

The Trademark Reporter®



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A New Addition to the Trademark Litigator's Tool Kit: A Neuroscientific Index of Mark Similarity

Mark Bartholomew, Zhihao Zhang, Ming Hsu, Andrew Kayser, and Femke van Horen

Reconstructing the Trademark Registry of Mandate Palestine and What Historical Data Can Reveal

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Commentary: Incorporating Uncertainty in Trademark Surveys: Do Respondents Really Know What They Are Talking About?

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RECONSTRUCTING THE TRADEMARK REGISTRY OF MANDATE PALESTINE AND WHAT HISTORICAL DATA CAN REVEAL

*By Michael Birnhack**

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* Professor of Law, Faculty of Law, Tel Aviv University. The reconstructed registry is the product of a team of research assistants, led in two phases by Doron Pe'er and Raz Ashkenazi. I am indebted to their meticulous work, and to the team: Yoav Banai, Adi Ben-Eli, Orly Ben-Moshe, Nita Ben-Oliel, Yonatan Ben-Yosef, Hila Davidi, Yael Iosilevich, Asaf Kramer, Yafit Mamistvalov, Shereen Ounallah, Nimrod Prinz, and Dona Saabni. Bar Ifrah and Eran Toch developed a method to extract the trademarks from PDF files. Oren Ben-Zvi and Michal Lahav of the Brender-Moss Library for Social Sciences, Management and Education at Tel Aviv University developed the search engine, and Pua Eden Holtzman designed the interface. Thanks to Amir Khoury, Roy Kreitner, and Assaf Likhovski for comments on earlier drafts. I acknowledge the support of the David Berg Foundation Institute for Law and History and Israel Science Foundation (ISF) Grant 537/21.

I. INTRODUCTION

Trademark data offers a rich yet underexplored resource for legal historians and business and economy historians, as well as cultural historians and design historians. I use “trademark data” to refer to data about the application for and registration of trademarks. The data are about who applied, when, where, for which kinds (classes) of marks, which applications were withdrawn, accepted, or denied and when, and any other data about the process. Thus, trademark data refer not to the contents of the trademarks but to their meta layer, to data about the contents.

For legal historians, trademark data may reveal yet unnoticed trends beyond the cases that reached litigation. For business historians, the data shed light on corporate plans and strategies. For economic historians, trademark data offer an indicator of innovation and competition and a novel lens through which to evaluate fluctuations in the overall economy or in specific industries. Cultural historians can trace subtle cultural changes, such as consumption trends, and design historians can combine the metadata with the marks themselves, such as for tracing foreign influences or conducting a systematic semiotic analysis rather than offering only anecdotal examples of specific trademarks.

This article makes the case for the importance of utilizing historical trademark data for various fields of study. The main hurdle is that, in most cases, the data are unavailable and need to be gathered and analyzed. This task incurs various challenges and requires some funding and attention. Evaluating trademark data carries some important limitations, and those engaging with these data should be cautious in interpreting them: A key limitation is that not all economic activity concluded in registered trademarks. Thus, the data may reflect some but not all commercial trends. And yet, the potential is worth the effort. This resource can triangulate other traditional resources, such as archival research and legal study of legislation and case law.

To illustrate the potential (and pitfalls) of historical trademark data, I discuss the reconstruction of the trademark registry of Mandate Palestine, from the British registry’s debut in 1922 until the Mandate’s end and the State of Israel’s establishment in 1948.¹ The original registry was lost, leaving this author with little choice

¹ In 1917–18, the British conquered the region comprising today’s Israel (excluding the Golan Heights), the West Bank, and the Gaza Strip. Initially, they established a military regime, which was replaced by an administrative one in 1920. In 1922, the League of Nations accorded the King with a “Class A” Mandate over Palestine. The Mandate echoed the 1917 Balfour Declaration, including the British statement, “to view with favour the establishment in Palestine of a national home for the Jewish people.” The Mandate lasted until May 1948, when the British left, and the State of Israel was established. I use the term “Mandate Palestine” to refer to the British government of the region in 1917–1948.

but to reconstruct it.² I discuss the methodological challenges, point to the benefits and opportunities of using the data, and note their shortcomings.

Part II places the research of historical trademark data within a broader research framework. Part III presents the reconstructed trademark registry of Mandate Palestine. I discuss the methodology applied to this task and the challenges encountered during the registry's reconstruction and offer some lessons for similar projects in other jurisdictions. Part IV presents some findings emerging from the reconstructed registry, illustrating the potential of historical trademark data and its limitations. Part V offers some concluding remarks.

II. THE EMPIRICAL TURN

Historical trademark data lie at the intersection of several research threads and topics: (1) A growing interest in trademark data by economics and business scholars conducting contemporary research and historical research in these fields; (2) the (re)emergence of empirical legal studies; (3) first buds of contemporary (rather than historical) legal studies that utilize trademark data; and (4) a rise in interest in the legal history of trademark law. This Part sets the stage with a concise literature review of these building blocks.

A. Trademark Data

The first to conduct data-based empirical studies (not necessarily historical research) in the fields of intellectual property ("IP") were economists. They commenced with patents. Patent registration data present a rich resource to explore innovation trends and detect the lineage of specific inventions, as patents cite prior art.³ Not all innovation results in patent applications and registrations; hence, economists explored the revealed tip of the iceberg rather than the entire innovation activity in a specific jurisdiction.

Copyright law is more difficult in this regard, as in most countries, the law does not require registration for the legal protection of works of authorship (and, in fact, the Berne Convention, as amended in 1908, prohibits setting formalities as a

² *Mandate Palestine's Reconstructed Trademark Registry (1917–1948)* (Tel Aviv University, Michael Birnhack, ed., 2023), available at <https://en-law.tau.ac.il/MandatePalestineIP>.

³ The pioneering work is Adam B. Jaffe, Manuel Trajtenberg & Rebecca Henderson, *Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations*, 108(3) Q.J. Econ. 577 (1993). For a comprehensive discussion, see Adam B. Jaffe & Manuel Trajtenberg, *Patents, Citations, and Innovations: A Window on the Knowledge Economy* (2005).

prerequisite for protection).⁴ The most notable jurisdiction to maintain such registration is the United States.⁵ However, U.S. copyright registration has only limited legal power and, hence, represents only an unknown portion of works of authorship.⁶ Only recently, scholars have begun exploring copyright registration data.⁷

Turning to trademarks, as with patent data, economists were the first to explore trademark data. They explore issues such as whether firms' trademark activity is an indicator of innovation⁸ or competition,⁹ whether there is a correlation between trademark activity and firms' size,¹⁰ as well as examining specific sectors¹¹ and various other economic issues.¹² Management research has also shown a growing interest in trademark data.¹³

Business historians were next to show interest in trademark data.¹⁴ For example, an early study explored trademarks for export in the cotton industry.¹⁵ Paul Duguid, Teresa da Silva Lopes, and

⁴ See Berne Convention for the Protection of Literary and Artistic Works, September 9, 1886, as revised at Paris on July 24, 1971, Art. 5(2) 1161 U.N.T.S. 3.

⁵ The registry is managed by the Library of Congress and is available at <https://www.copyright.gov/public-records/>.

⁶ U.S. copyright law requires registration of works as a prerequisite for undertaking civil action for infringement of U.S. works. See 17 U.S.C. § 411.

⁷ See Dotan Oliar, Nathaniel Pattison & K. Ross Powell, *Copyright Registrations: Who, What, When, Where, and Why*, 92 Tex. L. Rev. 2211 (2014); Robert Brauneis & Dotan Oliar, *An Empirical Study of the Race, Ethnicity, Gender, and Age of Copyright Registrants*, 86 Geo. W. L. Rev. 46 (2018).

⁸ See, e.g., Meindert J. Flikkema, Ard-Pieter de Man, Matthijs Wolters, *New Trademark Registration as an Indicator of Innovation: Results of an Explorative Study of Benelux Trademark Data* (Research Memorandum, 2010).

⁹ See, e.g., Po-Hsuan Hsu, Kai Li, Xing Liu & Hong Wu, *Consolidating Product Lines via Mergers and Acquisitions: Evidence From the USPTO Trademark Data*, 57(8) J. Fin. & Quantitative Analysis 2968 (2022).

¹⁰ For a literature review, see Mirësi Çela, *The Importance of Trademarks and a Review of Empirical Studies*, 4 Eur. J. Sustainable Development 125 (2015).

¹¹ See, e.g., Jasper Grashuis, *Branding by U.S. Farmer Cooperatives: An Empirical Study of Trademark Ownership*, 5 J. Coop. Org. & Mgmt. 57 (2017).

¹² See, e.g., Eric J. Iversen & Sverre J. Herstad, *Dynamics of Regional Diversification: A New Approach Using Trademark Data*, 56(2) Reg'l Studies 276 (2022). For a literature review, see Shukhrat Nasirov, *The Use of Trademarks in Empirical Research: Towards an Integrated Framework* (Working paper Nov. 20, 2018).

¹³ For a literature review, see Carolina Castaldi, *All the Great Things You Can Do with Trademark Data: Taking Stock and Looking Ahead*, 18(3) Strategic Org. 472 (2020).

¹⁴ See Trademarks, Brands, and Competitiveness (Teresa Da Silva Lopes & Paul Duguid, eds., 2010); Montserrat Llonch-Casanovas, *Trademarks, Product Differentiation and Competitiveness in the Catalan Knitwear Districts during the Twentieth Century*, 54(2) Bus. History 179 (2012); Sáiz Patricio & Fernández Pérez Paloma, *Catalonian Trademarks and the Development of Marketing Knowledge in Spain, 1850–1946*, 86 Bus. History Rev. 239 (2012).

¹⁵ D. M. Higgins & Geoffrey Tweedale, *The Trade Marks Question and the Lancashire Cotton Textile Industry, 1870–1914*, 27(2) Textile History 207 (1996).

John Mercer examined trademark registrations in France, the United Kingdom, and the United States, asking whether trademarks are a proxy for innovation in marketing.¹⁶ Trademark data assisted others in analyzing the business strategies of British multinational companies.¹⁷ For example, World Bank economists examined the worldwide distribution of trademarks, finding an asymmetry of ownership, with most trademarks registered by firms in industrialized countries.¹⁸

These studies apply economic and business lenses and offer important insights about how to approach trademark data, their potential to shed new light on economic processes, and some caveats. They treat the law as fact and do not typically inquire about changes in the law itself, its underlying rationales, doctrines, or effects.

B. Empirical Legal Studies

Moving from economic and business studies to the law, we notice the reemergence of empirical legal studies. More than a century ago, American legal realism introduced social sciences to the study of law, pushing aside doctrinal analysis. During the twentieth century, the realist shift evolved, splitting into several branches, such as critical legal studies and law and economics, and later additional approaches, such as law and literature. Many of these approaches utilize data in various ways, such as relying on available statistics related to the topic of inquiry. Law and society scholars have used interviews, ethnographic tools, and other qualitative empirical methods for some time.

Empirical legal studies first appeared alongside legal realism¹⁹ and have reemerged in earnest in the past two decades. We now witness the consolidation of a field of empirical legal studies.²⁰ The unifying feature is the interest in the methodology that may apply to diverse legal topics.

No research approach is void of underlying biases. The challenge is to recognize them early on. In some cases, this is a proclaimed

¹⁶ Paul Duguid, Teresa da Silva Lopes & John Mercer, *Reading Registrations: An Overview of 100 Years of Trademark Registrations in France, the United Kingdom, and the United States*, in *Trademarks, Brands, and Competitiveness* 9 (Teresa Da Silva Lopes & Paul Duguid, eds., 2010).

¹⁷ Teresa da Silva Lopes & Mark Casson, *Brand Protection and the Globalization of British Business*, 86 *Bus. History Rev.* 287 (2012).

¹⁸ Eugenia Baroncelli, Carsten Fink & Beata Smarzynska Javorcik, *The Global Distribution of Trademarks: Some Stylised Facts* (World Bank, Policy Research Working Paper No. 3270, 2004).

¹⁹ See John Henry Schlegel, *American Legal Realism and Empirical Social Science* (1995); Michael Heise, *The Past, Present, and Future of Empirical Legal Scholarship: Judicial Decision Making and the New Empiricism*, 2002 *U. Ill. L. Rev.* 819 (2002).

²⁰ *The Journal of Empirical Studies* first appeared in 2004. A first conference took place in 2006, and today, numerous such conferences take place.

motivation, such as in feminist studies, where scholars build on various premises about the law's masculinity, theories of equality, and social practices. Empirical methodologies are more subtle about their ideological motivations and may, at first sight, seem neutral. However, such underlying assumptions are always at play, and the prudent researcher should strive to be aware of them. For example, not all things are easily quantifiable; hence, decisions regarding what to examine and how to do so are as crucial as determining what is left outside. The researcher inevitably makes numerous decisions about which data to collect and which to omit, which may reflect hidden biases. This much-needed caution is not unique to empirical legal studies. Anticipating the legal historical approach, contemporary historians, too, are keenly aware of the silence of the archives; namely, whereas archives may contain much documentation of the past, much more may be missing.²¹ This lesson is applicable to the use of trademark data for historical research.

The rise of empirical legal studies, along with growing methodological capabilities and new digital and computational tools, pave the way for lawyers to engage with trademark data.

C. Trademark Data in Law

Following the economists' interest in trademark data and working within the empirical turn, IP law scholars have also noticed trademark data. Jeremy Sheff constructed datasets of trademarks in Canada and Japan, enabling descriptive analyses of the trademark systems.²² Amir Khoury compiled and analyzed trademark data about registration in Arab countries in the latter part of the twentieth century, before and after the entry into force of the Agreement on Trade-Related Aspects of Intellectual Property Rights (the "TRIPS Agreement"), focusing on whether applicants were residents or non-residents and examining gaps.²³ Ilanah Fhima and Catrina Denvir empirically analyzed a specific trademark doctrine (*Likelihood of Confusion*).²⁴ Deborah Gerhardt and Jon Lee explored U.S. trademark data from 1981²⁵ and summarized prior trademark empirical studies.²⁶ Barton Beebe and

²¹ See David Thomas, Simon Fowler & Valerie Johnson, *The Silence of the Archive* (2017).

²² Jeremy N. Sheff, *The Canada Trademarks Dataset*, 18 J. Empirical Legal Studies 908 (2021); Jeremy N. Sheff, *The Japan Trademarks Dataset: A First Analysis* (Foundation for Intellectual Property, Institute of Intellectual Property, Japan, 2017).

²³ Amir H. Khoury, *Measuring the Immeasurable: The Effects of Trademark Regimes: A Case Study of Arab Countries* 26 J. L. & Commerce 11 (2006).

²⁴ Ilanah Fhima & Catrina Denvir, *An Empirical Analysis of the Likelihood of Confusion Factors in European Trade Mark Law*, 46 IIC – Int'l Rev. Intell. Prop. & Competition L. 310 (2015).

²⁵ Deborah R. Gerhardt & Jon J. Lee, *A Tale of Four Decades: Lessons from USPTO Trademark Prosecution Data*, 112 TMR 866 (2022).

²⁶ *Id.* at 875-78.

Jeanne Fromer studied EU trademark registrations to decipher globalization processes and market integration.²⁷

These studies offer important lessons about the practice of the law and enable us to observe legal gaps and the law's limitations. Some of these studies examined not only contemporary trademark practices, extending their analysis to older practices such as Gerhardt and Lee's study, but these are not necessarily historical studies.

D. Trademark Legal History

In the meantime, the legal history of various IP fields has drawn growing interest. Thus far, copyright law has attracted most of the attention, with patent law second and trademark history lagging, with only scant scholarly attention. The few available works focus on the law in Western economies.

The first wave of legal histories of trademark law pointed to ancient practices of using marks, such as marking cattle and pottery,²⁸ going as far back as the biblical story of Cain,²⁹ then progressing from ancient times through the Middle Ages to the law at the time of writing. Medieval practices indicate some use of marks for goods but not trademarks in the modern sense. These marks often operated within the guild system, and in many cases, the marks were required rather than initiated by the manufacturers and traders. Marking was a regulatory mechanism. Indeed, to this day, we find some industries where manufacturers are required to mark their goods, such as in the pharmaceutical industry, to achieve various public interests rather than specific commercial interests.

With the demise of the Middle Ages' guild system, markets opened to competition. The major change in trademark use transpired in the 19th century. Sidney Diamond pointed to several factors that brought about the change: Modern manufacturing methods replaced handwork; production was concentrated in larger units, which required developing distribution methods; and advertising was introduced to acquaint the public with the goods, precipitating trademarks to identify the source of the goods.³⁰ Thomas Drescher added the "environment of global markets, free

²⁷ Barton Beebe & Jeanne C. Fromer, *The Future of Trademarks in a Global Multilingual Economy: Evidence and Lessons from the European Union*, 112 TMR 902 (2022).

²⁸ See, e.g., Edward S. Roger, *Some Historical Matter Concerning Trade Marks*, 9 Mich. L. Rev. 29 (1910); Abraham S. Greenberg, *The Ancient Lineage of Trade-Marks*, 33 J. Patent Office Society 876 (1951); Gerald Ruston, *On the Origin of Trademarks*, 45 TMR 127 (1955); Sidney A. Diamond, *The Historical Development of Trademarks*, 65 TMR 265 (1975).

²⁹ Greenberg, *supra* note 28.

³⁰ Diamond, *supra* note 28, at 280-81.

competition, and mechanized production,”³¹ especially highlighting advertising, which enabled the creation of a “product identity.”³² These explanations about de-monopolization, industrialization, and (early forms of) globalization gave rise to the modern trademark system and fit the market functions theory of trademark law. These changes explain the timing of the arrival of the first modern trademark laws in the second half of the 19th century, with the advancement of the industrial revolution.

Most historical studies focused on the leading jurisdictions of the time, namely, Great Britain, with its imperial scope and powers,³³ and the United States.³⁴ In the colonial context, few historical accounts addressed trademark law, with the notable exception of the self-governing dominion of Colonial Australia.³⁵

E. Historical Trademark Data

Tying the threads of the empirical turn in legal studies, the growing interest in trademark data, and the rise in IP legal history, the next step is to analyze historical trademark data through a legal lens.³⁶ So far, we have very few such studies, with Amanda Scardamaglia pioneering this thread. She studied colonial trademarks in Australia by examining a sample of colonial Australian trademarks.³⁷ As for Mandate Palestine, no such studies are available.³⁸

Why has historical trademark data been relatively neglected thus far? I suggest several explanations. *First*, the empirical turn in legal studies is still in the making. Empirical studies require training in statistical methods or funding to acquire the needed assistance and are not obvious to text-savvy scholars. This may be changing today with a new generation of scholars acquiring such

³¹ Thomas D. Drescher, *The Transformation and Evolution of Trademarks: From Signals to Symbols to Myth*, 82 TMR 301, 321 (1992).

³² *Id.* at 322-24.

³³ Lionel Bently, *The Making of Modern Trade Mark Law: The Construction of the Legal Concept of Trade Mark (1860–1880)*, in *Trade Marks and Brands: An Interdisciplinary Critique 3* (Lionel Bently, Jennifer Davis, Jane C. Ginsburg, eds., 2010).

³⁴ Robert G. Bone, *Hunting Goodwill: A History of the Concept of Goodwill in Trademark Law*, 86 B.U. L. Rev. 547 (2006).

³⁵ Amanda Scardamaglia, *Colonial Australian Trade Mark Law: Narratives in Lawmaking, People, Power and Place* (2015).

³⁶ A librarian noted the value of patent and trademark data for various issues, including the historical value of patent data. See Roger V. Skalbeck, *New Research Uses for Patent and Trademark Data*, 27(2) Legal Info. Alert 1, 4 (Feb. 2008).

³⁷ Scardamaglia, *supra* note 35.

³⁸ An LLM thesis offered a general overview of IP law in Mandate Palestine. See Ihab G. Samaan, *A Historical View of Intellectual Property Rights in the Palestinian Territories* (LLM Theses and Essays, paper 49, University of Georgia, 2003), available at http://digitalcommons.law.uga.edu/stu_llm/49.

capabilities and new tools emerging, such as various Artificial Intelligence (“AI”) technologies. *Second*, trademark law is more specific and confined than other legal fields, such as criminal law, where we find a thriving adjunct field of criminology. Dealing with trademark data necessitates at least some familiarity with the field and its unique features, especially when dealing with historical data. A design historian, for example, may not be aware of trademark registrations or consider them as potential resources for research. *Third*, whereas patent law has attracted the attention of economists of innovation, the explanatory power of trademark data—namely, their ability to reflect social and economic processes—may be less evident. *Fourth*, in many cases, historical trademark data is not readily available.

It is time for this picture to change. With the rise of empirical legal studies and the increase of researchers trained in empirical methodologies, the computerization of trademark registrations, and the digitization of archives, as well as the increasing availability of AI tools,³⁹ many of these hurdles are now lower, opening the door to new studies. However, some challenges persist. To illustrate the benefits and risks of studying historical trademark data, I discuss the reconstruction of Mandate Palestine’s trademark registry.

III. RECONSTRUCTING MANDATE PALESTINE’S TRADEMARK REGISTRY

Having completed a study on copyright law in Mandate Palestine,⁴⁰ I turned to trademark and patent histories. The law in place at the time was the 1921 Trade Marks Ordinance that introduced the British trademark registration system into the region,⁴¹ but the original registry was missing. An inquiry with the Israeli Patent and Trademark Office (“PTO”), the successor to the British PTO, revealed that the original Mandate registry, which survived more than one war and the transition from the British to the Israeli government, was lost. There is some speculation about this loss, but for whatever reason, the registry was missing. The Israeli PTO has some data and offers an open, public search engine containing all applications that were valid under Israeli law:⁴² It contains 1618 trademarks submitted during the British period and continued upon Israel’s establishment. Some of these have been

³⁹ See Stephen Petrie et al., *TM-Link: An Internationally Linked Trademark Database*, 53(2) *Au. Econ. Rev.* 254 (2020).

⁴⁰ Michael D. Birnhack, *Colonial Copyright: Intellectual Property in Mandate Palestine* (2012).

⁴¹ Trade Marks Ordinance 1921, *Official Gazette* 57 (Dec. 15, 1921).

⁴² See Israel Patents Office – Trademark Search Online, available at <https://trademarks.justice.gov.il/TradeMarkSearch/TradeMarkSearch?lang=en>.

renewed over time, and today (December 2023), 494 are still valid. However, all other registry entries regarding applications submitted during the British Mandate that had expired before the establishment of Israel disappeared.

In the absence of the original registry and with the partial Israeli resource, it became clear that reconstructing the original registry was essential to studying Mandate Palestine's trademark data. This Part outlines the process and points to some of the challenges encountered, as well as to the mistakes I have made.

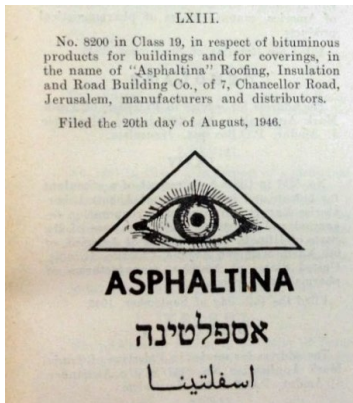
A. Reconstructing the Registry

To compensate for the disappearance of the official registry, I sought alternative resources. The obvious one was the British Government's official publication, the *Official Gazette*, later renamed *The Palestine Gazette* (together, "*The Gazette*"). The first task was to gather all trademark applications for the time and place. When I embarked on this project, the *Gazette* publications were available only in print. Luckily, my law school's library had all copies, the vast majority in English, as well as Hebrew translations.⁴³ A first lesson for those embarking on similar projects is easy to state, though not always easy to follow: Pause and plan ahead.

A team of research assistants reviewed 311 *Gazette* publications spanning over 26 years (and later, Israeli official publications were added by a digital search) page by page, as the trademark applications were not published in any consistent manner and appeared sporadically, among other official notices. The process was long, tedious at times, and required some funding. The task would be easier today, as all *Gazettes* have been digitized. The research assistants photocopied each application. The layout of the *Gazette* was not user-friendly, as it appeared in two columns, often with an application beginning at the end of one column and continuing at the top of the next column. A second lesson is straightforward: If the raw resources are not digitized, try to digitize them first in a machine-readable format. I repeatedly had to revert to the original documents.

Once the trademark applications were gathered, we sought to maximize the data extracted from each application. Figure 1 illustrates the extraction.

⁴³ Today, these are available at the Yale Arabic and Middle Eastern Electronic Library, at <https://findit.library.yale.edu/catalog/digcoll:2845214>, and "NEVO" (a commercial legal database in Hebrew, with subscription, offering various search tools).

Figure 1: Extracting Trademark Data

From this application, we extracted the following data: application no. (8200), class (19), application date (Aug. 20, 1946), applicant name (Asphaltina Roofing, Insulation and Road Building Co.), place of application (Mandate Palestine), city (Jerusalem), date of publication (May 8, 1947).

We added our own coding: We classified the mark as containing a designed mark and text, we added the languages on the mark (English, Hebrew, Arabic), and coded the graphic contents as “triangle, shape, eye.”

Subsequent *Gazette* publications indicated that the application was accepted on Nov. 20, 1947. Here is a third lesson: Extract maximum information. Initially, I downplayed some information, which meant that later we had to return to the raw material and extract additional layers of information. Where possible, classify and code the contents as you go. For example, while we coded the marks’ contents, only at a later point did it occur to me to differentiate between word marks, illustrative marks, and combinations; for the word marks, only later did it occur to me to identify the languages used (English, Hebrew, and Arabic being the dominant languages, in this order, with a long tail of other languages). Once again, hopefully, in the not-too-distant future, AI tools will be able to perform many of these tasks.

Extracting data is tedious but worthwhile. The data are objective. The research population comprises all published applications, namely, N = All (but as I explain below, it does not cover all marks used in commerce). Once collected, the published applications are easily processed. I added interpretive layers as we proceeded. For example, we coded the marks’ contents. In some cases, it was an easy task: “crown,” “camel,” “sun,” “oranges.” Yet, in other cases, deciphering the contents required closer attention: Is it a horizontal crescent or an illustration of a cognac glass?⁴⁴ Each mark was reviewed by more than one team member to ensure consistency. Cautious analysis notwithstanding, coding the contents was inevitably subjective, and we may have made mistakes.

⁴⁴ Palestine Trademark (PTM) #1400 (March 1, 1928).

Another subjective assessment was identifying the national identity of the applicants. This may be less interesting for some jurisdictions, but in the intense national atmosphere of the British Mandate, it was an important element to explore. I devised a short checklist to identify the local applicants. In many cases, the name was a strong and sufficient indication of the applicant's Jewish, Muslim, or Christian identity. Noam Levinstein is a Jewish name,⁴⁵ and Mohammed Chams El Dine El Dabbagh was characterized as Muslim.⁴⁶ Some names are less obvious, and some corporate names are less indicative of their national origin. Accordingly, a second criterion was the applicant's place of residence. An applicant from Bnei Brak, a Jewish city near Tel Aviv, was bound to be Jewish,⁴⁷ and Sulphur Quarries Ltd. from Gaza, an almost all-Muslim city, indicated otherwise.⁴⁸ Yet, there were mixed cities, especially Jaffa, Jerusalem, and Haifa. The languages used in the trademarks provided a third criterion, as Arab applicants did not use Hebrew. Having applied the previous criteria, the list of "unknowns" was narrowed substantially, enabling a one-by-one search for the remaining applicants' backgrounds. For example, for application No. 8200, featured in Figure 1, the company's name is in English (Asphaltina Roofing, Insulation and Road Building Co.), the city—Jerusalem—was a mixed city, and hence, these criteria are inconclusive. The language mix suggests that the owner was not Muslim, and the use of "Co." rather than the local "Ltd." indicated that this was a local branch of a Boston-based company.

B. Challenges

The registration system posed its own challenges. Here is another lesson: Study the relevant trademark procedure that applied at the place and time under review to the extent possible, as this may shed light on some mysterious issues you are likely to encounter. In the case of Mandate Palestine, I encountered four main challenges. For some of these, it took a while to recognize and more time to sort out: deciphering the application numbering system, missing applications, trademark classes, and the transitions—first, the initial introduction of the British system, and then, the transition into the Israeli system.

As for numbering, the British began with numbering applications per class, irrespective of other classes. Thus, in thirty of the fifty classes, we found application No. 1. This means that organizing the applications according to the assigned numbers

⁴⁵ PTM #1052 (Sept. 29, 1926).

⁴⁶ PTM #1489 (July 17, 1928).

⁴⁷ PTM #3763 (June 8, 1935), by Siso Chemical Factory.

⁴⁸ PTM #4509 (July 2, 1937).

would misrepresent the timeline, such as when asking: Which was the first application? This is yet another reason for maximizing extracted data from each application, as the application dates may be useful in this regard. Two years into this numbering system, in 1924, the British shifted to a unified, consecutive system irrespective of the classes, which better reflects the timeline. However, in 1928, they renumbered the first 592 applications. Thus, for these 592 applications, we have two numbers—the initial one and the reassigned one. For example, the American company Fairbanks, Morse & Co. submitted a trademark application on May 10, 1922. Initially, it was assigned No. 1 in Class 22 and then reassigned to No. 131. The closest trademark under the renumbered system was No. 128 (by a Swedish company, Aktiebolaget Radius), submitted on June 27, 1922, six weeks later. Again, the way to overcome the complexity of such an application was first to recognize it, then search for official corrections, also published sporadically in the *Gazette*. Extracting more data, especially dates, enabled us to sort this issue and avoid mistaken conclusions based on application numbers alone.

A related issue was missing applications. Reviewing the extracted data indicated that we had gaps. For example, we found application No. 1016 (by the British company of Coleman and Company, Ltd.), but the subsequent one was No. 1018 (by the American Standard Oil Company), skipping application No. 1017. This is an indication that an application was submitted and received a number but had not reached publication. Thus, other than the existence of an application, the reconstructed registry is silent: We do not know who the applicants were or what was the sought mark. Based on the last application number submitted during the British Mandate (No. 9778) and comparing it with the data we had regarding 7904 applications and another 45 submitted prior to 1922, I concluded that 1919 applications were discontinued, comprising 19.6 percent of the submitted applications. This is not a negligible share, and any conclusions derived from the dataset should consider this issue. For example, one of the findings emerging from the reconstructed registry was that Jewish-owned trademarks outnumbered Arab Palestinian trademarks. Information about the missing applications may have changed this balance.

For some of the missing applications, their absence was due to the transition periods, as discussed below. For others, however, their absence was because some applicants did not pay the fee, did not submit all documents properly, or later, at the outbreak of World War II, a special emergency Ordinance intervened, instructing the cessation of enemy application processing.⁴⁹ To better understand

⁴⁹ Patents, Designs, Copyright and Trade Marks (Emergency) Ordinance 1939, 973 *Palestine Gazette* 1485.

the missing applications, familiarity with the law was critical, as well as organizing the data systematically to determine whether there was an external reason. In many cases, later official notices indicated changes and corrections that shed some light on these missing applications.

A third challenge was the result of the 1921 Ordinance replaced by the 1938 Ordinance, which came into effect in 1940.⁵⁰ The former legislation classified trademarks into 50 classes, with 4601 marks registered under this classification; the latter Ordinance reshuffled the classification into 34 classes with 3258 trademarks. The reclassification required us to separate the data into two clusters; otherwise, someone examining applications submitted under Class 15 for glass (under the 1921 Ordinance classification) without realizing the reclassification may mistakenly include applications from another industry, as Class 15 under the 1938 Ordinance referred to musical instruments. Having realized this issue and to facilitate industry-based analysis over the entire period, we added our own categorization of the industries, creating a common denominator bridging the two periods. The fifty classes under the 1921 law and the thirty-four classes under the 1938 law were grouped into nine categories, such as “professional tools,” “food,” and “clothing.” As this classification is subjective, others may have offered different categories.

Finally, the transition periods posed their own challenges, with the first (from Ottoman to British) posing more of a challenge than the second (from the British to the Israeli system). The Ottoman Empire controlled the entire region for four centuries, ending with the British conquest of the Middle East, including Palestine, in late 1917 and early 1918. The Ottomans had trademark laws in place based on a French law from 1857.⁵¹ Local trademark registration was carried out in Istanbul rather than locally. The Istanbul archives have yet to be explored to determine whether such applications existed. We can assume that since the outbreak of World War I in 1914 and until 1918, hardly any trademark activity transpired in the area, as the war was quite devastating for the entire region. Then, in 1919, the British published an official notice allowing the re-registration of previously registered marks. It is unclear where, when, and how such applications were submitted prior to the entry into force of the 1921 Ordinance and under which law.⁵² The reconstructed registry indicates forty-five marks assigned numbers preceded by an “X” with little data on the

⁵⁰ Trade Marks Ordinance, 1938, 843 *Palestine Gazette*, Supp. 1, at 126 (Nov. 21, 1938).

⁵¹ Distinctive Marks Act 1871; Regulation on Trademarks concerning Industrial Products and Commercial Goods 1888. For the French connection, see Hasan Kadir Yilmaztekin, *The Legislative Evolution of Copyright in the Late Ottoman Empire*, 17 *J. Intell. Prop. L. & Practice* 45, 52 (2022).

⁵² Public Notice 136, Registration of Trademarks, *Official Gazette* (Nov. 16, 1919).

applicants and without the contents of the trademarks. The names indicate mostly British companies, such as The Gramophone Company, John Yates & Co., William Gossage & Sons, and the British-American Tobacco Co. This was a strong indication that these marks were submitted during the British administration prior to the entry into force of the 1921 Ordinance and likely based on the 1919 Notice. Data from twenty years later enabled us to fill some gaps, as some of these applications were renewed, revealing the original date of application between 1919 and 1921.

A related issue concerned the mystery of thirty-three applications for which we had little data: The *Gazette* did not cite application numbers or include the contents of the marks. The dates indicate that these were the first batch of trademark applications submitted after the entry into force of the new law. It seems that these applications were discontinued. Learning the workings of the British registration practices of the time and based on some later official notices, the most plausible explanation I can offer is that at the beginning, the British were unsure how to handle applications that did not meet all requirements, such as unpaid fees or missing documents, so they listed them in the registry but did not assign them numbers. Later, such cases—the noted missing applications—indicate a different practice: An application received a number, but the application was not published until all formalities were met.

The British-Israeli transition was easier to decipher. We found 596 applications submitted during the Mandate that the new Israeli PTO continued. The data were extracted from the digitized Israeli Official *Gazettes* of 1948–1951 in Hebrew. The new registrar retained the British numbering system and continued it rather than beginning anew; it retained the classification under the 1938 Ordinance and examined pending applications. Thus, from a procedural, technical perspective of trademark practices, there was little change.

Once the registry was reconstructed and the challenges were identified and solved, university librarians developed a search engine adapted from existing catalogs to integrate the reconstructed registry with the library's overall search options. To extract the images from the scanned *Gazette* publications, engineers adapted other tools.⁵³ Numerous trials and corrections ensued. The registry is now in the air, open to all to use under a Creative Commons license.

⁵³ See Bar Ifrah, Michael Birnhack & Eran Toch, *Trademarks Extraction and Classification from the British Mandate's Palestine Gazette* (2023), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4498335.

C. Intermediate Recommendations for the Reconstruction of Trademark Registries

The above carries some recommendations for those interested in engaging in similar reconstruction projects elsewhere. *First*, study the procedural aspects of the law, as well as its substance. For example, the initial duration of protection is handy, as subsequent events, namely renewal of a registration, may shed light on the initial application. *Second*, plan ahead to the extent possible. Search for available resources, digitize whatever you can, and search for AI tools that could assist you. *Third*, extract everything you can—contents and metadata. *Fourth*, search for abnormalities in the data, such as missing applications, changes in the numbering system, and the like. The earlier you resolve such issues, the easier it will be to use the data later. The abnormalities may carry their own story, worthy of examination. *Fifth*, code the data. Apply intercoder reliability tests, namely, conduct pilots to ensure that your team members code data similarly and devise a review mechanism to minimize discrepancies and mistakes. Finally, accuracy and consistency are always valuable to maintain. For example, reckoning in advance the best pattern to denote dates (e.g., DD/MM/YYYY or MM/DD/YYYY) will save much time when you begin using the spreadsheet.

IV. SOME FINDINGS, UPSIDES AND DOWNSIDES

Once reconstructed, the registry is ready to explore. This Part presents some of the initial findings from the reconstructed trademarks registry of Mandate Palestine. I have elaborated on these issues elsewhere,⁵⁴ and accordingly, the purpose here is to highlight the methodological aspects of such endeavors. I begin with some findings and their benefits and then point to some shortcomings of such data and related caveats.

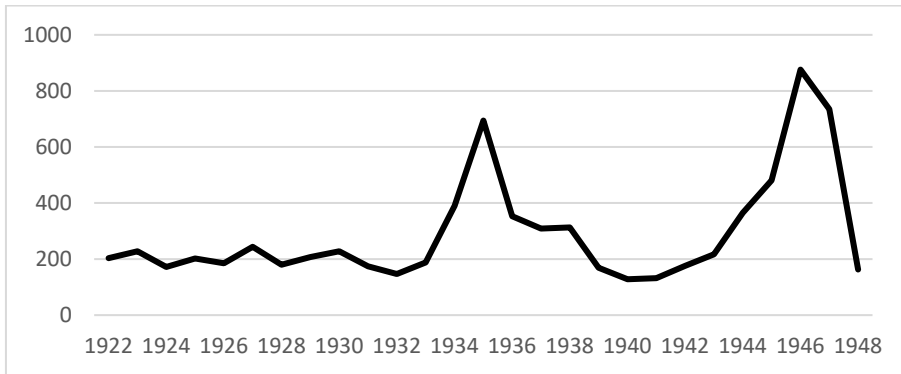
A. Findings

The reconstructed registry contains metadata, enabling us to identify patterns along the parameters used in coding and processing the raw data. The immediate parameters are the time of application, the applicant's identity (including their country of origin), the trademark class, and various combinations of these parameters. Additional metadata may relate to the duration of reviewing the applications and the representation by agents. Alongside the data concerning the applications, we have the trademarks themselves, ready for individual inspection and

⁵⁴ Michael Birnhack, *Colonial Trademark: Law and Nationality in Mandate Palestine, 1922–1948*, 46(1) *Law & Social Inquiry* 192 (2021).

systematic semiotic analysis. I discuss the data-based processing options. Here are some of the overall findings revealed by the reconstructed registry, which otherwise would be difficult to observe.

Figure 2: Overall Trademark Registration in Mandate Palestine (1922–1948)

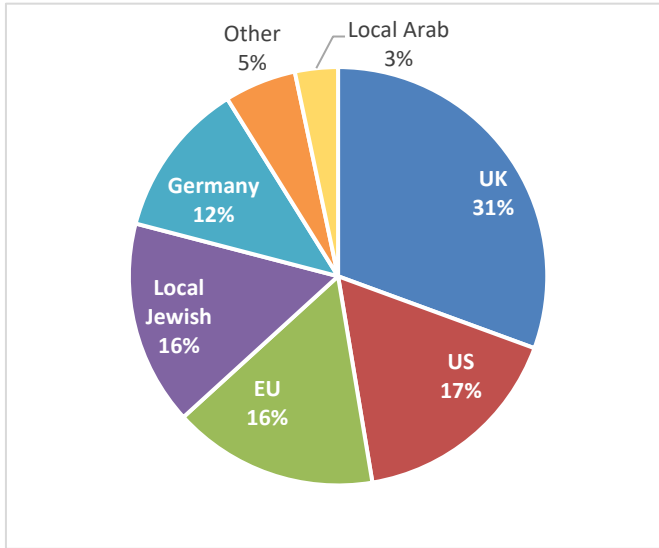


The overall picture of trademark registrations during the Mandate shows the value and relevance of trademark data. Historians of the Mandate can easily recognize the timeline: a sluggish economy during the 1920s; the fifth wave of Jewish immigration from Germany in the early 1930s following the rise of the Nazis to power (with many of the immigrants being traders, closely familiar with trademarks); the Arab Revolt of 1936–39 with a substantial economic slowdown; the beginning of World War II in late 1939; and the economic boom of Mandate Palestine during the war⁵⁵ (the figures for 1948 reflect registrations only until May 14, when the Mandate ended). The trademarks offer a strong indication of the economic situation.

The reconstructed registry enables us to break down the data according to the applicants' country of origin: Figure 3 distinguishes between Jewish and non-Jewish applicants from Mandate Palestine and Europe; for convenience, I separated Germany, which had a substantial share.

⁵⁵ For Mandate Palestine's economy, see e.g., Nachum T. Gross & Jacob Metzger, *Palestine in World War II: Some Economic Aspects*, in *The Sinews of War: Essays on the Economic History of World War II* 73 (Geoffrey T. Mills & Hugh Rockoff, eds., 1993); Jacob Metzger, *The Economy of Mandatory Palestine: Reviewing the Development of the Research in the Field*, in *Economy and Society in Mandatory Palestine 1918–1948*, 7 (Avi Bareli & Nahum Karlinsky, eds., 2003) (Hebrew).

Figure 3: Trademark Applicants in Mandate Palestine, 1922–1948

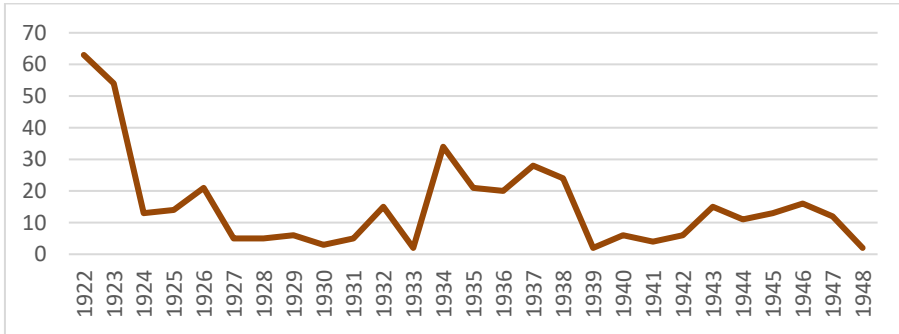


The overall data immediately indicate that the legal tool primarily served foreigners rather than local traders and that within the local market, Jewish traders used the system far more than the Arab traders. External sources could add another layer, such as adding data regarding the composition of the local population; this would show that the Jewish-Arab trademark gap was even greater than the trademark data indicate. This finding supports the divided economy thesis of Mandate Palestine, an issue heatedly debated among the Mandate's economic historians.⁵⁶ However, as I explain in the next section, trademarks were not relevant for all industries. Given the voluntary nature of trademark registration, we should be cautious not to conclude that the Arab population did not use marks; the accurate conclusion would be that Arab traders used the British trademark system less than the Jewish traders.

A final example is from a particular industry. Figure 4 presents the timeline of the registered trademarks in the tobacco industry.

⁵⁶ See, e.g., Barbara J. Smith, *The Roots of Separation in Palestine: British Economic Policy 1920–1929* (1993); Jacob Metzger, *The Divided Economy of Mandatory Palestine* (1998). For a critique, see Zachary Lockman, *Comrades and Enemies: Arab and Jewish Workers in Palestine, 1906–1948* (1996).

Figure 4: Tobacco Trademarks During Mandate Palestine 1922–1948



The data indicate that tobacco deviated from the overall picture of trademark applications during the Mandate (see Fig. 2). We see a strong beginning in the early 1920s, then a slowdown to a halt until the mid-1930s, a small recovery and then again, sluggish activity. Adding additional data layers, such as the applicants' identity, sheds more light on this picture.

Extensive trademark activity typically indicates the level of competition in each market. This is an important benefit of resorting to such data. Indeed, a high level of activity may signal robust competition, whereas the opposite—little trademark activity—may indicate a lack of competition in the local market. This was the case with the tobacco industry. In 1883, the Ottoman Government granted the Régie Company a monopoly over the tobacco business in Palestine, Trans-Jordan, and Iraq. The British canceled this concession in 1921.⁵⁷ The opening of the market for competition coincided with the coming into effect of the 1921 Trade Marks Ordinance. Indeed, we see numerous applications submitted shortly thereafter (Fig. 4). In the following years, we see a substantial decrease in applications. Additional research into the industry, based on other sources, indicates two related reasons for this decrease. First, the British began regulating the tobacco market in all its segments, from growing and packing tobacco to selling tobacco products.⁵⁸ Second, a series of mergers and acquisitions resulted in foreign companies assuming a substantial share of the local market.⁵⁹ The trademark data reflect these changes quite clearly.

⁵⁷ The Régie Company demanded compensation for the cancellation of their monopoly, which resulted in long negotiations with the British government. See Israel State Archive, M/80/65.

⁵⁸ See Tobacco Ordinance, 1925.

⁵⁹ See, e.g., Deborah S. Bernstein, *Constructing Boundaries: Jewish and Arab Workers in Mandatory Palestine* 125 (2000).

B. Shortcomings

Exploring the data should be handled cautiously, as with all datasets under investigation. I point to five main shortcomings and related caveats: (1) the limitations of the examined dataset, (2) the extent to which trademarks capture commercial activity, (3) the modernized-economy bias of trademarks, (4) a registration bias, and (5) an interpretation bias.

First, for researchers, learning the specific characteristics of the scrutinized dataset is crucial. In Part III, I discussed the challenges I encountered in reconstructing the registry. In the case of Mandate Palestine, the challenges instruct us to be cautious in discerning conclusions about the timeline from the application numbers before 1928 due to the renumbering and reassignment of discontinued applications.

Second, trademark data reflect some commercial activity but not all. Many sales were transacted under the trademark radar. For example, trademarks are less important in open markets—e.g., buying vegetables in a weekend farmers' market. When a customer can closely examine the vegetables, their origin matters less. In such open markets, customers and growers-sellers can interact directly; questions can be asked and answered, thus satisfying the informational roles that trademarks typically have. A century ago, Frank Schechter famously described the trademark's function as the manufacturers' long arm "reaching their hands over the retail tradesman's shoulder, and offering their goods in their own name to the customer."⁶⁰ Rephrased in these terms, in open markets and similar situations, such as peddlers, there was no need for stretching the trademark's arm.

A related third shortcoming is that trademark data can better capture modernized economies and inevitably overlook traditional modes of production. When manufacturing is local, the customers are familiar with the origin of the products firsthand. They have all the information they need about the product's origin: They know who the manufacturer is and, in many cases, know the manufacturer personally. Again, the trademark's long arm function is less reflected in such situations. Thus, when observing trademark data, the researcher should be cautious in not generalizing the findings to the entire economy. External information and knowledge regarding the studied economy's structure and characteristics are crucial in interpreting the data. This is the case of Mandate Palestine. The trademark data reflect, at most, the activity within the modernized segments of the local economy. However, artisan-produced products, typically produced and sold in the same locality, resorts to interpersonal familiarity as an indication of origin and

⁶⁰ Frank I. Schechter, *The Rational Basis of Trademark Protection*, 40 Harv. L. Rev. 813, 818 (1927).

other product information. The traditional/modernized economy distinction and the transition from the former to the latter may explain the gaps between Jewish-owned and Arab-owned trademarks in Mandate Palestine.

The fourth caveat is a registration bias. Researchers examine available material and may be tempted to assume that trademarks reflect all commercial activity. The previous two caveats pointed to exceptions—open markets and traditional production—where there was no need to register trademarks. But even in other sales modes, such as regular shops and modernized economies, we should remember that registering trademarks was voluntary. Some regulated markets required marking products, such as naming medicines, but registering a trademark with the trademark system was not compulsory.

My study of the emergence of the brand of Jaffa Oranges provides an example.⁶¹ I commenced with studying the trademark data, finding about 100 registered marks relating to citrus. But additional resources—archival material, newspaper reports of the time, memoirs of people in the citrus industry, scholarly literature, and interviews with some family members involved at the time—pointed to *markas*. *Markas* was the name given to citrus marks not registered with the trademark office. Growers and traders had an interest in marking their oranges to differentiate them from local and foreign competitors (mostly Spanish) and to differentiate different qualities of their own products, usually in a triad system: The best oranges were trademarked, the second-class oranges were occasionally trademarked, and the third-class oranges, having the lowest quality, were named, but the traders did not bother to register those names as trademarks. Citrus in the latter category received new names each season, enabling traders to avoid a bad reputation. At some point, there was an official requirement to mark each shipped batch of oranges uniquely. This was a top-down regulation initiated by the British for their own needs: The oranges arrived at their European destinations in a mess. The British insisted on identifying each box and attributing it to its grower for quality assurance, handling, and taxes. This interest commenced as a recommendation in 1927,⁶² and, in 1932, became a regulatory duty.⁶³ However, the citrus regulation said nothing about registering the marks in the trademark registry. The result was new names for the products and a noticeable rise in trademark

⁶¹ Michael Birnhack, *The Emergence of a Brand: A Case of Jaffa Oranges from Mandate Palestine*, in *Research Handbook on the History of Trademark Law* (Lionel Bently & Robert Bone, eds., forthcoming 2024).

⁶² See Schedule 1 of the Fruit Export Ordinance No. 51 of 1927. The schedule included a form with the intention to export citrus, with an option of naming the brand.

⁶³ See Birnhack, *supra* note 61.

applications, but there was also a rise in the number of unregistered *markas*. Thus, the reconstructed registry reveals only part of the story.

Finally, a fifth caveat regarding the use of trademark data concerns its interpretation, especially regarding levels of competition. We saw this in the case of the tobacco industry. The trademark data are a good starting point, as they raise a hypothesis about the level of competition in a specific industry. However, additional anchors are needed to affirm or refute such a hypothesis. Importantly, it matters whether the products were meant for local consumption or for export. If local, the trademark activity may indeed indicate the level of competition. But if the competition was in the foreign markets, there was no reason to register the mark locally. Rather, we would expect the local producer or trader to register their marks in the destination markets, where they would encounter various other barriers. To explore this option, we need access to foreign trademark registrations, but many such historical registries are unavailable. For example, while WIPO has some such registries for former British colonies and mandates, the data do not reveal the applicant's country of origin.⁶⁴ Scholars have begun linking trademark registrations using AI tools, but there is still a long road ahead of us.

The five shortcomings and related caveats are not a conclusive list. These are the elements that emerged from the case study of Mandate Palestine, and there may be additional limitations. Researcher, beware!

V. CONCLUDING REMARKS

Historical trademark data can add a new vantage point to explore the practice of law on the ground, thus teaching us about gaps between the law in the books and law in practice. Trademark data may expose trends and patterns, affirming or disproving hypotheses about the intended goals and actual practices. For example, in the context of colonial entities, we may ask for whom the system was deployed. For post-colonial scholars, the immediate answer would be that the system was meant to serve the colonizer, but in the case of Mandate Palestine, we see that it also served the local population, albeit differentially for Jewish traders and Palestinian Arab traders. Trademark data may reflect macroeconomic activity, as well as the dynamics of specific industries, thus raising new questions. The benefits of exploring historical trademark data are substantial, but there are some caveats. One should be cautious in interpreting the data; the data

⁶⁴ Email correspondence with Ryan Lamb, Statistics and Data Analytics Division, WIPO (Oct. 18, 2022).

reveal much, but not everything. In this regard, supplementing resources is critical before reaching conclusions. Thus, trademark data may triangulate other resources.

The reconstruction of Mandate Palestine's trademark registry offers a few lessons for others who may attempt similar projects: Study the law in advance, plan as much as possible, extract as much as you can, search for abnormalities in the data, code the data, and strive for accuracy and consistency. As for the future, still missing is a global dataset to offer newer insights about the practices of individual business players and the developments of various markets. Digitization and AI tools will likely be useful in reconstructing and analyzing trademark data.
