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A digital toolkit to detect cinema audiences of the silent era: scalable perspectives on film exhibition and consumption in Amsterdam neighbourhoods (1907-1928)

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ABSTRACT

In this article, we demonstrate and argue that one way to acquire a better sense of cinemagoing in the silent film era is to investigate the relations between cinema locations, the socio-economic and demographic profile of their surroundings, and film programming. Driven by the centrality of space as one of the defining traits of new cinema history, we operationalise this inquiry through a data-driven toolkit of interconnected scalable approaches, in order to establish a multilayered contextualisation of Amsterdam’s early cinema landscape. We analyse Amsterdam’s historical cinema market both on the meso level of the city’s overall surroundings and on the micro level of two neighbouring film venues within a specific urban district. By switching between different levels of scale to analyse the cinemas’ programming profiles, we highlight the venues’ positioning within the socio-spatial structure of the city and their neighbourhood community in particular. In the future, the multi-faceted analytical exploration enabled by our digital toolkit can be further enhanced by an increased availability of more fine-grained archival and contextual data.

KEYWORDS

Amsterdam; cinema audiences; digital toolkit; film consumption; film exhibition; mapping

Introduction

Recent investigations into the historical distribution, exhibition and reception of film have been stimulated by the increasing digitisation and availability of data and the adjacent development of computational research methods, allowing scholars to better place film within its broader socio-cultural and economic contexts. Establishing improved contextualisations of cinema history significantly predates the current era of digital humanities, however: it goes back to the late 1970s, when critique emerged on the lack of historiographical rigour in the field of film studies. The main example of that revisionist current, which first became known under the banner of ‘new film history’, was the textbook Film History: Theory and Practice (1985) by Robert Allen and Douglas Gomery. During the early 2000s, this subfield further evolved and broadened up into ‘new cinema history’, which has...
since brought together a wide variety of scholarly approaches to the history of cinema as a societal phenomenon. At the same time, these research endeavours have naturally also encountered problems and limitations, in particular when it comes to sources that provide evidence and concrete traces of past cinema audiences’ composition and activities.

Despite their obvious centrality to the medium’s history, cinema audiences have remained notoriously hard to grasp. Especially for cinema’s earliest periods, the question of who actually went to the movies has proven tough to answer, since relevant sources are sparse and difficult to analyse in combination. At the same time, new cinema historians have also argued that ‘[t]his scarcity of resources forces researchers to be more creative in exploring often indirect sources for reconstructing historical media consumption and reception’.3 As we will demonstrate and argue in this article, one way to acquire a better sense of cinemagoing in the silent film era particularly is to investigate the relations between cinema locations, the socio-economic and demographic profile of their surroundings, and film programming.

In operationalising this inquiry, we are first and foremost driven by the centrality of space as an analytical concept and one of the defining traits of new cinema history. Pioneering practitioners in this domain already foregrounded and debated spatiality in the 1990s,4 well before the spatial turn in the humanities at large and the subsequent application of accompanying digital methods. In the meantime, the new possibilities offered by GIS and other forms of digital technology and data-driven tools have further stimulated spatially oriented scholarship.5 A spatial perspective can make visible patterns in data on objects, people and events that are otherwise hard to discern. Although one should, as various authors have pointed out, always consider the epistemological and methodological implications of spatial approaches,6 their ability to unearth patterns in different types of data allows historians of cinema culture to identify relevant new connections that can then be studied more in-depth with traditional, qualitative methods.

The increased interest in mapping and related spatial approaches, and their marked surge in cinema historical scholarship over the past decade,7 holds far-reaching potential for new research designs. In what Klenotic, with a term borrowed from Knigge and Cope, calls ‘grounded visualisation’, the digital-minded cinema historian currently finds opportunities to explore an expansive and ever-growing reservoir of sources, using a heterogeneous spectrum of perspectives in an iterative, open-ended process that can generate patterns and information in a bottom-up manner.8 This idea strongly relates to an enhanced flexibility, connectivity and, especially, scalability in processing and interpreting various types of data, in our case both cinema related and non-cinema related ones.9 In what follows, we take direct inspiration from these principles to showcase a space-oriented, data-driven toolkit of different, interconnected approaches for the multilayered contextualisation of an urban cinema market during the silent era.

Our case study centres on the city of Amsterdam, the Netherlands, starting from 1907, when the country’s first permanent cinema venues were established, until the arrival of sound films around 1928.10 From the online database Cinema Context, containing extensive data on cinemas and screened films in the Netherlands from 1896 onwards,11 we have gathered information on the cinemas operating during this
period, covering more than 9000 film screenings that took place in Amsterdam within this time span. Choosing Amsterdam as a case study has also allowed us to benefit from the collaborative research framework of the Amsterdam Time Machine (ATM) project funded by CLARIAH, the national infrastructure for digital humanities research in the Netherlands. Connected to the European Time Machine consortium, along with several other local Time Machine initiatives, the ATM project has brought together urban and social historians, linguists and media studies scholars to collect various datasets containing historical information on the city of Amsterdam, and subsequently link these resources to a shared GIS infrastructure.\textsuperscript{12}

Within this integrated research platform, georeferenced and vectorised historical maps of Amsterdam were made available, onto which we projected our collected data concerning historical cinema locations and their characteristics. Subsequently, the resulting maps were enriched by combining them with data from the Amsterdam City Archives on the past socio-economic composition of the city and its neighbourhoods. In this way, we heuristically explored interrelations between the locations of cinemas, their film offerings and the connection to the venues’ potential audiences. The collaborative ATM framework allowed for the development of a layered mapping approach, through which levels of scalability could be incorporated into the research design. This scalable approach has enabled us to analyse Amsterdam’s early cinema ecosystem both on the meso level of the city’s overall surroundings and on the micro level of a selected neighbourhood’s specific cinemas within the overarching urban agglomeration.

Throughout this article, the sensitivity to different scales guides us in scrutinising our case study’s collected data through a variety of analytical techniques, which together make up a methodological toolbox that can be employed and further expanded upon in other (historical) research contexts.\textsuperscript{13} Starting with data from Cinema Context, we first reconstruct and visualise Amsterdam’s former cinema market for the period 1907–1928 by means of venue-related variables. By linking this with data on Amsterdam’s population and residences, the city-wide analysis subsequently leads us to focus on the beginning of the 1920s, and two proximate neighbourhood cinemas that were established in the peripheral district ‘De Pijp’ at the time. After interpreting the historical neighbourhood context in which these two cinemas operated, we zoom in and out to respectively analyse the differences in the venues’ programming profiles and how these were potentially tied to broader logics inherent in Amsterdam’s historical cinema market, such as film distribution patterns between different venues across the city. This leads to a better understanding of the highlighted cinemas’ positions within the socio-spatial structure of the city and their neighbourhood community in particular.

**Setting the stage: Amsterdam’s cinema landscape during the silent era**

Scholarly discourses on the history of cinema have been characterised by different conceptualisations of audiences. Christie notes that the two dominant modes are, on the one hand, an ‘imagined audience’ as expressed through ‘mere hypotheses, or (…) assumptions and prejudices’, and, on the other hand, an ‘economic or statistical audience’ as captured by industry-related data.\textsuperscript{14} In line with calls to move
towards better, or at least less abstract, historicisations of past spectators, it is necessary to bridge the gap between the speculative and empirical evidence that respectively results from these diverging concepts of audiences. However, new endeavours for historical audience research quickly stumble upon an ‘overwhelming variety, yet in some sense also paucity of relevant sources’, meaning that researchers are ‘often left with a plethora of sources that only marginally address the object of study and rarely amount to a clear-cut homogeneous understanding of audiences and their historical practices’. These can be designated as so-called ‘sources from the side’, which, according to Bourdon’s typology of sources for doing audience history, is material that does not have the primary objective to observe audiences, but on the basis of other interests nevertheless contains claims and insights about certain audiences.

In relation to Amsterdam’s earliest cinema audiences, ‘sources from the side’ can indeed be identified. Various literary sources exist, for instance, that cover particular aspects of Dutch cinema history and culture, and in doing so also talk marginally or indirectly about actual audiences. Among these sources are not only books detailing the course of some of Amsterdam’s longest-running cinema venues or documenting the careers of some prominent cinema entrepreneurs, but also more journalistic memoires that offer reflections on past cinemagoing activities. For example, the Dutch film critic L.J. Jordaan recounted his memories of the first 50 years of film history with a special emphasis on the cinema audience, which he deemed a neglected factor. However, the anecdotes interwoven in his book ultimately only offer fleeting glimpses of the types of audiences that flocked to former venues. The same holds true for Richard Van Bueren’s two-part reference work Saturday Night at the Movies (1996-1998), which provides an exhaustive overview of all known cinemas in Amsterdam, accompanied by historical information on the architecture and business organisation of venues, and therefore also constituted an important source for the Cinema Context database. In the absence of ‘sources from above’ like statistics and data produced by so-called ‘media elites’, or ‘sources from below’ such as oral reports documenting audiences’ media consumption, Amsterdam’s silent film era can nevertheless be approached and concretised through sources that are indirectly linked to cinema audiences themselves. By gathering insights from those sources on multiple, interlinked levels of scale, we attempt to detect and sketch the contours of communities of early film spectators. The natural starting point for our case study on Amsterdam is a city-wide investigation of its former cinema landscape, after which we zoom in and out on specific cinema- and industry-related characteristics.

The Netherlands’ first permanent cinemas were established in Amsterdam. This started around 1906–1907, when venues like the Bijou Biograph Theatre and Nöggerath’s Bioscope Theater were founded. While this point in time demarcates the start of the historical period that we investigate, the introduction of sound films marks the end point, due to the restructuring that the cinema sector underwent at that time. Through Cinema Context, it is possible to gather a list of Amsterdam-based cinema venues that were active during the period 1907–1928. This amounts to 82 identified cinemas, representing a share of more than 10% of all Dutch film theatres that were active at some point in this period. By means of Google Maps-coordinates provided by Cinema Context for these past venues, all identified cinema locations can simultaneously be mapped in one overview.
As indicated by the red threads on the map, Figure 1 showcases heightened concentrations of cinema venues along some of the city centre’s most prominent entertainment and shopping streets. Besides these central cinema constellations, many other venues were scattered along Amsterdam’s broad canal belt, and in more peripheral areas such as the southern district De Pijp, or the area in the east around the Oosterpark. This map does comprise an obvious visual bias in that it depicts a collection of cinema venues for a twenty year-long period in one static overview. In order to accommodate for some of the differences that naturally existed between cinemas’ actual periods of activity, a colour code is incorporated in the map to distinguish venues from one another on the basis of their founding years. Separated into successive intervals over the entire period of 1907–1928, this visual cue helps to identify a higher number of cinemas that already opened prior to the midway point of the investigated period.

Further insights into the establishment of Amsterdam’s earliest cinemas can be gained by charting the yearly developments of opening and closing cinemas during the previously demarcated time span. Figure 2 shows how many cinemas opened and closed in Amsterdam on a yearly basis, with the grey line indicating the overall ratio between the number of opening and closing venues for single years. The number of newly established cinemas boomed around 1912, only to be rapidly followed by a general trend of venues closing down. The First World War, during which the Netherlands remained neutral, helped balance the initial escalating competition on the Dutch cinema market. At the same time, cinema attendance rose continuously during the war period. After this period, the evolution of Amsterdam cinemas somewhat stabilised. From 1917 until the introduction of sound films around 1928, the total number of cinemas active in the city fluctuated between 30 and 35.

Figure 1. Amsterdam cinemas (1907–1928), according to opening year.
In addition to cinemas’ historical locations and opening years, we gathered other characteristics from Cinema Context. The seating capacity of a cinema, together with its location, serves as an indicator of potential market share. The initial overview of Amsterdam cinemas between 1907–1928 can thus be enriched by including all known seating capacities of cinemas during their opening years, and visualising these as a distinguishing factor in relation to the size of the mapped venue nodes. Figure 3 indicates that, with the exception of one location on the westside of Amsterdam’s canal belt, all cinema venues with more than 600 seats were located in the city’s centre. Moreover, three of those centrally located cinemas had a known seating capacity of more than 1000, namely Rembrandt Theater, Tuschinski and Cinema Royal, which respectively opened in 1919, 1921 and 1922. They all fit in a ‘construction boom of picture palaces’ that occurred around the end of the First World War and the beginning of the 1920s.

Following the previous mapped overviews for the overall period of 1907–1928, the particular historical trend towards the establishment of picture palaces motivates us to now start focusing on a more specific moment in time of Amsterdam’s early cinema landscape. We start by singling out the year 1921 here, incited by the availability of relevant municipal sources and data, but also by the fact that the two neighbourhood cinemas around which we construct a detailed analysis in the subsequent parts of this paper were both established in this particular year. Relating key information on the city’s demographic and residential structure to the cinema landscape at this point in time enables us to further grasp the extent to which central city districts stood in connection to substantial parts of the urban population that lived in the outskirts. Figure 4 combines data on Amsterdam’s population
density, as measured for the year 1920, with the cinema landscape of 1921. The map shows how Amsterdam’s most central districts, hosting the majority of cinema venues in the beginning of the 1920s, display the lowest population density rates in the entire city. The canal belt stretching around the city’s core is, in general, characterised by a slightly higher population density. The most crowded neighbourhoods were to be found on the periphery of the city at the time, stretching from the northwestern ‘Jordaan’ neighbourhood to the west and south, where the district De Pijp was located. At the same time, the outspoken development of the inner city into a work- and retail-related area led to a significant outflow of inhabitants from the centre towards more peripheral neighbourhoods. This is further exemplified when mapping the absolute number of residences per neighbourhood.

Figure 5 strengthens the observation that Amsterdam’s centre was no longer a primary residential area by the beginning of the 1920s. Peripheral neighbourhoods with substantial amounts of new residences grew rapidly. Mapping and contextualising the data from Cinema Context reveals how the city’s core hosted the most, and most prestigious, cinema venues. In addition, the generated geospatial overviews further point the attention to a wider circle of neighbourhood cinemas that also was established since the emergence of permanent venues a decade earlier. Because many central cinemas, and especially the large cinema palaces, would not merely or even primarily draw audiences from their direct vicinity, but rather a variety of people from across the city, we cannot use specific neighbourhood-
Based data in attempting to characterise the particular audiences of city centre cinemas. Thus, if we want to continue exploring how cinemas potentially oriented themselves towards local audiences, a shift in scale and focus is needed towards the level of specific neighbourhood cinemas.

**Zooming in: two neighbourhood cinemas in De Pijp**

To zoom in on local cinema practices, the southern city district De Pijp offers a suitable case study, as the exhibition history of its two principal neighbourhood cinemas is rather well documented in *Cinema Context* for the period of the 1920s. Both founded in 1921, the cinemas Rialto and Ceintuur Theater were located within walking distance of one another on the Ceintuurbaan, one of the main connecting roads in De Pijp. At the time of their opening, the Ceintuurbaan was just starting to develop into one of the neighbourhood’s central shopping streets. A previous study conducted by Clé Lesger on Amsterdam’s retail landscape indicates that around 1900 most commercial activity in De Pijp was concentrated around the Gerard Doustraat and Ferdinand Bolstraat in the northwest of the neighbourhood, before spreading further along the Ceintuurbaan by 1930, where the first houses were also built somewhat later than in the northern part of the district. In general, Lesger’s study indicates that De Pijp rapidly developed into a vibrant district from the turn of the century onwards.
Another indication for De Pijp’s growing bustling activities at the time is the increased issuance of night licenses by the municipality, permitting bars and coffee houses to remain open during the late evening and night. Aggregated archival data on these licenses shows how, in the period between 1880 and 1910, the number of night licenses granted to the larger city district in which De Pijp was located (neighbourhood ‘YY’) quickly soared and even surpassed that of most other city neighbourhoods, including those in the centre (see Figure 6). Inhabitants of De Pijp did not seem to lack opportunities to go out and amuse themselves in the evening. Moreover, in terms of social composition, sources point out that De Pijp was mostly home to lower middle class families, whose status contrasted to that of the well-off middle class inhabitants populating the adjacent ‘Concertgebouwbuurt’, but who nevertheless did benefit from better housing standards than the people living in genuine working class areas like the Jordaan.37

How did the Rialto and Ceintuur Theater cinemas fit into this neighbourhood? Starting with Ceintuur Theater, it should be pointed out that this cinema was preceded by an earlier establishment, Ceintuur Bioscoop, which was active in an adjacent building from 1913 to 1921. The owner of Ceintuur Bioscoop, J.J. Otter, also founded its successor, Ceintuur Theater, in a new, purpose-built cinema theatre. In doing so, the popular nickname of the former enterprise was also transferred to the new venue: infamous among the local population for its ventilation problems, Ceintuur Bioscoop’s nickname ‘Het Stinkerdje’ (‘The Stinkie’) remained stuck with Ceintuur Theater.39 Notwithstanding this somewhat
disreputable legacy, the construction of the new venue showcased Otter’s high ambitions for film exhibition in De Pijp: with a futuristically looking, Art Deco-inspired façade, Otter arguably had the intention to bring some of the allure of Amsterdam’s central picture palaces to his own neighbourhood (see Photos 1–2). Despite this grand architecture, the cinema did not really transcend its local surroundings, as it was eventually commemorated as a ‘genuine neighbourhood cinema’. In his overview of past Amsterdam cinemas, Luijters even goes so far as to say that this local venue was ‘a typical last-choice cinema’, although it is not clear to what extent this judgment was based on the cinema’s final years in the 1970s as a declining neighbourhood theatre. In 1926, the cinema’s ownership already changed as the venue was acquired by the Van Royen family, who was building a cinema chain spread across both central and peripheral neighbourhoods in Amsterdam.

Photo 3. Children attending youth cinema screening in Rialto (1923). Source: Nationaal Archief/Collectie Spaarnestad/Het Leven/Fotograaf onbekend. 48

Similarly, Rialto’s profile can best be understood by starting from the cinema’s entrepreneur. Rialto’s founder, A.P. du Mée, is described as an impassioned and diligent manager, who primarily seemed to have established the cinema out of strong personal convictions for the educational potential of the film medium. 44 Cinema Context shows that he was not only involved in film exhibition, but also distributed a limited number of films. These mostly included educational non-fiction films, but also some titles with the popular child star Jackie Coogan. In Rialto’s daily practice, this was translated into the establishment of a successful and long-running ‘pedagogical youth cinema’ side program (see Photo 3). 45 The adoption of a regular children’s program most likely contributed to Rialto’s firm integration into the neighbourhood community. Du Mée’s son explains his
father’s intentions of running the cinema in the same way as a regular local shop and as a kind of community centre.\textsuperscript{46} This attachment to and recognition from the surrounding neighbourhood undoubtedly helped Rialto’s founder gain the approval or trust from parents to let their children attend the cinema’s youth program. On the other hand, this special focus on young audiences might also have helped du Mée to add a distinguishing characteristic to his venue, both in contrast to the nearby Ceintuur Theater, which lacked similar specific youth programming, and to Amsterdam’s cinema landscape at large, in which du Mée initially started as an outsider.\textsuperscript{47}

This brings us to a closer analysis of these local venues’ film programming within the city-wide cinema market. We can scrutinise the differences that existed between the cinema programs on offer in terms of films’ genres and countries of origin, for instance. Cinema Context provides links between historical film titles and film-specific metadata from IMDb (Internet Movie Database). Figures 7 and 8 respectively show, for both

\begin{figure}[h]
\centering
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\caption{Ceintuurbaan cinemas’ average programming profiles (1921–1928) by film genres.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8.png}
\caption{Ceintuurbaan cinemas’ average programming profiles (1921–1928) by films’ country of origin.}
\end{figure}
Ceintuur Theater and Rialto, which genres were most dominant in each cinema’s programming and which countries of origin were most prominent in the films on offer. Since singling out one specific year could lead to misrepresentations of the cinemas’ profiles, Figures 7 and 8 are constructed by calculating the average relative share of the most significant film genres and countries within each venue’s programming during the period 1921–1928. This gives an impression of Ceintuur Theater and Rialto’s film offer in their first period of activity, from their foundation until the end of the silent era.

Given that IMDb’s genre tags can often be interpreted rather broadly or sometimes relate to a film’s technical format rather than its content (see respectively the genres ‘drama’ and ‘short’, for instance), distinguishing cinemas on the basis of this data remains somewhat limited. As indicated in Figure 7, the omnipresent genre of drama has the largest share in both cinema profiles, followed by comedies. A pronounced difference that distinguishes both venues from one another is the marginal share of westerns in Rialto as compared to Ceintuur Theater. In contrast, Rialto’s programming relied much more on fantasy films than Ceintuur Theater’s, and the former venue also incorporated a slightly higher amount of other, miscellaneous genres in its film offer in addition to the most dominant ones. A similar wider variation can also be found in the country data, as Figure 8 shows. While almost 90% of Ceintuur Theater’s profile was comprised of American and German films, which dominated Amsterdam’s cinemas most at the time, approximately a quarter of Rialto’s programming consisted of films that originated from other countries. The difference between the two neighbourhood cinemas is most striking when it comes to French productions, which appeared only rarely in Ceintuur Theater. The share of French films in Rialto was substantially higher in the 1920s. There is reason to believe that this aspect in Rialto’s profile solidified even further over time, as du Mée’s son for instance mentions how his father’s preference for French films continued to grow in later years.49

Zooming out: positioning in the broader cinema industry

In order to build on this specific characterisation of De Pijp’s neighbouring cinemas and further relate the venues to more general logics of the historical cinema industry, we now take a step back to scrutinise a broader level of scale. To some extent, genre and national provenance of screened films can be traced back and linked to distribution patterns. Cinema Context also contains information on film distribution, collected from the Dutch trade press for the period up until 1928. In the case of the Ceintuurbaan cinemas, Figure 9 further emphasises how each had its own programming profile, as reflected in a different mix of film suppliers, even though there still were several distributors that supplied to both cinemas. When comparing the ten most prominent distributors of screened films in the two venues, again for the period 1921–1928, Figure 9 shows that half of them were shared: UFA, Paramount, Wilton Metro Goldwyn, HAP and Filma were all major distributors in the Netherlands during the 1920s. Compared to Ceintuur Theater, however, Rialto’s top distributors include a number of smaller, relatively obscure companies like Amfilmin and Kinotechniek, as well as films that were distributed by Rialto’s owner du Mée himself.

An investigation of wider distribution patterns allows us to zoom out even further, and examine how both Ceintuurbaan cinemas were possibly connected to other venues
in Amsterdam, most notably those in the city centre. In order to conceptualise how Ceintuur Theater and Rialto fitted into Amsterdam’s overarching film exhibition network during their first period of activity, we reconstruct and visualise the flows of films that were screened across cinemas at the time by means of a network graph. Figure 10 represents the trajectory that screened films undertook through Amsterdam’s cinema landscape during the sample year 1921. Films that enjoyed a successful premiere often traveled to other cinemas in the market for subsequent screenings. The network visualisation shows the routes of these reappearing films, highlighting the relations between the various cinemas through their amount of ‘shared’ films. In 1921, Ceintuur Theater screened films that had been shown earlier in four different centrally located cinemas: Rembrandt Theater, Union, Passage and Luxor. In the same year, Rialto also received films after they had been screened in Passage and Luxor, as well as from two other quintessential first-run cinemas: Tuschinski and Cinema Palace. Moreover, some films that were screened in Rialto would resurface in Union and Victoria later that year.

When extending this type of analysis for the entire period 1921–1928, we can establish that Ceintuur Theater and Rialto did not share any films among their respective programs. During each year within this period, Ceintuur Theater continued to receive films after they had first been screened in Rembrandt Theater, the Dutch flagship cinema for the German UFA studio. This also corresponds with UFA’s position as leading distributor for Ceintuur Theater, as indicated in Figure 9. By comparison, for each of these eight years, Rialto received a substantial amount of films after they had premiered in the more Hollywood-oriented Tuschinski. Notwithstanding these differences, most other cinemas that screened films that would later arrive in Ceintuur Theater or Rialto throughout this period were nevertheless still part of both cinemas’ networks. The overlaps between these networks seem to imply that a relatively open distribution system existed, lacking strictly demarcated circuits for films to pass through, as was for instance the case with the classic Hollywood ‘run-zone-clearance’ distribution model. It could be argued that the openness of this cinema market would leave more negotiation space for

<table>
<thead>
<tr>
<th>Top Film Distribution Companies</th>
<th>Number of Films - Ceintuur Theater</th>
<th>Number of Films - Rialto</th>
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<tbody>
<tr>
<td>Amfilin</td>
<td>32</td>
<td></td>
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<tr>
<td>Express Film</td>
<td>22</td>
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<tr>
<td>Filma NV</td>
<td>24</td>
<td>73</td>
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<tr>
<td>HAP Film NV</td>
<td>18</td>
<td>20</td>
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<tr>
<td>Kinotechniek NV</td>
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<td>Loet C. Barnstijn’s Standaard Films NV</td>
<td>19</td>
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<td>Monopole Film NV</td>
<td>12</td>
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<td>Munt Film</td>
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<tr>
<td>Netherlands Fox Film Corp. NV</td>
<td>25</td>
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<td>P.R. van Duinen Firma</td>
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<td>41</td>
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<tr>
<td>Paramount Films NV</td>
<td>27</td>
<td>47</td>
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<tr>
<td>Rialto</td>
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<tr>
<td>UFA Film Maatschappij</td>
<td>55</td>
<td>19</td>
</tr>
<tr>
<td>Universal Filmbooking Office - Croze en Bosman NV</td>
<td>11</td>
<td></td>
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<tr>
<td>Wilton Metro Goldwyn Distribution Corp. NV</td>
<td>17</td>
<td>22</td>
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Figure 9. Ceintuurbaan cinemas’ top ten film distributors (alphabetically ordered), based on screened films (1921–1928).
individual exhibitors in crafting their own programming offer, whereby neighbourhood cinemas like Ceintuur Theater and Rialto potentially tended to vie for films that were first screened to audiences in Amsterdam’s city centre.

Even more strongly deviating from a classically cascading distribution model are the examples of neighbourhood cinemas’ exhibitors programming those films that were not previously screened at larger venues. As we already indicated, given the dominance of centrally located premiere venues like Tuschinski or Rembrandt Theater in acquiring their desired films for ‘first run’ screenings, peripheral film exhibitors mostly had to satisfy themselves with older films screened earlier in cinemas that were positioned higher in the business hierarchy. Occasionally, a keen exhibitor could nevertheless secure a title for premiere screenings in his own neighbourhood venue. In the case of Rialto, for example, du Mée at one point seemed able to temporarily escape his subordinate position in the exhibitors’ picking order when acquiring screening rights for the French film La maternelle (directed by Jean Benoît-Lévy and Marie Epstein) as a national premiere title in the beginning of the 1930s, only to discover that the film was a true success with local audiences. Initially rejected by Tuschinski, as du Mée’s son claims, the film’s story centering on an abandoned woman working in an orphanage apparently struck a chord with De Pijp’s lower middle class families.

Figure 10. Network visualisation, generated with Gephi, of films traveling through Amsterdam’s cinema landscape (1921), with cinemas depicted as nodes and films as arrows between them, indicating the amount of films shared between venues (magnitude of arrows) and which cinema screened a film first (direction of arrows).
As a final piece to our analysis of the Ceintuurbaan cinemas’ positioning in the surrounding cinema market, we can further expand and quantify the insight gained from the anecdote on Rialto’s seemingly exceptional premiere success. With the previously collected film screening data for the period 1921–1928, and in particular the documented movements of films between Amsterdam cinemas, we can chart for both Ceintuur Theater and Rialto the share of films that were screened for the first time in either of the venues, and compare this with the proportion of titles that were rather given second, third or consecutive screenings in these cinemas. In this way, Figure 11 provides an additional, comprehensive impression of Ceintuur Theater and Rialto’s respective position within Amsterdam’s film exhibition market. For Rialto, the graph reveals that the cinema did offer some film premieres from the start already, even though the venue’s total offer was still supplemented with many films that already received screenings in Amsterdam before. In contrast, Ceintuur Theater was almost entirely reliant on older films throughout the 1920s, i.e. films that only arrived at this cinema after already having been screened elsewhere in the city. The result, as captured in Figure 11, was the presence of two rather distinctly local venues that, despite their immediate proximity, were able to coexist and develop quite separately from one another.

**Conclusion**

Throughout their founding years in the last phase of the silent film era, both Ceintuur Theater and Rialto shared characteristics that seemed rather common for this type of neighbourhood cinema. Most notably, they often screened films that had first been programmed in more prominent city centre venues. A closer examination of the Ceintuurbaan cinemas’ programming profile nevertheless also reveals that Rialto screened first-run films. This finding, unearthed by comparing the neighbourhood venues across multiple levels of scale, shows how some of the historical practices around Amsterdam’s early cinema market seemed to deviate from what one initially would expect or assume. Similarly, the more nuanced view on past distribution patterns, which arises from our analysis by switching
between perspectives on Amsterdam’s cinema market as a whole and a local segment of it, leads to a better understanding of the relatively open structure according to which the broader film industry system used to function.

Zooming in and out, in the various data-driven ways that we did, on two neighbourhood cinemas within a wider urban context has thus helped to shape distinct profiles of these venues, which in turn informs additional hypotheses on the audiences that frequented these venues: the analysis of the film programming data suggests that Rialto was able to attract more specific audience target groups like children, while Ceintuur Theater was able to exist by means of a film offer that was less varied and perhaps also more conventional. Despite its grandiose architecture mimicking that of the central picture palaces, Ceintuur Theater continued to be primarily perceived as an entertainment facility for the surrounding neighbourhood, which suggests that the lower middle class families living nearby comprised the majority of the cinema’s visitors. Nevertheless, this does not exclude the possibility that people from other parts of the city would visit the cinemas on the Ceintuurbaan as well, for instance to view the premiere titles that Rialto was able to secure.

While we acknowledge that the elusiveness of early cinema audiences cannot entirely be overcome, the increasingly flexible integration and comparison of cinema-related data, and its potential connections to additional archival and contextual data, does point to a rich spectrum of research directions that can be developed further. The increasing availability and granularity of digital datasets will improve future possibilities of relating cinema-specific information to ‘(. . .) the world outside the movie theater, ranging from the factory, the church and public meeting halls to other forms of entertainment such as dance halls, saloons and vaudeville shows[; in] other words, (. . .) the social world at large’.\textsuperscript{56} It is therefore promising that more and more initiatives are currently being set up, including among research institutions connected to the European Time Machine consortium, to extract large-scale and highly localised data from vast archival sources like address books and other municipal registers.\textsuperscript{57} By thickening the web of available data and combining new sources to further approximate the ‘layered complexity’ of past contexts, for which our paper provides a first impetus, it will ultimately be better possible to trace more, and more empirically grounded, interrelations between historical audiences and the cultural offer that they potentially were attracted to.

Notes

4. See for example the foundational debate between Singer 1995 and Allen 1996.
5. See Bodenhamer, Corrigan, and Harris 2010, and Gregory and Geddes 2014, among others.
9. As Denbo and Fraistat state, the study of cultural phenomena is best served by a scalable approach, because ‘only by connecting the distant with the close can the potential of digital (. . .) analytics to address questions about culture be fully realized’ Denbo and Fraistat 2011, 170.
12. For a comprehensive report of the work conducted in the ATM project, see Noordegraaf et al. 2021.
16. Mihelj and Bourdon 2015, 3.
18. Books and booklets on Amsterdam’s oldest cinemas include Kramer and Rogge 1995; Goossens 2002; Van Dijk 2012; Visser 2012. Both biographical books (Van Gelder 1996; Manneke and Van der Schoor 1997) and academic work (Blom 2003) are available on Amsterdam’s most well-known cinema businessmen. Sources that offer more personal accounts and anecdotal information on (visiting) past cinemas in Amsterdam include Luijters 1992; Leeflang 2008.
22. The ‘permanent’ nature of these cinema venues is here defined by offering a continuous film programming. In this vein, Amsterdam’s Bijou Biograph Theatre that opened at the end of 1906 is commonly characterised as the country’s first permanent cinema (Sorgdrager 2018, 8; Van Bueren 1996, 115). As indicated in Cinema Context, Amsterdam’s Flora Theater already opened before that, in 1903, but films were only occasionally screened as part of this venue’s overall program.
23. Sound films were introduced around 1928, and in the Netherlands the first sound film screenings took place in Amsterdam in 1929 (Dibbets 1993, 81–83).
24. Note that this map does not display 82 separate location points in total. This is due to the fact that one particular location in the city was sometimes home to different distinct cinema venues throughout the period 1907–1928, which are thus covered by simply one point on the map.
25. In addition to the static overview in Figure 1, a dynamic map of Amsterdam’s cinema landscape for the period 1907–1928, which fully accommodates for all temporal differences between past cinemas on the basis of their opening and closing years, is available to explore online. https://public.tableau.com/profile/v.baptist#!/vizhome/DynamicMapofAmsterdamsCinemaLandscape1907-1928
26. Note that the values of ‘Number of Cinemas Closing’, displayed by negative numbers, are not based on the actual closing years as indicated in Cinema Context (since cinemas are generally still (partially) active in these years), but rather on the years that immediately follow it.
27. Van der Maden 1986, 52.
28. For a more detailed contextualisation of this situation, see Van der Velden and Thissen 2010.
29. Note that for half of the previously identified cinemas, data on seating capacity during opening years is missing. Compared to Figure 1, cinemas for which we lack data are displayed as small dots in Figure 3, with their (missing) seating capacity equated to zero.
30. Van der Velden and Thissen 2010, 454.
31. In 1921, 34 cinemas were active in Amsterdam, as displayed by the yellow nodes. The data on Amsterdam’s population density stems from the Dutch census records, and has been gathered from the Amsterdam City Archives. While the displayed population density concerns the year 1920, the data was originally recorded according to Amsterdam’s neighbourhood division of 1850. This does not have any further implications for our research.
observations. A municipal map from 1909, which was the only map made available in the ATM project that fell within the time span investigated in this paper, serves as backdrop.


34. Similar to Figure 4, the data on Amsterdam’s residential market stems from the Dutch census records, and has been gathered from the Amsterdam City Archives. The displayed data concerns the year 1919 and, contrary to the previous data on population density, was recorded according to Amsterdam’s renewed neighbourhood division of 1909.

35. Rialto (located on Ceintuurbaan 338–340) currently still operates as a cinema, while Ceintuur Theater (located on Ceintuurbaan 282–284) closed down in 1976. At the time of opening, Rialto had a medium-sized seating capacity of 590 seats, comparable to Ceintuur Theater’s initial capacity of 500. Both cinemas were housed in newly constructed buildings.


38. The night license data has been gathered from the Amsterdam City Archives, and was originally recorded according to Amsterdam’s neighbourhood division of 1850. The eight city centre neighbourhoods featured in the graph were selected on the basis of the fact that they were all home to one or more cinema venues throughout the silent film era in Amsterdam.


40. Van Bueren recounts how Ceintuur Theater’s architectural features were decisive for the audiences’ initial appreciation of the cinema during its opening night (Van Bueren 1996, 65). Kramer and Rogge’s memorial booklet on Ceintuur Theater significantly focuses on the venue’s architectural legacy as well.

41. Kramer and Rogge 1995, 17 (our translation, and emphasis added).


45. “Pajebio jubileert!” 1931. This archival newspaper article enthusiastically details the tenth anniversary edition of Rialto’s youth program.


48. The purpose of the circle in the photo’s top right corner remains unknown.


50. Note that for approximately half of the cinemas that existed in 1921 Cinema Context does not provide film programming data, and these cinemas are thus omitted from the graph. While the use of only one sample year in this figure was informed by practical visualisation restrictions, we mention the results we obtained when extending this analysis for the entire period 1921–1928 later on in the article.

51. For a more extensive methodological background on this type of analysis, see Pafort-Overduin et al. 2020.

52. See also Pafort-Overduin et al. 2020 for more background on this.

53. Various newspapers at the time reported on the long-term exhibition of the film in Rialto and how it also attracted a significant group of elderly visitors, thus highlighting the position of the cinema as an establishment that performed a social function within its neighbourhood (“De bewaarschool” 1934; “Naar de “bewaarschool”” 1934).


55. Since this visualisation is built up around the movements of films between different cinemas, data on films that were only screened once, and thus did not reappear in other cinemas, has been omitted from the graph.

56. Thissen 2012, 46.

57. For an example, see Di Lenardo et al. 2019.
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