.

Rubber was an important commodity, and the need for rubber was critical in the West.¹³ The films argue that there was no harm in conquering a jungle to satisfy the demand for rubber. America's need for rubber grew significantly from the 1920s to the end of the 1930s. Goodyear reported that American consumers purchased 54,295,000 new tires in 1930, and the number rose to 59,154,000 in 1940. The company considered the year "the best year in decade and in tonnage, the highest in history" (The Goodyear Tire & Rubber Co. 1940, 37). The statistics of crude rubber, gasoline consumption, and motor vehicle production were also trending upward rapidly, and in 1940

13 For the data on rubber price fluctuation during the years from 1907 to 1948, see Allen 1949, 602; Tucker 2007, 244–49. For specific data related to Goodyear operation in the world from 1928 to 1940, see The Goodyear Tire & Rubber Co. 1940, 37.

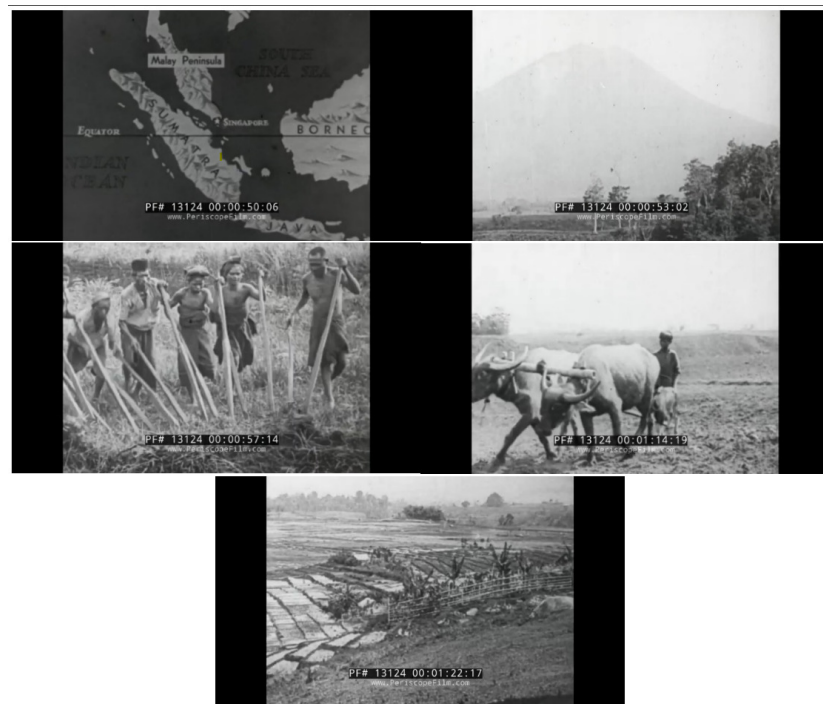


Figure 2. *Conquering the Jungle* (1939) by Goodyear Tire & Rubber Company. The opening scene presents Sumatra's geographical location, landscape, and traditional way of cultivating the land.

70 percent of the world's motor vehicle registration was in the United States (The Goodyear Tire & Rubber Co. 1940, 37). Goodyear saw the numbers as a perfect indicator to justify their conquest of Dolok Merangir.

The Natives of the Land

People are largely absent from the 1920 film except at the end, when some of the local indigenous population enter the scene. This information was "updated" in the 1939 version. With the arrival of synchronized sound in film technology, the 1939 version offers more detail on the unique position of Sumatra: its size, the degrees of the equator, and the island's volcanic nature. From the film's opening, the narrator explains the "reality" of the environment and the facts that made the land perfect for growing rubber. The information is somewhat similar to the earlier film but varies in detail. The 1939 version establishes the fact that people already inhabited the land usurped for the plantation and cultivated it. However, their way of life is not allied to modern civilization and industrial standards. The 1939 film opens with a theme song and a narrator's description of the scene. I quote this in full to draw attention to how the words justify industrial penetration with the claim that the locals neglect the wealth around them and have few needs or "hunger" ([figure 2](#)).

Southwest of the Malay Peninsula lies the world's fifth largest island, Sumatra, cut in half by the equator. It provides ideal growing conditions for rubber, where rubber trees grow best within ten degrees of the equator. Sumatra is a long, narrow

island with over 70 high mountains that comprise the Barisan range, most of them volcanic. It was here in the heart of the tropical jungle that Goodyear decided in 1916 to start its vast system of rubber plantations. Over on the other side of the world, the men and women worked side by side with primitive tools, tilling the soil to produce their main crop of rice. Cultivation of small areas was necessary for a few of their necessities. Sumatra is thinly populated, and prior to the advent of the rubber plantations, little of the very fertile soil was utilized. The inhabitants preferred hunting and fishing to the more arduous work of farming. Their hunger could be satisfied by catching a fish or two. No need for cooking. A palm leaf served for a plate and fingers for knife, fork, and spoon.

As the narrator explains the "realities" of Sumatra, the screen presents the visual of a map situating the islands of Sumatra, Java, and Borneo, along with texts describing the location of Singapore, the Malay Peninsula, the equator, the South China Sea, and the Indian Ocean. The scene changes to show images of a vast landscape of greenery, trees, and a tall mountain in the background. Seconds afterward, a group of local people appear on screen, using long sticks to plow the ground's surface, which is covered with dead leaves and withered bushes, before switching to a scene of three buffalo dragging a traditional plowing tool, and a wide-angle view of the rice fields in the scene that follows.

In the early twentieth century, locals still used traditional tools and labored manually on the land. On this side of the world, the film posits, their needs were small, limiting their cultivation process to growth that was necessary. The narrator explains that rice was the staple food of the land. Additionally, since their hunger could be satisfied by catching a fish or two, they do not require many possessions. This narration coincides with the screen showing a group of local men catching fish in a river and eating them raw, using their fingers as utensils ([figure 1](#)). Quickly the film portrays the local way of life as primitive, backward, lazy, and squalid—although the narrator does not explicitly use these words, they are conveyed clearly through the images depicted on the screen. There is, in these films that insistently stress the importance of expanding production to meet foreign needs and create local ones, no virtue in living within one's means or having limited desires that can be sustained by a land, with least disturbance to its ecosystem.

On the contrary, the 1939 version of *Conquering the Jungle* asserts that the introduction of rubber plantations played a crucial role in *improving* lives on the island. Extraction begets progress, according to the film. The people and the environment must be shaped, arranged, and modernized. Although the locals' needs are minimal because they are civilizationally underdeveloped, according to the film, the land itself is shown to be highly fertile in an

unrealized manner that is going to waste. While the people are content with little, the other side of the world demands more. In their pursuit of establishing a "balanced world," the modernized, advanced, and civilized America—and the rest of the Western world, considering the Dutch colonial interest in the land—brings knowledge about a valuable crop, *Hevea brasiliensis*, to the island. Capitalist industrial powers such as Goodyear deem this tree essential for progress. It is not until the fourth minute of the film's ten-minute duration that the discussion shifts to the herculean task and arduous labor of clearing the jungle—a task assigned not to the natives but to contract workers who are recruited and paid to undertake this difficult labor.

Both versions of the films value rubber more highly than either the local population or the indentured migrant labor. Despite the ethnographic scenes of local people, their way of life, housing, clothes, customs, and habits, nothing in the film humanizes the population. Rather, Goodyear presents them as savage cannibals, part of the natural world that needs to be tamed, educated, and elevated. As Jan Breman's studies have shown, indentured workers (referred to in the film through the racist epithet of "coolies") were the lowest class (Breman 1989). They were the "slaves" in the Sumatran rubber plantation's hierarchy. But the local population, too, is shown as changing to adapt to the industrial way of life, forced to leave their "primitive" culture to embrace the virtues of industrial capitalism. The "facts" stressed in the 1920 card note that "Civilization's conquest of the jungle is leaving its impression on the Bataks, a tribe, which though once notorious for cannibalism, is now a peaceful and industrious race." The land, in contrast, offers many benefits to the company. Once a no-man's-land, it is potentially fertile and readily available on a large scale. Right after the scene introducing the lifestyle of the natives, the film starts describing the beginning of the "tasks" the engineers of Goodyear need to tackle. The camera pans to the left and scans the traditional houses of the natives as the narrator says:

We live in more civilized parts of the world with modern conveniences on every side. Sometimes, we find it hard to realize that in other parts of the world, conditions do not quite come up to ours. But this was the situation that the Goodyear engineers found in Sumatra when they decided to start their large plantation. The villages and the people were much the same as they had been for centuries.

The film wants its audience to notice the conditions without modern conveniences. This situation needed to be changed, and it was the engineers' job to ensure that what was presented in the film would not stay the same for another century. Goodyear brings this form of modernity. The next scene repeats the narrative of the uncivilized primitiveness of the natives as the camera alternates between the scene of children bathing in a mud pool alongside water buffalo, workers' barracks, and a mother carrying a baby. A



Figure 3. *Conquering the Jungle* (1939) by Goodyear Tire & Rubber Company. In this scene, a child is encouraged by the adults around to smoke and puff the smoke out.

second later, this child is ordered to smoke a cigarette and puff the smoke. As he complies to follow the order, the mother and a man stand close to the child, laughing ([figure 3](#)).

There are two issues with this scene. The first is the decision to shoot (whether it represented reality or an act Johnson found “interesting”) and include it as a scene in an educational film for the audience in Akron. What is the educational value in this scene? Somewhere in Southeast Asia, brown-skinned, poor, uneducated people are proudly encouraging their children to smoke in front of a film camera. Are they shown laughing at the child indulgently so that the white audiences who see this scene can laugh at them? Second, while the use of tobacco and smoking were common in Indonesia, the context is not clarified; rather, it is presented as a hilarious act.¹⁴ In Robert Flaherty's *Nanook of the North* (1922), in a staged sequence, Nanook is shown amusingly biting a record although in reality he knew its function well. Here, a child knows how to smoke a cigarette although a Western child might not, because it is not yet an appropriate activity. The event becomes a bad joke that degrades the local population and, similar to Nanook's behavior, demonstrates a comical engagement with objects that stand in for modernity.

¹⁴ See Nichter et al. 2009 for a study of the cultural impact of tobacco advertisement in Indonesia and Barber 2008 for a study of tobacco economics in Indonesia.

These scenes are all in a medium shot, except when the camera pans left to scan the workers' barracks. The narrator continues to discuss the changing environment in relation to the people's way of life:

The one thing that held back the people of Sumatra was the jungle. In order to get something worthwhile out of this highly productive soil, it was necessary to change entirely the way of life of these people. These people were to learn new jobs and were destined to take their place in world trade and furnish an essential raw material that finds new uses every day. The job was not an easy one. It was a job, the task, the ingenuity of the men in charge of the work.

The jungle is a prison, and the locals need to be free. The only way out is by training the people and making them accept their new identity as an industrial workforce. It bears emphasizing here that the narrator's words are far from the truth. Karl J. Pelzer explains that the local people had already developed an effective agricultural system (Pelzer 1978, 49–54). What held them back was not the jungle but rather the Dutch colonial policies that forbade them to grow profitable trees, which could lead to competition with the Dutch planters (Pelzer 1978, 49–54).

Clearing the land was only part of the design to terraform the lands and transform them into rubber plantations. Goodyear was also invested in finding the best *Hevea* seed to plant, the most effective ways to tap the tree and process the latex, and the most efficient ways to deliver it to the United States. New methods of efficient extraction are shown on film. A slit gong at this plantation serves as "a whistle that calls the plantation workers to their job," according to the narrator. The sound is a form of time management promoted by Frederick Winslow Taylor (1919). There is a contradiction in this scene. On one hand, the scene suggests that the workers are ready and prepared to do their daily work. As a man hits the gong, a cut introduces hundreds of brown bodies filling the modern road and going to newly planted rubber trees. Goodyear claims, via this scene, that the Sumatran people need to be free because they were being held back by the jungle, but what we see in this image are not free people; the plantation and its extraction work are not meant for *their* freedom. Even by the terms of the film's own claims, we see people moving to work under colonial policy and industrial systems to fulfill the demand for products that they are not intended to consume, and to plant trees whose existence they were oblivious of until Goodyear's intervention. The people going to work on the trees in these visuals are responsive to the sound of whistles and gongs clocking time for another country's overseer, as coerced labor.

The scene where the workers tap and make a circular cut along the tree bark also emphasizes changes in time and bodily motion. The method of tapping and collecting the sap of the trees was scientifically organized to generate the

most consistent results. As the narrator says, "This method of planting is a decided improvement over the method used since the year 1498." A long shot of nurseries comes next. It frames three laborers watering the young rubber trees in large wooden seed blocks. The film continues to show the young plants that have been sown into the ground, the bigger trees that start to grow, and finally, the ones ready to be harvested as a male worker climbs up a rubber tree to prune it by cutting off a medium-sized branch. The narrator notes that Goodyear's total acreage in Sumatra was ninety-four thousand acres, including two other plantations acquired later: Wingfoot and Lapan.¹⁵ After a collector gathers the latex from its cup, the film presents a series of close-up and medium shots of a latex processing unit where the latex is sieved to eliminate foreign objects. The film goes on to describe that acetic acid is needed to speed up the latex coagulation process. One special chemical treatment of latex was experimented on by the company's chemist, Walter Ten Broeck. The process then moves to the cutting of latex slabs. The compressing process uses a machine called a wringer that makes the latex turn into the shape of crepe paper sheets. These sheets are hung to dry and smoked in large drying chambers to eliminate moisture. The final step is the packaging and shipping to the Goodyear factory in Akron.

These sequences of production processes, where the audience watches the steps of making something, are typical in industrial and educational films. Tom Gunning (5) uses the term "process film," which is synonymous with the films made by industrial organizations in the predocumentary period (Gunning 2016, 54). Salome Skvirsky, on the other hand, defines this type of production as a "process genre" where

[t]he most important commonality is formal: all of the sequences are structured by a distinctive representational syntax that allows them to display the successive steps or phases of a process ... Furthermore, they all depict labor, capaciously understood, and they do so in such a way as to evoke something of the sensuous encounter of the human body, instruments, and materials. Finally, the sequences provide—or convey the impression of having provided—knowledge about the world. (Skvirsky 2020, 15)

This form is visible in *Conquering the Jungle*, where the scenes end with a medium shot of boxes of rubber sheets being transported using trucks, cow carts, trains, and, at the end of the line, cargo ships to the United States. The explanations accompanying these scenes visible in [figure 6](#) highlight how each stage of Goodyear's operations and production in their Sumatra plantation has been carefully planned and controlled. The contribution is "toward a

¹⁵ Lapan plantation was bought in 1931; its exact size varies from thirty thousand to thirty-three thousand acres. This information indicates the film was updated between the 1920 and 1939 versions.

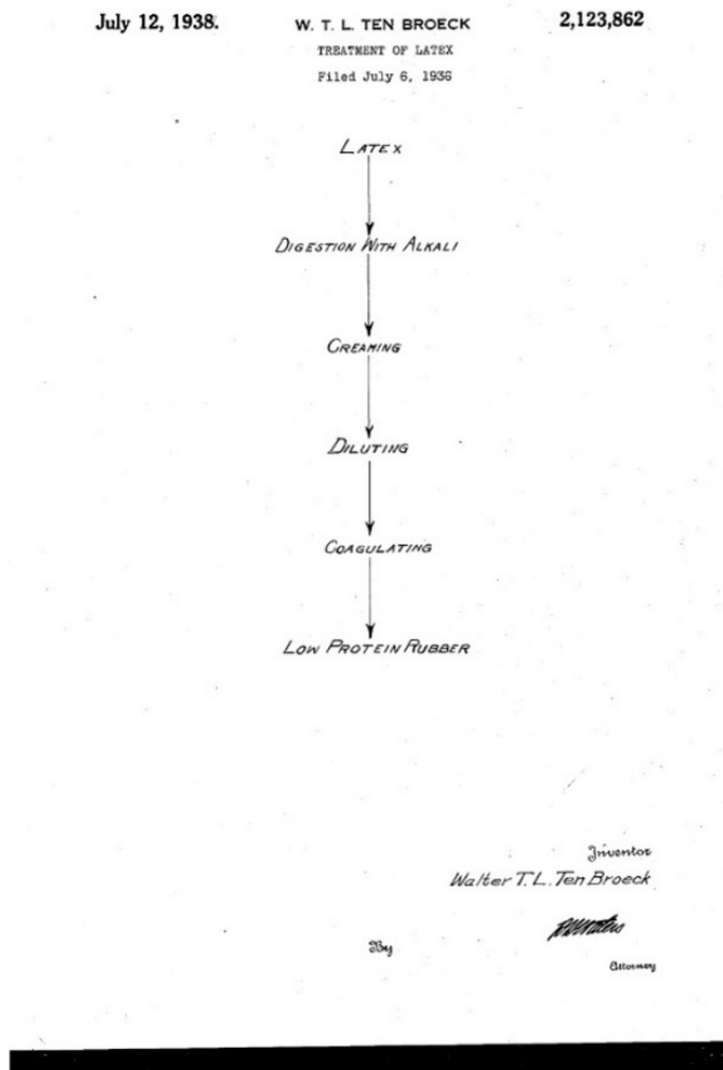


Figure 4. Ten Broeck's treatment of latex. US Patent Office, Google Patent.

better service to mankind." The modern rubber extraction processes and the Goodyear plantation in Sumatra symbolize more than just the endeavors of an American company. They are presented as an outstanding conquest of the wilderness and, simultaneously, the sign of modern civilization and the marshaling of order out of chaos and overlooked value.

But what kind of knowledge can the audience find in *Conquering the Jungle*? The information about brown people working tirelessly on an American plantation site? Some knowledge about a child who smokes under the gaze of adults? A story of freedom for the Sumatran people destined to work for the advancement of the Western world? Contrary to what the voice-over tells us, the film's visuals and history bear witness to the reality that modern plantations orchestrate the extraction of matter and the anthropogenic fostering of capital accumulation at the expense of people deemed racially and civilizationally inferior.



Figure 5. Operating manager Paul S. Shoaff, resident director John B. Ingle, and chemist Walter Ten Broeck in Dolok Merangir, unknown date, 1930s. The National Archive of Republic Indonesia.



Figure 6. The stages of a rubber plantation, as depicted in *Conquering the Jungle* (1939) by Goodyear Tire & Rubber Company, are clearing the land and nursing, tapping, and processing rubber. University of Akron, Digital Collection.

Conclusion

Conquering the Jungle is a compelling example of how a rubber and tire company used film to justify the destruction of the environment and the social fabric of a land visualized as remote and primitive, albeit essential

to the company's consumers. Visible in the margins of the film are the people—hierarchized visually as the local peasants, indentured workers, hunters, and “the inhabitants of the jungle”—whose resources and labor were stolen to satisfy the modern demands for rubber and corporate profit. Since the making of this film, other documentaries and critical ethnographic accounts have provided us with a sense of the richness of the lives of those diminished and marginalized by *Conquering the Jungle* (Pelzer 1978, 1982; Breman 1989; Ray 2021; Stoler 1995; Stenberg and Minasny 2022; Steedly 2013).¹⁶ The film I have discussed presents us with Goodyear's version of the facts and their ideological vision of a successful conquest of Dolok Merangir. In July 1920, the first shipment of rubber reached Los Angeles Harbor from their Sumatra plantations (*The Rubber Age and Tire News* 1920). The shipment of six hundred tons of crude rubber, consisting of 7,467 cases valued at more than \$750,000, was brought across the Pacific aboard the Los Angeles-Pacific Navigation Company's freighter *West Hika* (*The Rubber Age and Tire News* 1920). The production continued until 2005, when Goodyear sold the land ownership to Bridgestone, another rubber and tire business giant. Dolok Merangir is still a production and extractive space today (*Rubber News* 2012).

Goodyear transformed Dolok Merangir, Wingfoot, and Lepad into spaces of extraction essential to the broader extractive economies that underpin automobility in particular. *Conquering the Jungle* foregrounds visible evidence of the transformation of these spaces, as natural habitats and biodiverse environments were replaced by rubber plantations. As Indonesian historians Harahap and Malau note, the size of such estates continues to grow as more jungles are turned into extractive zones (Harahap and Malau 2012). The production and extraction space exists as the realization of the capitalist industry's dream. But this conquest of capitalist power has eviscerated people's lives and segregated them on the basis of race and class. Strangely, the film made by Goodyear for the promotion of its product carries evidence of this very evisceration and deeply racist foundation of the rubber-making enterprise that still marks the lands of Indonesia, and that would become an essential part of America's automotive industry, although it is doubtful that anyone in Akron, Ohio, or any automobile driver in the United States today gives much thought to Dolok Merangir.

¹⁶ The following studies illuminate the social and cultural conditions of the people during this period—the precise reality that is hidden both in 1920 and 1939 in *Conquering the Jungle*. Karl J. Pelzer, Ann Laura Stoler, Jan Breman, and Josh Stenberg and Budiman Minasny's works give justice to the peasants or workers. Mary M. Steedly's book, *A Rifle Reports: A Story of Indonesian Independence* (2013), explores the struggle and resilience of the North Sumatra people against the Dutch colonial forces. Many other works about Dolok Merangir, Deli, or East Sumatra delve into financial or business matters and the studies of the plants around the area, not the social and cultural aspects of the people. A contemporary moving picture example would be *The Globalization Tapes*, a documentary by a collective including Joshua Oppenheimer produced in 2003, which follows the struggle of the plantation workers union in East Sumatra for their rights from the company they work for. I should also mention Sandeep Ray's book, *Celluloid Colony: Locating History and Ethnography in Early Dutch Colonial Films of Indonesia* (2021), as the pioneer in the research of Dutch colonial documentary and propaganda films in Indonesia. In Ray's detailed studies, an exciting chapter deals with the condition of the people who are only visible in the margins, although they were the workers of the Dutch plantations, not the American ones (101–34).



Figure 7. The traveling scene where young rubber trees and barbed wire are visible. The same view can be found today in Dolok Merangir.

I evoke this corporate fiction of reality because it brings us back to the truth that Indonesia's rainforest has been a resource extracted to serve transnational capital. For an industrial power like Goodyear, progress depended on order and extraction. Progress has always been the process of making something calculable. A calculus that can translate into terms of profit, to justify the various costs to others. This paper attempts to describe the loss of environmental elements in Sumatra, considered peripheral to the center of modernity, but founded on the raw materials used to shape that very modernity. For eighty-nine years, from 1916 to 2005, the environment of Dolok Merangir has been an eyewitness to the notions of modernization and the progress of America's industrial power. If today one were willing to travel to Dolok Merangir, the "Dollar Land," experiencing its hot tarmac, dusty roads, high humidity, and hot temperature, one would meet the perfectly lined-up *Hevea brasiliensis* behind barbed wire on the sides of the main road. As the film shows, the barbed wire lines were erected when the first rubber bud was planted in Dolok Merangir ([figure 7](#)). As far as the eye can see, even today, the pirated, experimented, and extracted tree bears witness to the condition presented in *Conquering the Jungle*. The barbed wire marks a territory that was coercively converted into a monocultural rubber prison by the brutality of Goodyear's corporate regime. The environment dreamt up by P. W. Litchfield and many of his associates is living proof that the power of ideas about modernity, progress, and civilization was packaged in films made to facilitate and sustain the extraction of resources essential, in this instance, to Dutch imperialism and American free enterprise.

Author biography

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