

Calculating Futures: Calculating Futures: Debt, Markets, and the Science of Prices in Colonial
Egypt, 1882-1912

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Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in the Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY

2016

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ABSTRACT

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This dissertation explores the social and material arrangements in which the cotton market emerged as an object of social scientific inquiry and liberal government in Egypt during the first three decades of the British occupation (1882-1912). This new figuration of the cotton market did not emerge as the natural unfolding of a universal modernity, economic rationality or the inherent logic of capital. Instead, as this study demonstrates, it was a much more earthly affair. In the wake of financial and ecological crises, the colonial elite allied themselves with economists to embed new technologies of calculation into the Egyptian countryside. In the process, they reconfigured what a market was.

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Acknowledgements

Debts accumulate over the course of researching and writing a dissertation. I was lucky enough to conduct research in Egypt during 2012-3 thanks to the generous financial support of the American Research Center in Egypt. My research was facilitated at every step by the staff at ARCE. I cannot imagine navigating the Mugamma or the bureaucracy of Dar al-Watha'iq without them.

At Columbia, my advisor Timothy Mitchell has encouraged this dissertation at every step and freely given his advice and guidance throughout the doctoral program. During my stint as an editorial assistant for *Comparative Studies of South Asia, Africa and the Middle East*, he and Anupama Rao have provided me a model of scholarly practice that has done more than anything to inform my orientation to the problematic of being a scholar in the world. Thanks to Marwa Elshakry for the many hours spent discussing my research and academic life more generally. There can be no better reader than Matthew Jones. He has pushed me as much on my prose as on the theoretical framing of my arguments. Thanks also to the members of the Post-MPhil Colloquium who have read and commented on drafts of several of the chapters presented here.

Over the years, I've become close to a handful of co-travelers and co-conspirators without whom the process of research and dissertation writing would not have been what it has been. In Cairo, Jeff and Matt provided camaraderie in strange times. In New York, Aditi, Abeer and Jeff have provided the necessary respites from writing and the moral support I needed to keep on track.

The largest debt I owe to Marta. She has shared in every up and down over the last seven years even putting aside her own things to accompany me in Egypt.

Introduction

History has its economy where exchange is fundamental: it is called the meaning of history. It stops a moment, turns in the other direction, and in this new (hi)story, exchange appears after everything is freely given.

- Michel Serres, *The Parasite*

In the summer of 2012, while looking through microfilms at the National Archive in Kew, I came across the film negatives of two letters written to Lord Kitchener, the British Agent and Consul-General to Egypt on the eve of the First World War. The letters were from a Greek resident of Cairo named Xenophon S. Xenos.¹ In the letters, Xenos lays out a proposal calling for the establishment of a permanent commission that would investigate, surveil and regulate the cotton trade in Egypt. The first letter provides his argument for and description of the commission while, in the second letter, he provides a set of tables indicating the personnel that would constitute the commission, their salaries, the districts where its thirty-nine offices should be located and how the commission would be funded. At the time I was not sure what to make of the documents. The letters were intriguing, full of details about the credit instruments used in the

¹ TNA 30/57: Xenos Xenophon to Lord Kitchener, 20 July 1912, no. KK/18-20. The letterhead indicates he lived in al-Tawfiqiyah, the recently developed extension to the European quarter of the city. For the development of al-Tawfiqiyah, see Janet L. Abu-Lughod, *Cairo: 1001 Years of the City Victorious* (Princeton: Princeton University Press, 1971), 116-7. For a history of Greeks in Egypt, see Anthony Gorman, "Foreign Workers in Egypt 1882-1914: Subaltern or Labour Elite?," in *Subalterns and Social Protest: History from Below in the Middle East and North Africa*, ed. S. Cronin (London: Routledge, 2008); Alexander Kitroeff, *The Greeks in Egypt, 1919-1937: Ethnicity and Class* (London: Ithaca Press, 1989).

Egyptian cotton trade and how these had contributed to what Xenos feared would become the next “social crisis.” His proposal seemed a rather fanciful idea which had never been implemented, a detritus of history that just so happened not to get thrown in the waste bin. In either case, I made some copies, jotted down some cursory notes and stored them away.

What had made Xenos’s proposal seem fanciful was what seemed a fundamental confusion between the market and finance. Markets deal with physical goods and finance is secondary dealing with the abstract claims on physical goods. Despite the intention to surveil the cotton market, Xenos’s commission had nothing to do with cotton as a physical commodity. It was not clear that any of the commission’s staff would ever need to see or touch a bale of cotton to do their job. The closest they would come would be the description of a bale in the contracts written up between cotton traders and cultivators. However, even this bale was of an ideal type named by reference to the standardized system of classification used in Egypt to grade cotton. It was also entirely hypothetical: the contract was written out often before the seeds had even been planted and, therefore, about eight months before the cotton would be picked. To add to the confusion, it was a financial institution — the National Bank of Egypt — that he suggested should be placed in charge of marketing cotton. What the commissions did handle was paper, primarily forward contracts² — the primary instrument utilized by the interior cotton trade — and merchants’ account books. These were the objects that they would be tasked with auditing as a means of surveilling the cotton trade. If the purpose of Xenos’s proposed commission was to regulate the cotton trade, why not go straight to the heart of the matter, the physical cotton?

² Forward contracts are private agreements to trade a specified item at a specified future date at a specified price. The difference between these and the more well-known futures contract is that a futures contract is standardized, traded at a specific site (an exchange) and is typically not carried out. In other words, futures contracts are not generally delivered upon in practice.

Over time, I've come to understand that the confusion was not on Xenos, but on our contemporary conceptions of the market and its history. In understanding finance as secondary to the market of physical goods, it became impossible to see what Xenos proposal was and the historical shift in which it was participating. In the first two decades of the twentieth century, technologies and ways of thinking about stock and commodity exchanges were beginning to be applied to the trade of physical commodities — things like sugar, grain, steel and, of course, cotton. In other words, the market as an abstract site of exchange is a much more recent phenomenon than we traditionally think. Not that Xenos wasn't forthright about this himself. In fact, he says quite explicitly that he modeled the commission on contemporary legislation for regulating financial exchanges. His commission was meant to be a clearing house for the cotton trade allowing an equitable, rule-based and monetary mechanism for settling bad accounts between traders and cultivators. This mechanism would obviate the need to expropriate the latter's land, an increasingly common phenomenon that Xenos saw as the potential flashpoint for wider social conflict.³ What Xenos's proposal accomplished was to reimagine and reformat the relations between traders and cultivators in the abstract as a market. This dissertation attempts to understand the history of this shift and its significance for how we think about the relations between finance and the market.

The History of the Market

What is the market? Contemporary economics provides one answer: markets are abstract sites of exchange that work to aggregate buyers and sellers distributed in space. However, as an

³ I return in more depth to Xenos's proposal in the conclusion.

entry in the most recent edition of the *New Palgrave Dictionary of Economics* states, “although contemporary economics rests fundamentally upon the concept of markets, the discipline struggles with the important and practical challenge of clearly defining a market empirically.”⁴ In other words, the work performed by economics is to help identify what and where a market is. Over the past half century, this uncertainty over the precise limit and definition of markets has been coupled with an insistence that the market is a natural state of society present throughout human history. This coupling has ironically underwritten the proliferation of markets that we have come to identify under the term neoliberalism. As a worldview, neoliberalism sees all conduct as potentially economic conduct and all domains of collective life as potentially measurable and, therefore, monetizable. As a political project, neoliberalism seeks to remake the state as a tool for format reconfigure the world to the logics of the market. As Wendy Brown argues, neoliberalism is “best understood not simply as economic policy, but as a governing rationality that disseminates market values and metrics to every sphere of economic life and construes the human itself exclusively as homo oeconomicus.”⁵

⁴ Christopher B. Barrett, “Spatial Market Integration,” in *The New Palgrave Dictionary of Economics*, ed. Steven N. Durlauf and Lawrence E. Blume (Palgrave Macmillan, 2008).

⁵ Wendy Brown, *Undoing the Demos: Neoliberalism's Stealth Revolution* (New York: Zone Books, 2015), 176. Generally, there are two ways of defining neoliberalism historically. The first is to identify it as a political project centered around the Mont Pelerin Society and its members. For this interpretation, see Angus Burgin, *The Great Persuasion: Reinventing Free Markets since the Depression* (Cambridge, MA: Harvard University Press, 2012); Daniel Stedman Jones, *Masters of the Universe: Hayek, Friedman, and the Birth of Neoliberal Politics* (Princeton and Oxford: Princeton University Press, 2012); *The Road from Mont Pelerin: The Making of the Neoliberal Thought Collective*, ed. Philip Mirowski and Dieter Plehwe (Cambridge, MA: Harvard University Press, 2009); Johanna Bockman, *Markets in the Name of Socialism: The Left-Wing Origins of Neoliberalism* (Stanford: Stanford University Press, 2011); Michel Foucault, *The Birth of Biopolitics: Lectures at the College de France, 1978-1979* (New York: Palgrave Macmillan, 2008). The other is to identify it with a specific moment in the history of capital, beginning in the 1970s. For this interpretation, see David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2007).

An important part often missed in critiques of neoliberalism is its implication that the market is not only a natural but also a timeless entity.⁶ While it can be the object of historical analysis (à la economic history), it has no history of its own. The laws of supply and demand have always led humans to exchange goods and, therefore, the market as an aggregation of supply and demand has always and everywhere existed. However, part of what is new about the market is exactly this definition of the market as an anonymous aggregating machine. For instance, if we step back to the middle of the nineteenth century, the definition of the market becomes much easier to pin down. In his 1844 encyclopedia of political economy, the English publisher Charles Knight defines a market as “a public space and fixed time for the meeting of buyers and sellers.” The market referred to both the place and the right to carry on trade in that place. The market was literally tied to the soil where it was held by granting ownership of the market to whomever owned the land in which it took place. Additionally, its times were fixed. In the case of a market proper, it took place on an assigned day or days of the week. In the case of a fair — treated legally as a market —, its dates and duration had to be announced at the fair’s opening.⁷

However, by the end of the nineteenth century, the definition of the market was beginning to become unmoored. The successor to Knight’s encyclopedia, Palgrave’s *Dictionary of Political Economy*, was first published in 1896 with its second edition appearing only in 1926. Their entries for the market are identical. They still listed the old definition of the market but under the slightly more exclusive entry of “MARKET AS PLACE OF SALE.” The entry notes

⁶ Philip Mirowski, *Never Let a Serious Crisis Go to Waste: How Neoliberalism Survived the Financial Meltdown* (London and New York: Verso, 2013), 17.

⁷ “MARKET,” in *Political Dictionary: forming a work of universal reference, both constitutional and legal*, ed. Charles Knight (London: Charles Knight and Co., 1845-6).

that markets as “determinate areas and times for intercourse between buyers and sellers” were gradually losing their importance in the context of new forms of communication and transportation.⁸ Under the entry “MARKET” is instead found a description of the new stock and commodity exchanges. For those on the inside of the exchanges, the term markets still retained some of its meaning. It referred to a specialized “assemblage of dealers standing ready to buy or sell the various stocks and shares indicated by the title of their market [e.g., mining market, foreign stocks market, etc.]” However, for those on the outside, the market took on a different meaning. Because only members of the exchange could enter, a person had to ask their broker about “the state of the market” in shares of a certain kind. The broker then physically goes to the respective dealers and to see the prices “marked” on a board recording recent trades. For those on the outside, the market becomes merely a statement about prices and opinions rather than a definite place.⁹

The significance of this shift in the meaning of the market is twofold. First, it indicates that our contemporary understanding of markets is rooted at least in part to the emergence of stock and commodity exchanges at the end of the nineteenth century. At that point, it became possible to act as if the market was an abstract site only known through “marked” prices and the perception of market participants. Second, it indicates that the meaning of the market that emerged in the twentieth century was not an intellectual or ideological shift but tied to the material technologies and embodied practices of those exchanges — membership rolls, the mediation of expert brokers and prices “marked” on a board. As Alex Preda demonstrates in his

⁸ “MARKET AS PLACE OF SALE,” in *Dictionary of Political Economy*, ed. Robert Harry Inglis Palgrave (London: Macmillan, 1896).

⁹ “MARKET (on the stock exchange),” in *Dictionary of Political Economy* ed. Robert Harry Inglis Palgrave (London: Macmillan, 1896).

study of nineteenth-century financial expertise, such technologies and practices helped to construct the very boundaries that marked off the exchanges as abstract and even arcane in the eyes of the general public.¹⁰ However, the question remaining is how did that understanding then come to be applied to other assemblages of people and things?

Cotton and the Refiguration of the Market

It's possible to provide at least a provisional answer to the question as a way of framing the following chapters by looking at how the term market came to be used in the context of the Egyptian cotton market. No institution encapsulated the entanglement of finance and cotton cultivation more succinctly than the Alexandria Cotton Bourse. The history of the Bourse stretches back to the outbreak of the American Civil War when cotton merchants organized the world's first cotton futures market to finance the Egyptian cotton harvest. Like other commodity exchanges, the Bourse was not a place for exchanging goods but futures contracts, agreements to buy or sell a commodity at a pre-determined price in the future.¹¹ Futures contract are essentially debt instruments – a claim on a future commodity or its money equivalent. In the last quarter of the nineteenth century, their prices were embedded in networks of evaluation linking the bourse in Alexandria to cotton futures markets in New York, Liverpool, New Orleans, Mumbai, Le

¹⁰ Alex Preda, *Framing Finance: The Boundaries of Markets and Modern Capitalism* (Chicago: University of Chicago Press, 2009).

¹¹ There is no contemporary literature dealing with the history of the futures trading in Egypt that I am aware of. Al-Motaal's dissertation from 1930 on the history and reorganization of the Egyptian bourses is the most comprehensive work I have found on the early history of the exchange that seems to move beyond other hagiographic treatments. See M. Zaki abd al-Motaal, "Les Bourses en Égypte: Histoire, État Actuel, Reorganisation" (Université de Paris, 1930). For the best account of a futures market, see William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York and London: W. W. Norton & Company, 1991), Chapter 3.

Havre and eventually even Osaka. Price became an object of knowledge, a way of communicating and feeling out the state of other markets carried out over telegraph lines: Did traders in Alexandria or New Orleans expect a large cotton harvest this year? What were merchants in Liverpool or Osaka willing to pay for raw cotton?

The new figure of the market emerged out of what contemporary economists term a market failure. In 1909-10, a series of ecological crises transformed in the span of one month what by all expectations was to be a record harvest into the worst harvest in almost a decade. Prices on the exchange soared which, while great for speculators, was disastrous for merchants caught short who now had to pay dearly for a crop that fulfilled only a portion of their open contracts. At the same time, an interest in economic questions among the colonial elite resulted in the foundation of a new society, the Khedivial Society for Political Economy, Statistics and Legislation and its journal *L'Égypte Contemporaine*. Among the societies leading members were a handful of European professors trained in the new schools of mathematical economics, one of whom was John Aiton Todd. In the wake of the cotton disaster of 1909-10, these individuals began to investigate in partnership with members of the colonial elite a new object – the cotton market. Though distinct from the Bourse, this new object was framed largely in terms of prices emanating from its trading pit. The starting point, therefore, wasn't the abstract space of exchange but the trading pit of the Bourse.

What was different about this articulation of the market? In a textbook published in 1912 for his Egyptian students at the Khedivial Law School in Cairo, the Scottish economist John Aiton Todd distinguishes between two definitions of the market. The word as it was commonly used referred to “a place or building where buyers and sellers of a particular commodity meet to

carry on their trade.” However, in business, the word took on “a wider sense” closer to that of “the economic meaning of the word.”

[a] market, in the economic sense, means the whole area over which the consumers and producers of a certain commodity are spread. The essential feature of a market is that within the area of a market there is free communication between the producers and consumers, the sellers and the buyers of the commodity, so that the price of it will be the same all over the market.¹²

The extent of the market in space and time depended on the nature of the commodity. It could encompass the residents of a small town or, in the case of cotton goods, the whole world. The market could be conducted on an ongoing basis as with basic foodstuffs, or merely for a short duration. Competition was the mechanism that produced the essential uniformity of price but for this to happen it was necessary to have “free communication, publication, and comparison of prices.”¹³

Despite its familiarity to any student of Econ 101 today, Todd’s ‘economic’ definition of the market was relatively novel at the beginning of the twentieth century. Todd was part of a small but growing cadre of European economists trained in new modes of engaging with and reasoning about the economic world. Termed the ‘marginal revolution’ by historians of economic thought, men like William Stanley Jevons, Carl Menger and Leon Walras deployed mathematical formulae, often borrowed from the natural and mechanical sciences, both as a means of studying economic life and for illustrating the laws that appeared to order it.¹⁴

¹² John A. Todd, *Political Economy: A Handbook of Economics and Public Finance for Egyptian Students* (Edinburgh and Glasgow: William Hodge and Company, 1912), 97. His definition draws on both Cournot and Marshall.

¹³ Ibid., 98.

¹⁴ For a quick overview of the hagiographic account, see Roger E. Backhouse, “Marginal Revolution,” in *The New Palgrave Dictionary of Economics*, ed. Steven N. Durlauf and Lawrence E. Blume (2008). There are several works dedicated to individual economists such as

For political economists like Ricardo or Mills writing in the nineteenth century, the market possessed a certain immediacy in time and place. Markets proliferate in their texts – home markets, foreign markets, corn markets, and labor markets as well as more recent phenomena like the stock and money markets – but each denotes a place, even if generic, to which goods are brought and at which they are exchanged. Yet, despite their frequency, markets are largely ancillary to the questions they posed about wealth, its origins and its distribution in society.¹⁵ For Todd and other economists writing at the beginning of the twentieth century, the market's defining characteristic was its absence. The market isn't just elsewhere; it is not even a place at all. It is composed of individuals who, as Todd describes, possess "motives or notions of value which actuate [them] in the acquisition and use of wealth."¹⁶ The only way to measure

Margaret Schabas, *A World Ruled by Numbers: William Stanley Jevons and the Rise of Mathematical Economics* (Princeton: Princeton University Press, 1990); Harro Maas, *William Stanley Jevons and the Making of Modern Economics* (Cambridge and New York: Cambridge University Press, 2005); Simon J. Cook, *The Intellectual Foundations of Alfred Marshall's Economic Science: A Rounded Globe of Knowledge* (Cambridge and New York: Cambridge University Press, 2009). However, a growing body of work influenced by the history of science and STS have started to unravel economics' relationship to the nineteenth century natural and mechanical sciences. See Philip Mirowski, *More Heat than Light: Economics as Social Physics, Physics as Nature's Economics* (Cambridge and New York: Cambridge University Press, 1989); Margaret Schabas, *The Natural Origins of Economics* (Chicago: University of Chicago Press, 2005); Daniel Breslau, "Economics invents the economy: Mathematics, statistics, and models in the work of Irving Fisher and Wesley Mitchell," *Theory and Society* 32, no. 3 (2003); Mary Morgan, *The World in the Model: How Economists Work and Think* (Cambridge: Cambridge University Press, 2012). Nonetheless, the English-language literature has not dealt extensively with economics beyond British and American shores not to speak of the colonial world. The best available account of early marginalism in France is Breton Yves, "French Economists and Marginalism," in *Studies in the History of French Political Economy: From Bodin to Walras*, ed. Gilbert Faccarello (London and New York: Routledge, 1998).

¹⁵ For the intellectual context of Smith and Ricardo, see David Winch, *Riches and Poverty: An Intellectual History of Political Economy in Britain, 1750-1834* (Cambridge and New York: Cambridge University Press, 1996).

¹⁶ Todd, *Political Economy: A Handbook of Economics and Public Finance for Egyptian Students*, 2.

these subjective values was through their imperfect expression in the prices individuals were willing to pay to forgo the labor of producing something themselves. However, this act of expression was mediated by the individual's knowledge of local conditions, the perceived state of other actors and their position relative to the wider economic system. Therefore, prices provided an objective measure of subjective value but a measure that was necessarily incomplete and fraught with uncertainty.¹⁷

The implication of this orientation to the market was that the market was experienced as a lack of knowledge — fundamentally, a *disorientation* — for those who wanted to understand, participate in and govern it.¹⁸ The market unfolded through collective efforts to observe, analyze and materially define it. Through these efforts, the market continually acquires new properties and old ones are altered.¹⁹ Economists, far from mere observers, participated in the everyday work of objectifying the market. In fact, the salience of economic theories and mathematical models, then and now, has depended largely on their incorporation as calculative technologies

¹⁷ This should be distinguished from later understandings of efficient markets as knowledge aggregators in a state of competition. See for example Friedrich A. Hayek, "The Use of Knowledge in Society," *American Economic Review* 35, no. 4 (1945). Many later understandings were also framed through the game-theoretic approaches of John von Neumann. See Philip Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science* (Cambridge and New York: Cambridge University Press, 2002).

¹⁸ Athony Giddens, *Consequences of Modernity* (Stanford: Stanford University Press, 1990), 2. Giddens emphasis on the uncertainty inherent in modern institutions has been helpful in framing this general problematic. I have to thank Sheldon Pollock for bringing his work to my attention.

¹⁹ As I explain below, my reading of 'the market' draws on the turn, in economic sociology and anthropology, influenced in large part by scholars from science and technology studies, to the study of financial markets and processes of economization. See especially Karin Knorr Cetina and Urs Bruegger, "The Market as an Object of Attachment: Exploring Postsocial Relations in Financial Markets," *Canadian Journal of Sociolog* 25, no. 2 (2000); Koray Caliskan and Michel Callon, "Economization. part 2: a research programme for the study of markets," *Economy and Society* 39, no. 1 (2010); "Economization, part 1: shifting attention from the economy towards processes of economization," *Economy and Society* 38, no. 3 (2009).

into the projects of other actors whether institutions or individuals.²⁰ The substitution of prices for subjective values was crucial to this process. It provided a means of making an otherwise absent market present *graphically*.²¹ Price indices, time series, price barometers and various kinds of market analysis – such calculative technologies provided material surfaces on which the market could be made mobile and immutable. Far from simplifying matters, these characteristics allowed prices to be transposed and recombined in increasingly complex ways.²² In other words, economy was not disembedded from social relations, as per Karl Polanyi's famous argument puts it, but rather embedded into collective life as inscriptions on reams of paper.²³

Two important consequence flows from this newfound objectivity of the market: its apparent universality and its temporal reconfiguration of exchange. The lack of the market in a given society becomes not a falsification but an invitation to the formatting of a world in which the market can unfold. This was doubled temporally — if certain elements of the market like

²⁰ Donald MacKenzie's work on the adoption of the Black-Scholes-Merton option pricing model by traders is the most detailed case study of this process. See Donald MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets* (Cambridge, MA: MIT Press, 2006).

²¹ Bruno Latour, "Visualization and Cognition: Thinking with the eyes and hands," *Knowledge and Society* 6 (1986).

²² Koray Caliskan, *Market Threads: How Cotton Farmers and Traders Create a Global Commodity* (Princeton: Princeton University Press, 2010); Caitlin Zaloom, "Ambiguous Numbers: Trading Technologies and Interpretation in Financial Markets," *American Ethnologist* 30, no. 2 (2003). Caliskan demonstrates how prices proliferate in the contemporary global cotton market and how what is called the "market price" is laden with the subjective judgements inherent to the work of sorting through the many prices in the market. From another direction, Zaloom notes the technological infrastructures through which traders in modern financial markets each configure numbers differently requiring a high degree of financial interpretation in order to reconcile competing versions of the market.

²³ Timothy Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity* (Berkeley: University of California Press, 2002), 118. For Polanyi's argument, see Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (New York: Farrar and Rinehart, 1944).

prices existed in past societies, then certainly there were also markets that just need to be analyzed to answer historical questions about that society. In this double movement, markets come to encompass not only the present and the future but the past as well.

A Pragmatics of Finance and Markets

How does the world become formatted for the market? Over the last two decades, scholars of science and technology studies have turned their attention to processes of knowledge-making in economics intersecting with an increasing concern in economic sociology with market practices.²⁴ This migration has put a spotlight on the role of economics in the construction of the economy. Since its inception with the work of Émile Durkheim, economic sociology has

²⁴ Michal Callon is a central figure in this shift but should not overshadow the work of others whose interests moved similarly from the study of knowledge-making in the 'hard' sciences and technology to economics and financial practice. See Michel Callon, ed. *The Laws of the Markets* (Oxford: Blackwell, 1998); Cetina and Bruegger, "The Market as an Object of Attachment: Exploring Postsocial Relations in Financial Markets."; Donald MacKenzie, "The Credit Crisis as a Problem in the Sociology of Knowledge," *American Journal of Sociology* 116, no. 6 (2011). While economic sociology can trace its roots back to the works of Max Weber, the new economic sociology that emerged in the 1980s took Karl Polanyi and his concept of embeddedness as a starting point. See especially Mark Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness," *ibid.* 91 (1985). For the younger generation of scholars blending the concerns of economic sociology with a more STS orientated methodology, see Zaloom, "Ambiguous Numbers: Trading Technologies and Interpretation in Financial Markets."; *Out of the Pits: Traders and Technology from Chicago to London* (Chicago: University of Chicago Press, 2006); "How to Read the Future: The Yield Curve, Affect, and Financial Prediction," *Public Culture* 21, no. 2 (2009); Preda, *Framing Finance: The Boundaries of Markets and Modern Capitalism*; Vincent Lepinay, *Codes of Finance: Engineering Derivatives in a Global Bank* (Princeton: Princeton University Press, 2011); Yuval Millo and Donald MacKenzie, "The Usefulness of Inaccurate Models: Towards an Understanding of the Emergence of Financial Risk Management," *Accounting, Organizations and Society* 34 (2009); Yuval Millo et al., "Organised Detachment: Clearinghouse Mechanisms in Financial Markets," *Information and Organization* 15, no. 3 (2005). An exhaustive bibliography of the pragmatic turn is provided in Fabian Muniesa, Yuval Millo, and Michel Callon, "An Introduction to Market Devices," *The Sociological Review* 55 (2007).

concerned itself with identifying the unrealistic character of economist's assumptions about the world and the false descriptions they produced of it. In its place, economic sociologists sought to articulate more social explanations of what economists saw as necessarily economic phenomena.²⁵ Mark Granovetter's seminal essay of the new economic sociology is a case in point. Arguing against the work of the new institutionalist economics, he argued that economic behavior, like all behavior, is "closely embedded in networks of interpersonal relations" rather than governed by pure economic efficiency.²⁶ In other words, economic relations do not exist in the abstract market imagined by economists but in the social world.

Scholars with their roots in science and technology studies have argued that this is a category mistake. Neither the discipline of economics, nor its nineteenth century predecessor political economy, ever intended to provide a true description of markets or the economy. What economists do when they claim to act scientifically is to provide market actors instruments for disentangling and excluding certain things whose inclusion would render calculations impossible. As Michel Callon has argued, "economics, in the broadest sense of the term [i.e., including marketing agents, accountants, stockbrokers, etc.], performs, shapes, and formats the economy, rather than observing how it functions."²⁷ Pricing formulas or marketing research, for instance, provide a means of reducing the world into a set of inputs and outputs furnishing an

²⁵ Philippe Steiner, *Durkheim and the Birth of Economic Sociology* (Princeton: Princeton University Press, 2011), Chapter 1.

²⁶ Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness," 504. Granovetter borrows and elaborates upon Polanyi's use of the term.

²⁷ Callon, *The Laws of the Markets*, 2.

easy measure of what stocks to buy or how best to organize a shopping market.²⁸ In other words, there simply could be no economy without economics.

It has been argued that the weakness of the performativity program lies in its emphasis on illocutionary rather than perlocutionary performatives.²⁹ Callon's phrasing of the performativity thesis implies that economic theories are illocutionary performatives: they bring new realities into being. In other words, economic theories always make in the world what they prefigure on paper. This is opposed to a perlocutionary performative which aims to alter an ongoing situation by setting other things in motion but which is always open to failure. Whereas illocutions bring reality into being, perlocutions depend on the felicitous conditions of an existing reality for their effects. However, as Callon clarifies, the only difference between an illocutionary and perlocutionary performative is the timeframe: an illocution is successful only by "[making] inactive and invisible the overflows and misfires that comprise any illocution but that will (perhaps) be discovered only later." Both illocutions and perlocutions depend on the existence of appropriate socio-technical arrangements for their success. The difference is that illocutions are able to take those arrangements for granted.³⁰ Performativity is then not so much about the individual act as it is about the cooperation and controversies it triggers.³¹

The notion of performativity is helpful for thinking through how the world comes to be formatted to resemble the market of economic theory but the language of performativity, in its

²⁸ MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets*; Franck Cochoy, *Une Sociologie du Packaging ou l'Âne de Buridan Face au Marché* (Paris: PUF, 2002).

²⁹ Judith Butler, "Performative Agency," *Journal of Cultural Economy* 3, no. 2 (2010).

³⁰ Michel Callon, "Performativity, Misfires and Politics," *ibid.*

³¹ "What Does it Mean to Say that Economics is Performative?," in *Do Economists Make Markets? On the Performativity of Economics*, ed. Donald MacKenzie, Fabian Muniesa, and Lydia Siu (Princeton: Princeton University Press, 2007).

proximity to notions of cultural performance and speech acts, implies a certain singularity to what is being performed despite the imbrication of multiple fields of practice. In her ethnography of atherosclerosis in a Dutch hospital, Annemarie Mol has demonstrates that the different forms of medical expertise involved in the diagnosis and treatment of the disease enact it as different objects. Atherosclerosis is not one thing but multiple objects that go by the same name. Different practices, each with their own specific site, produce the body in multiple and not as a singular thing.³² Treatment of the disease is the task of coordinating the different objects into a composite object, “a patchwork singularity.”³³

Thinking of the market in this way, I argue, makes it a little easier to understand how the market is performed but within specific sites and practices. Take for instance, the example given above from Palgrave’s entry for “MARKET.” For those inside the exchange, markets refer to definite groups of dealers who are on hand to buy or sell shares of a certain type. However, for the general public, the market is effectively abstract — they are barred from experiencing it as a specific group of people or as a physical site except in its absence. It is in some sense the of the broker who, because he has been granted a form of expertise and access to the trading floor, mediates between the market as it is perceived inside the exchange and the market as it is perceived outside the exchange.

The other problem with performativity is that, despite its repeated references to the socio-technical, highlights the human aspect over the material. Mol suggests ditching the language of performance partly for this reason. In its place, she suggests the term “enactment” as a means of

³² Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham and London: Duke University Press, 2002).

³³ *Ibid.*, 70-2.

better distributing the action across the human-nonhuman divide. Objects then are not performed but “in practices objects are enacted.”³⁴ In Mol’s case and in the wider field of science studies, practices and technologies of inscription form a major part in an objects enactment. Inscriptions is the transformation of an entity into a material symbol (an inscription). An inscription is both mobile (it can move beyond the context of its creation) but also maintains intact certain types of relations. A successful inscription is one that can be transposed, combined and presented alongside other things in order to change the behavior of others. In science studies, inscriptions provide a way of understand how scientists can convince others even after they have been disarmed of their scientific instruments.³⁵ It is also central to many investigations into sites of normalizing power like the hospital, the school, the prison, government bureaucracy and the statistical office.³⁶

³⁴ Ibid., 31-2.

³⁵ Bruno Latour, "Circulating Reference," in *Pandora's Hope: essays on the reality of science studies* (Cambridge, MA: Harvard University Press, 1999); *Science in Action: How to Follow Scientists and Engineers in Society* (Cambridge, MA: Harvard University Press, 1987); "Visualization and Cognition: Thinking with the eyes and hands."

³⁶ Most of these studies take as their starting point the work of Foucault. Especially important in this regard is Michel Sheridan Alan Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Vintage Books, 1977); Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (London and New York: Routledge, 2003); *The Birth of Biopolitics: Lectures at the College de France, 1978-1979*; *Security, Territory, Population: lectures at the College de France, 1977-1978* (Basingstoke & New York: Palgrave Macmillan, 2007). For the normalizing effect of bureaucratic categories, see Ian Hacking, *Historical Otology* (Cambridge, MA & London: Harvard University Press, 2002); Nicholas B. Dirks, *Castes of Mind: Colonialism and the Making of Modern India* (Princeton: Princeton University Press, 2001). On the history of statistics and related history of probability, see Ian Hacking, *The Emergence of Probability: A Philisophical Study of Early Ideas about Probability, Induction and Statistical Inference* (Cambridge and New York: Cambridge University Press %7 2nd, 2006); *The Taming of Chance* (Cambridge and New York: Cambridge University Press, 1990); Alain Desrosieres, *The Politics of Large Numbers: A History of Statistical Reasoning* (Cambridge, MA: Harvard University Press, 1998); Mary S. Morgan, *The History of Econometric Ideas* (Cambridge and New York: Cambridge University Press, 1990); Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University

A focus on the materiality of inscription makes grand dichotomies – modern and nonmodern, rational and irrational, capitalist and pre-capitalist – into things to be explained rather than explanations in themselves. Latour's own use of inscription is drawn in part from the work of the anthropologist Jack Goody. In his critique of Lévi-Strauss's *The Savage Mind*, Goody argued that attention to the role of written text was essential to understanding the differences between the concrete thinking of the 'savage' mind and the abstract thinking of the 'domesticated' mind. Lists, formulas and tables were special forms of linguistic (i.e., communicative) activity that played a role in defining and solving problems. It was their development and not the development of the human mind which explained the difference between so-called primitive and advanced forms of thought.³⁷ Analogously, it becomes possible to explain how corporations become powerful macro-actors by accumulating in a few sites inscriptions from disparate times and places – money, of course, but also customer records, business contacts, market research, patents and many other things besides that are required to persuade possible allies. Only by collecting all relevant inscriptions in one place where they are easily subjected to summary and interpretation, can such entities act at a distance on other sites in the world and modify the behavior of others.³⁸

Press, 1995); *The Rise of Statistical Thinking, 1820-1900* (Princeton: Princeton University Press, 1986).

³⁷ Jack Goody, *The Domestication of the Savage Mind* (Cambridge: Cambridge University Press, 1977). Edward Said's critique of orientalism is similarly grounded in the materiality of texts. See Edward Said, *Orientalism* (New York: Random House, 1978).

³⁸ Latour, *Science in Action: How to Follow Scientists and Engineers in Society*; "Visualization and Cognition: Thinking with the eyes and hands."; John Law, "On the Methods of Long Distance Control: Vessels, Navigation, and the Portuguese Route to India," in *Power, Action and Belief: A New Sociology of Knowledge?*, ed. John Law, Sociological Review Monograph (London: Routledge, 1986).

Inscriptions also provides a means of thinking about the materiality of finance. While work in the sociology of finance has indeed noted the role of inscription in financial markets, they ignore the fact that what is being traded is itself a written document.³⁹ Debt and credit do not exist outside the instruments and account books on which they are inscribed. Anthropologists have often observed how documents and other material things are central to mundane practices of representation and state power pointing to the aesthetic and broader significance of documents beyond records of knowledge.⁴⁰ In the realm of the economic, the material nature of documents and the inscriptions they carry also shape what humans can do with them.⁴¹ Working at the intersection of finance and philosophy, Elie Ayache has suggestively argues the primacy of writing and inscription to the construction of contemporary derivative markets as stochastic structures.⁴² In a more digestible form, Annelise Riles has demonstrated how forms of documentation frame the legal reasoning that goes into the construction of financial market transactions.⁴³

³⁹ See for example MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets*. MacKenzie, while noting the materiality of models and price sheets, does not connect this to the written nature of the contracts sold on the mercantile exchange.

⁴⁰ Brinkley Messick, *The Calligraphic State: Textual Domination and History in a Muslim Society* (Berkeley: University of California Press, 1996); Akhil Gupta, *Red Tape: Bureacracy, Structural Violence, and Poverty in India* (Durham, NC: Duke University Press, 2012); Matthew S. Hull, *Government of Paper: The Materiality of Bureacracy in Urban Pakistan* (Berkeley: University of California Press, 2012).

⁴¹ Brinkley Messick, "Property and the Private in a Sharia System," *Social Research: An International Quarterly* 70, no. 3 (2003).

⁴² Elie Ayache, *The Blank Swan: The End of Probability* (Chichester, UK: John Wiley & Sons, 2010); *The Medium of Contingency: An Inverse View of the Market* (New York: Palgrave Macmilan, 2015).

⁴³ Annelise Riles, *Collateral Knowledge: Legal Reasoning in the Global Financial Markets* (Chicago and London: Chicago University Press, 2011).

Against the Economization of History

Capitalism has experienced a resurgence of interest among historians and social scientists since the financial crisis of 2007-8.⁴⁴ On the surface, the story they tell is not a particularly new one:⁴⁵ During the course of the nineteenth century, the rise of manufacturing in Western Europe led European merchants and politicians to seek raw materials and resources abroad. Economic growth in Western Europe, measured by rising productivity and average per capita incomes, was accomplished on the back of cheap slave labor in the Caribbean and American South. With the abolition of slavery, the populations of Asia and Africa became entangled in an ever-expanding web of capitalist relations. With each new crisis capitalism faced, new ways were found to overcome it only serving to quicken the pace of its globalization and infiltration of everyday

⁴⁴ Thomas Picketty's bestselling book is the exemplar of this trend. See Thomas Picketty, *Capital in the 21st Century* (Cambridge, MA: Harvard University Press, 2014). For examples of the recent history of capitalism, see Sven Beckert, *Empire of Cotton: A Global History* (New York: Knopf, 2014); Louis Hyman, *Debtor Nation: The History of America in Red Ink* (Princeton: Princeton University Press, 2011); Edward Baptist, *The Half Has Never Been Told* (New York: Basic Books, 2014); Larry Neal and Jeffrey G. Williamson, eds., *The Cambridge History of Capitalism* (Cambridge: Cambridge University Press, 2014). For an incisive critique of the literature, see Timothy Shenk, "Apostles of Growth," *The Nation* (2014), <http://www.thenation.com/article/apostles-growth/>. Johnson's work on plantation imperialism is an example of an exception to this trend and more in line with earlier histories of capitalism from environmental historians such as William Cronon or Richard White. See Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, MA and London: Harvard University Press, 2013); Cronon, *Nature's Metropolis: Chicago and the Great West*; Richard White, *Railroaded: The Transcontinentals and the Making of Modern America* (New York and London: W. W. Norton & Co., 2011).

⁴⁵ For instance, the argument that slavery was central to the development of capitalism has been around and debated among historians since the middle of the twentieth century. See Eric Williams, *Capitalism and Slavery* (Chapel Hill and London: University of North Carolina Press, 1994 [1944]).

life.⁴⁶ For these writers, capitalism is a self-evident reality synonymous with the economic growth and inequalities it is purported to cause. In fact, much like neoliberal assumptions about the market, capitalism's pregivenness is often the starting point of their analysis. In this way, the new history of capitalism is the history of capitalism's triumph. Written from the neoliberal present, whatever futures the past might have held are evacuated.

However, what the new history of capitalism takes for granted — capitalism and the economic growth associated with it — was precisely the thing whose absence economic historians of the Middle East and other non-Western regions have tried to explain. Up until the middle of the twentieth century, it was argued — often on the basis of spurious facts — that the Middle East had experienced a decline since about the sixteenth century from which it was only beginning to recover. The reasons given by historians and other social scientists were generally cultural in nature. By mid-century, these arguments became more economic in nature pointing to falling populations, decreased agricultural production and reduced trade across the region however no less grounded in the empirical history of the region.⁴⁷ At about the same period, scholars trained in economics began to scour archival and secondary material for the statistics to back up or dispute the decline of the region. In the case of Egypt, first Charles Issawi and then Roger Owen presented arguments documenting with the backing of statistics that the current

⁴⁶ This is especially the case for recent histories of capitalism such as Louis Hyman and Sven Beckert's recent works on consumer credit and cotton, respectively. It also representative of a slightly longer tradition of Marxist thought particularly associated with David Harvey's work on capitalist's crises. See Beckert, *Empire of Cotton: A Global History*; Hyman, *Debtor Nation: The History of America in Red Ink*; David Harvey, *The Limits of Capital* (London and New York: Verso, 2006 [1982]).

⁴⁷ H. A. R. Gibb and H. Bowen, *Islamic Society and the West* (London 1957). For a thorough critique, see Roger Owen, "The Middle East in the eighteenth century - an "Islamic" society in decline: a critique of Gibb and Bowen's *Islamic Society and the West*," *Review of Middle Eastern Studies* 1 (1975).

state of the region had more to do with the way the country had developed over the past two centuries as it was incorporated into the world economy.⁴⁸

Nonetheless, both these trends naturalize the equation between capitalism and economic growth. This dissertation tries to do something else. Much like the market of neoliberalism, capitalism is a political project. Its projection into the past is part of the process of naturalizing it in the present. The work of scholars like Issawi and Owen are needless to say invaluable for the wealth of information they have compiled on the social and economic life of nineteenth- and twentieth-century Egypt. However, the misstep was in plugging that information into our contemporary conceptualizations of what a market or an economy is rather than attending to the material practices in which things like prices and trade figures were enacted.

Chapter Outlines

This dissertation explores the social and material arrangements in which the cotton market emerged as an object of social scientific inquiry and liberal government in Egypt during the first three decades of the British occupation (1882-1912). This new figuration of the cotton

⁴⁸ Charles Philip Issawi, *Egypt: An economic and social analysis* (London & New York: Oxford University Press, 1947); "Egypt since 1800, a Study in Lopsided Development," *Journal of Economic History* 21 (1961); Roger Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development* (Oxford: Clarendon Press, 1969). This framework remains in studies of the regions political economy. See Alan Richards, "Technical and Social Change in Egyptian Agriculture, 1890-1914," *Economic Development and Cultural Change* 26 (1978); *Egypt's Agricultural Development 1800-1980* (Boulder, CO: Westview, 1982). Subsequently, environmental historians have shown that climatic changes, whether local or regional, may have played a part. See Richard Bulliet, *Cotton, Climate, and Camels in Early Islamic Iran: A Moment in World History* (New York: Columbia University, 2011); Sam White, *The Climate of Rebellion in the Early Modern Ottoman Empire* (Cambridge: Cambridge University Press, 2011).

market did not emerge as the natural unfolding of a universal modernity, economic rationality or the inherent logic of capital. Instead, as this study demonstrates, it was a much more earthly affair. In the wake of financial and ecological crises, the colonial elite allied themselves with economists to embed new technologies of calculation into the Egyptian countryside. In the process, they reconfigured what a market was.

Critically, these technologies were inscriptive in nature. They rendered the state and condition of distant locations translatable from a proliferating stream of material symbols – above all, the exceedingly mobile and immutable number of price. Prices could be transported in various forms by rail or telegraph wire all up and down the Nile Valley with relatively little loss. Just as importantly, these prices could prescribe a set of possible actions when it was arranged alongside other inscriptions within the frame of calculative devices. Posted in markets, entered into an account books, superimposed on a map or time axis or printed in the daily newspaper, prices were arrayed and recombined to enable interpretations about the state of the world and one's part in it. The dissertation chronicles how the market became one of the ways “the future manifest[s] itself in the present.”⁴⁹ This was accomplished by embedding into sites of collective life calculative devices for formatting the world around the signs of the market.

The dissertation is divided into two parts. The first steps back to examine inscription and its relation to forms of organizing economic life that preceded the market in Egypt. Financial calculation – in particular, capitalization or the rendering of future revenue into present value⁵⁰ –

⁴⁹ Niklas Luhmann, *Observations on Modernity*, trans. William Whobrey (Stanford: Stanford University Press, 1998), 63.

⁵⁰ Jonathan Nitzan and Shimshon Bichler, *Capital as Power: A Study of Order and Creorder* (London and New York: Routledge, 2009).

was an essential device for framing and arraying the avalanche of inscriptions into plans of action. But, it was one that relied on “stabilizing infrastructures” to escape the vicissitudes that made the future incalculable.⁵¹ Part I of the dissertation examines how land was enacted first as an object of economic calculation and, then, as a financial asset. Chapter 1 demonstrates how practices of mapping and valuing land in Egypt at the end of the nineteenth century went hand-in-hand. Within the paper landscape constructed by the cadastral survey, land was enacted as an object of economic calculation, its value tied to theoretical notions of rent from contemporary political economy. Chapter 2 follows how this paper landscape literally underwrote new modes of financialization in the Egyptian countryside as British officials attempted to build a small land-holding class in Egypt. At the center of this project was the Agricultural Bank of Egypt. The chapter examines some of the practices of the bank to understand how parcels of land became figures on the banks ledgers. Part I concludes with a foray into critiques of debt and finance among two political thinkers — ‘Abd al-Raḥmān al-Kawākibī and Muhammad ‘Abduh — who each sought to rearticulate finance within an ethics of social-being.

Part II examines how the market emerged in the first decade of the twentieth century amidst the failure of such stabilizing infrastructures. The central pivot of the story is the 1909-10 “cotton disaster.” Over a period of one month what had been expected to be a record cotton harvest was either eaten by cotton worms or withered in the fields before it was ready to be picked. Farmers who had sold their crop, often before the seeds were even in the ground, found themselves unable to pay their debts. Cotton merchants found themselves holding worthless bills

⁵¹ Timothy Mitchell, “On Stabilizing Infrastructures,” in *Reinventing Accounting* (Paris 2014). Timothy Mitchell, “On Stabilizing Infrastructures” (paper presented at Reinventing Accounting workshop, Paris, May 5, 2014).

of sale in one hand and standing orders they could not fill. The event is largely ignored in existing scholarship probably because it did not correlate with a particular global moment. Most economic histories of the period focus on the slightly earlier global financial crisis of 1907 and the anti-colonial economic nationalism that crystallized in its wake as sources of foreign credit evaporated.⁵²

A focus on 1909-10 does not aim to replace that earlier moment but it does shift the conversation away from the explanatory force of class and capitalism. The cotton disaster directed the attention of anti-colonial nationalists, government officials and others to an old place – the Alexandria Cotton Exchange – but seen anew as a central node in the larger apparatus of the world cotton market. However, the traders on the Exchange did not sell cotton. Rather, they traded futures contracts, contingent claims dependent on the realization of an uncertain future. These financial instruments – which is to say *debt* instruments – transformed, with the mediation of a complex system of grading and sampling and agricultural financing, not yet existent bales of cotton into contingent claims on an abstracted, future flow of ‘white gold.’

⁵² Owen provides a description and analysis of the crisis’s aftermath. See Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*, 283-7. For an example, see Eric Davis, *Challenging Colonialism: Bank Misr and Egyptian Industrialization 1920-1941* (Princeton 1983), Chapter 3. Also, as a corrective to Davis’s colonial exceptionalist narrative, see Robert Vitalis, *When Capitalists Collide: Business Conflict and the End of Empire in Egypt* (Berkeley: University of California Press, 1995). Aaron Jakes work is the best account of this moment as both a financial and ecological crisis that coincidentally parallels my own work in many ways. He argues, building on Moore’s concept of “world-ecology” that “the paradoxical position of Egypt’s economic nationalists cannot be deduced in any straightforward fashion from the historical geography of capitalism at a global scale. Instead it was precisely the multiple, competing circuits of capital flowing around and through Egypt’s cotton fields that gave rise to the country’s precarious ecology of interest.” See Aaron Jakes, “Booms, Bugs, Bust: Egypt’s Ecology of Interest, 1882-1914,” *Antipode* (Forthcoming 2016); Jason Moore, “Sugar and the Expansion of the Early Modern World-Economy,” *Review (Fernand Braudel Center)* 23, no. 3 (2000); James Moore, “Transcending the Metabolic Rift: A Theory of Crises in the Capitalist World-Ecology,” *Journal of Peasant Studies* 38 (2011).

Nonetheless, the prices for cotton futures contracts sold on the Exchange were given new significance by arraying them in tables, charting them along time axes and distributing them by telegraph to be posted in the new village cotton markets opened almost weekly by the colonial government. By embedding these calculative devices into sites distant from the Exchange, the market appeared but only through its absence as a price. For those seeking to understand or govern its movements, the market came to be experienced as a lack of knowledge but one that, nonetheless, ordered collective life. Chapter 4 explores how not yet existent bales of cotton became contingent claims on the futures market and Chapter 5 the work of extending a network of calculative devices from which emerged the new figuration of the cotton market.

In summation, this dissertation attempts to understand the emergence of this new figuration of the market and what it means for its basis to be the contingent claims of finance rather than the 'real' wealth of cotton.

Chapter 1

Paper Landscapes

What we call land is an element of nature
inextricably interwoven with man's institutions. To
isolate it and form a market for it was perhaps the
weirdest of all the undertakings of our ancestors.
- Karl Polanyi

On June 8, 1898, the Council of Ministers in Cairo ordered the formation of the Survey Department within the Public Works Ministry.⁵³ The department was a conglomeration of three already existing survey staffs — the State Lands, Hydrological and Geological Surveys — and the ministry's Map Drawing Office. Each had been formed on an ad hoc basis following the British occupation of 1882 as the small cadre of British colonial officials, many seasoned by the experience of administering British rule in India, attempted to consolidate control over the government in Cairo.⁵⁴ With the immediate threat of bankruptcy averted by the mid-1890s, the

⁵³ H. G. Lyons, *The Cadastral Survey of Egypt 1892-1907* (Cairo: National Printing Department, 1908), 7. The title of this chapter is derived from the title of J. H. Andrews history of the nineteenth-century Ordnance Survey in Ireland. See J. H. Andrews, *A Paper Landscape: The Ordnance Survey in Nineteenth-Century Ireland* (Oxford: Clarendon Press, 1975).

⁵⁴ For the precedence and personnel provided by the British experience in India, see Robert L. Tignor, "The "Indianization" of the Egyptian Administration under British Rule," *The American Historical Review* 68, no. 3 (1963). As Tignor points out, India may have provided a model for British officials, but they were also keenly aware of the political and social differences between the two countries. For the British occupation and the 'Urabi revolution, see 'Abd al-Rahman al-Rafa'i, *Al-thawra al-'urabiyya wa al-ihtilal al-injlizi* (Cairo: Maktabat al-nahda al-misriyya, 1939); Juan R. I. Cole, *Colonialism and Revolution in the Middle East: Social and Cultural Origins of Egypt's 'Urabi Movement* (Princeton: Princeton University Press, 1993); Donald Malcolm Reid, "The 'Urabi Revolution and the British Conquest, 1879-1882," in *The Cambridge History of Modern Egypt*, ed. M. W. Daly (Cambridge: Cambridge University Press);

Egyptian government, under the guidance of British advisers, sought to enlist its European creditors in a series of legal and administrative reforms to appease the two most important segments of Egyptian society: the landowning elite and the country's rural majority.

One of the more immediate concerns was the land tax.⁵⁵ A readjustment of the land-tax was first suggested by the 1878-9 Commission of Inquiry established under the auspices of the Public Debt Commission to examine the financial state of the Egyptian government. The commission was presided over by Ferdinand de Lesseps, Riaz Pasha and Lord Cromer.⁵⁶ In their findings, the commissioners highlighted how, under the existing revenue system, parcels of similar land even in the same village were subject to widely divergent tax rates. Over the course of the nineteenth century, the government had reduced the varieties of landholding eliminating forms that were exempt from paying taxes as it sought to increase the total amount of land subject to taxation. By the 1870s, there were effectively two forms of landholding: *kharajī* and

Ahmed 'Urabi, *Mudhakkirat 'urabi: kashf al-sitar an sirr al-asrar fi al-nahdaal-misriyya al-mashhura bi al-thawra al-'urabiyya* (Cairo: Dar al-Hilal, 1989).

⁵⁵ For administrative and legal reform during the period and its entanglement with the production of colonial and nationalist subjects, see Talal Asad, *Formations of the Secular: Christianity, Islam, Modernity* (Stanford: Stanford University Press, 2003), Chapter 7; Nathan J. Brown, *The Rule of Law in the Arab World: Courts in Egypt and the Gulf* (Cambridge: Cambridge University Press, 1997), Chapter 2; Samera Esmeir, *Juridical Humanity: A Colonial History* (Stanford, CA: Stanford University Press, 2012); Aaron Jakes, "The Scales of Public Utility: Agricultural Roads and State Space in the Era of the British Occupation," in *The Long 1890s in Egypt: Colonial Quiescence, Subterranean Resistance*, ed. Marilyn Booth and Anthony Gorman (Edinburgh: Edinburgh University Press, 2014); Omnia El Shakry, *The Great Social Laboratory: Subjects of Knowledge in Colonial and Postcolonial Egypt* (Stanford: Stanford University Press, 2007).

⁵⁶ For more on the Public Debt Commission (Caisse de la Dette Publique, often referred to simply as the Caisse) and the European financial missions to Egypt, see Malak Labib, "Crise de la dette publique et missions financières européennes en Égypte, 1878-9," *Monde(s)* 2, no. 4 (2013).

‘*ushrī*.⁵⁷ *Kharajī* denoted lands that belonged to the ruler but whose owners were granted usufruct rights as long as they paid the land tax (*mīrī*). Most of the cultivated land in Egypt fell under this category and it constituted the largest basis of small and medium landholding throughout the nineteenth century. ‘*Ushrī*, despite the Islamic connotation of the category,⁵⁸ was a nineteenth-century fiscal innovation for taxing previously exempt lands. This category made up the bulk of large landholding and without exception represented land for which full ownership rights had been granted during the preceding half century often in exchange for their inclusion on the tax registers.

The inequality between these forms of landholding was further compounded by the different tax rates at which they were assessed. Combing through the records of the Finance

⁵⁷ Raouf Abbas and Assem el-Dessouky, *The Large Landowning Class and the Egyptian Peasantry in Egypt, 1837-1952* (Cairo: The American University in Cairo Press, 2012), 20-32. The transformation of the different categories of landholding — *aba'id*, *jiftlik*, *usiya*, *uhda* and *masmuh* — into *kharajī* and ‘*ushrī* was a labyrinthine process. Abbas and El-Dessouky provide a good summary of this process as part of their argument about the transition to capitalist agriculture and the formation of the large landowning class in Egypt. For other accounts of the emergence of private property in Egypt, see Kenneth M. Cuno, "The Origins of Private Ownership of Land in Egypt: A Reappraisal," *International Journal of Middle East Studies* 12 (1980); Yacoub Artin, *Propriete fonciere en Egypte* (Le Caire: Imprimerie nationale de Boulaq, 1883); Gabriel Baer, *A History of Land Ownership in Modern Egypt, 1800-1950* (London: Oxford University Press, 1962); Helen Rivlin, *The Agricultural Policy of Muhammad Ali* (Cambridge, MA: Harvard University Press, 1961). This discussion is a subset of wider debates about the transition to capitalism in Egypt. For these other threads see, Ghislaine Alleaume, "An Industrial Revolution in Agriculture? Some Observations on the Evolution of Rural Egypt in the Nineteenth Century," in *Agriculture in Egypt, From Pharaonic to Modern Times*, ed. Alan K. Bowman and Eugene Rogan (Oxford: Oxford University Press, 1999); ‘Ali Barakāt, *Taṭawwur al-Milkiyya al-Zirā'iyya fī Miṣr* (Cairo: Dār al-Thaqāfa al-Jadīda, 1977); Kenneth M. Cuno, *The Pasha's Peasants: Land, Society, and Economy in Lower Egypt, 1740-1858* (Cambridge and New York: Cambridge University Press, 1992); Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*; Issawi, "Egypt since 1800, a Study in Lopsided Development."

⁵⁸ See Richard A. Debs, *Islamic Law and Civil Code: The Law of Property in Egypt* (Cairo: The American University in Cairo Press, 2010), 9-11. ‘*Ushr* (“one-tenth”) refers to the tithe incumbent upon Muslims, generally assessed at ten per cent of income. However, the tax rate on ‘*ushrī* lands could vary from one-twelfth to one-sixth of the crop revenue.

Ministry, the Commission of Inquiry found that, while the *kharajī* lands amounted to 3,487,000 feddans and paid LE 3,143,000 in taxes, *‘ushrī* lands amounted to 1,323,000 feddans but paid only LE 333,000. The average rate paid on *kharajī* lands was 116.2 piastres per feddan — though as much as 170 piastres was reported in Lower Egypt — whereas average rate for *‘ushrī* lands was 30.3 piastres not exceeding anywhere 83.5.⁵⁹

The Commission proposed an equalization of the land tax that would see the distinction between the two categories of land dissolved and tax rates determined relative to the rental values. The aim was to achieve what Lord Cromer referred to as a “theoretical perfection in the incidence of taxation.” However, as he would explain twenty years later, the proposal was not carried out at that time because it was “a very difficult and delicate operation” that could not be undertaken “without a very thorough study of the subject, and especially without allowing a sufficient time to elapse for a body of British officials to grow up who would be intimately acquainted with all the facts of the local situation.”⁶⁰ The Commission recommended the carrying out of a cadastral survey of the entire country to ensure that any adjustment to the taxes was done on an equitable basis.⁶¹ In the meantime, a temporary reprieve was granted to alleviate the worst inequities by setting a maximum tax rate and increasing the taxes paid on *‘ushrī* lands by one-fourth.⁶²

Survey work commenced soon after in 1879 but was suspended five months later with the outbreak of the ‘Urabi Revolution. It was revived twice — first in 1883 and then again in 1892

⁵⁹ Evelyn (Earl of Cromer) Baring, *Modern Egypt* (New York: Macmillan Co., 1916), 114. 1 feddan = 1.038 U.S. acres = 0.420 hectares. E£ 1 = 100 piastres.

⁶⁰ Egypt. No. 1 (1900) *Reports by Her Majesty’s Agent and Consul-General on the Finances, Administration, and Condition of Egypt and the Soudan in 1899*, 11.

⁶¹ Lyons, *The Cadastral Survey of Egypt 1892-1907*, 78.

⁶² Baring, *Modern Egypt*, 115.

— only to be suppressed for reasons of economy and its staff reassigned to more pressing projects.⁶³ With the formation of the Survey Department in 1898, the survey staff was tasked with reforming and extending the existing operations of the State Lands Survey into a full cadastral survey.⁶⁴ Whereas the former had merely worked to identify and record the position of state owned lands, the cadastral survey would locate the property of every single landholder in the country; determine and record its shape, size and owner; and, prepare maps showing the position and shape of each constituent parcel.⁶⁵ By the time it was completed in 1907, the narrow

⁶³ Lyons, *The Cadastral Survey of Egypt 1892-1907*, 77-102; Auckland Colvin, *The Making of Modern Egypt*, Second ed. (London: Seeley and Co. , 1906), 231. Prior to 1898, the work of the recently retooled State Lands Survey was divided between two sections both in the Finance Ministry: the Technical branch and the Settlement branch. The Technical Branch in charge of surveying and measuring fields, plotting those fields together to form village maps, and compiling an index to each village map including the area, class, rate of tax, name of owner and present occupier of each parcel. The Settlement branch used the maps produced by the Technical branch to prepare a statement of the property owned and taxes owed by each owner. The functions had originally been carried out together as part of the State Lands Survey but had been divided in 1895 on the advice of Sir Bamfylde Fuller, the Commissioner of Settlements and Agriculture in the Central Provinces (contemporary Madhya Pradesh, Chhattisgarh and Maharashtra) who was in Egypt to advise the government on agricultural development. The reform was meant to expedite the reassessment of the land-tax (116). It was later reversed to better coordinate the overlapping work of the two branches. The Survey Department would be transferred to the Ministry of Finance on January 1, 1905. See *Report on the Work of the Survey Department*, (Cairo: Al-Mokattam Printing Office, 1906), 3.

⁶⁴ The Cadastral Survey undertaken between 1897 and 1907 was not the first such survey undertaken in Egypt. Nor was it the first to make use of maps to identify individual parcels of land. In the nineteenth century alone, there were four separate cadastral surveys of varying comprehensiveness undertaken in Egypt (1813, 1823, 1853-9, 1878-88) as well as several projects to map the country's topography and other features (1834, 1840, 1871-2, 1889-98). Of the cadastral surveys, that of 1823, 1853-9 and 1878-88 at least envisioned the production of maps to accompany the cadastral registers. The cadastral survey of 1823 produced a map of only one province, Sharqia, while that conducted from 1853-9 produced maps for at least the provinces of Beni Suef, Menufia and Gharbia, if not more. The registers of the latter remained in use in Upper Egypt even after the completion of the Cadastral Survey of 1897-1907 because it provided not just the area but also the dimensions of parcels, vitally important for determining boundaries under basin irrigation. For an overview of each, see Lyons, *The Cadastral Survey of Egypt 1892-1907*.

⁶⁵ Ibid., 7. I refer to the survey conducted between 1897 and 1907 throughout as a cadastral survey following the precedence of other historians to avoid confusion. However, it is

sliver of land stretching along the banks of the Nile would be claimed as one of the most closely mapped regions of the world.

In translating the heterogeneity of the countryside into the grids of map sheets and the blank spaces of the tax registers, the surveyors in the field and the clerks checking their measurements in the Department's computing office constructed a chain of standardized documents and practices that brought field parcels into new centers of calculation. From seats of administration in Cairo and the provincial capitals, individual fields could be collated and compared as a paper landscape regardless if they existed on separate ends of the country or were subject to entirely different regimes of cultivation. Yet, the survey did more than produce "the great land map of Egypt," as one metropolitan observer described it.⁶⁶ The maps produced by the

important to note that this nomenclature was somewhat under dispute. Though described as a cadastral survey by its Director-General H. G. Lyons in his technical account of the survey, it was in reality a standard revenue survey undertaken in parallel with the construction of local land registers. The map was used to identify property for fiscal purposes only and never served as a basis for constructing a register of real property. As such, it had no legal standing as opposed to the registers of the Mixed Courts. In his testimony before the Capitulations Commission in 1904, Lyons was optimistic of its use as a basis for the latter. However, the Capitulations Commission determined that, while sufficient for the fiscal purposes, the survey "could not be considered sufficiently precise to permit its adoption as a cadaster from the point of view of property." Though it allowed for a clear individualization of immovable property, it did not address the question of titles. Therefore, it could not serve as the basis for the establishment of a unique land register office such as then under proposal by the Egyptian government before the Capitulations Commission. See Commission Internationale, *Rapport de la Sous-Commission sur le Projet de Loi Instituant les Livres Fonciers* (1904). Quoted in Commission on Registration of Title to Land, *Examination of the Principles and Machinery of Registration of Title to Land* (Cairo: Government Press, 1921), 38.

⁶⁶ E. H. H., "The Cadastral Survey of Egypt (review)," *The Geographical Journal* 24, no. 5 (1909). Quoted in Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*, 88. Mitchell provides an account of the Cadastral Survey, following Lyons nomenclature, focusing on the novelty of using a large-scale map as a "technique of figuring the relationship between people and land embodied in the law of property." Mitchell argues that the construction of new centers of calculation produced the effect of "the divide between reality and its representations" through the repeated act of redistributing forms of knowledge away from more local sites. The account provided in this chapter builds on this insight but focuses on the chains of documents and practices which mediated this divide providing a basis for a new conception of land as an object

Survey Department were but one part of an ensemble of documents. Provincial land-tax registers (*mukallifa*), village land registers (*daftar al-misāḥa*), property indices (*mīzānīya*) and tax receipts (*wird*) provided a material network of documentation incorporating and extending beyond that encompassed by existing title-deeds, whether registered or not. These documents did not stand between the subjects and the world of things they purported to grant access. They were things in their own right, mediators that “transform, translate, distort, and modify the meaning or the elements they are supposed to carry.”⁶⁷ By incorporating parcels of land into this paper landscape, the government’s surveyors and clerks helped to “enact” land in their mundane practices of collating and formatting onto these preprinted forms the ‘signs’ of prior systems.⁶⁸

What distinguished this enactment of land from those prior was its implicit translation into the conceptual space of liberal political economy. Distinctions between *‘ushrī* and *‘kharajī* lands were integral to the fiscal practices of the government but also partook in carving out clear social demarcations in the countryside between the landed elite and the rest of the rural

of financialization. For Mitchell’s argument, see *ibid.*, 87-93. For the critical history of cartography, the seminal essay by Hartley is an essential starting point: J. B. Hartley, “Deconstructing the Map,” *Cartographica* 26, no. 2 (1989). For further work on mapping and its place in British imperial conquest and colonial administration, see Ian J. Barrow, *Surveying and Mapping in Colonial Sri Lanka: 1800-1900* (New Delhi: Oxford University Press, 2008); Lindsay Frederick Braun, *Colonial Survey and Native Landscapes in Rural South Africa, 1850-1913: The Politics of Divided Spaces in the Cape and Transvaal* (Leiden: Brill, 2015); Cole Harris, *Making Native Space: Colonialism, Resistance, and Reserves in British Columbia* (Vancouver: University of British Columbia Press, 2002); Matthew Edney, *Mapping an Empire: The Geographical Construction of British India, 1765-1843* (Chicago: University of Chicago Press, 1997). An earlier but no less important study of British colonial mapping in Ireland is Andrews, *A Paper Landscape: The Ordnance Survey in Nineteenth-Century Ireland*.

⁶⁷ Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005), 39.

⁶⁸ Mol, *The Body Multiple: Ontology in Medical Practice*, 32-3. As discussed in the introduction, the use of enactment suggests that “in the act, and only then and there, something *is*.” A patch of dirt no matter how well enclosed remains only a patch of dirt as long as it is not taken up in practices that enact it as an economic thing, i.e., “land.”

population. These categories were recognized by the Cadastral Survey — even incorporated into the survey forms themselves — but only in order to eventually dissolve the distinction. The notion of rent was central to this transformation: just as individual parcels of land were made to fit into the virtual framework laid out by the survey's triangulation, land was classified and valued within the imagined space provided by a notion of rent pervasive to nineteenth-century political economy. The process of mapping and land valuation went hand-in-hand. To calculate its rental value, a parcel of land had to be compared and classified with lands of similar quality and fertility. These practices of valuation were made dependent on forms of geographic reasoning associated with the large-scale maps of the Cadastral Survey by. Location — principally, favorable access to water and elevation⁶⁹ — was a characteristic not representable in previous land registers that only listed a parcels dimensions, classification, owner and tax obligations. By linking rental value and taxation, the cadastral maps became a necessary evaluative tool but also helped transform land into an object of economic calculation.⁷⁰

This chapter explores how practices of mapping and rental valuation enacted land as an object of economic calculation in Egypt at the beginning of the twentieth century. As individual parcels of land were made subject to the triangulation and plotting of surveyors, land was also translated into new spaces of calculation that formed the center of Egypt's contemporaneous financial boom.⁷¹ Land, in other words, became a financial asset. The transformation of land into

⁶⁹ Elevation was an important aspect of land quality in Egypt. It allowed for natural drainage of fields as excess water was removed by the force of gravity.

⁷⁰ Lyons, *The Cadastral Survey of Egypt 1892-1907*, 77-8.

⁷¹ The period of Egypt's financial boom overlaps with that of the Cadastral Survey itself running from approximately 1897 with the beginning of a period of elevated cotton prices to the the stock market crash of 1907. For the most detailed accounts of the financial boom, see A. E. Crouchley, *The Investment of Foreign Capital in Egyptian Companies and Public Debt* (Cairo: Government Press, 1936); Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*. For a good account of the crash in 1907, including debates around

an object of economic calculation did not entail the subjection of the Egyptian countryside as lived reality to the abstract logic of capital or land's alienation as an element of nature from society. Rather, it was a material movement, an enactment of land in formalized spaces of calculation. Land was not "treated as a pure financial asset"⁷² but, within the context of specific practices, was a financial asset. The act of mapping and valuing paved the way for this movement transforming land into a set of easily recorded characteristics (location, area, rental value, ownership, tax rate) that could be read, compared, combined and mobilized whether as part of a government report, a legal case or — as discussed in the next chapter — a mortgage contract.

Before proceeding to an account of these material networks, the chapter situates what follows in contemporary discussions about the materiality (or lack thereof) of finance. Rarely is the mundane work of mapping and documenting land considered within the purview of financial practice. Even after the 2007-8 financial crisis with its basis in the subprime mortgage market, sociologists and anthropologists interested in the field of finance have focused with few exceptions on the trading floors of Wall Street, the offices of investment banks or mercantile exchanges.⁷³ This is to a degree warranted. After all, the crisis was grounded in the massive

financial practice in the period drawn from the English language press in Cairo (especially, around founder's shares and the practice of paying by installment), see Isaac Paul Miller, "The Egyptian Financial Crisis of 1907: Capitalism and Regulation under Fragmented Colonialism" (American University of Cairo, 2015).

⁷² Harvey, *The Limits of Capital*, 347.

⁷³ For exceptions, see Caliskan, *Market Threads: How Cotton Farmers and Traders Create a Global Commodity*. Another avenue of scholarly interest in this regard is recent histories on consumer credit in the United States. While these do not share the same interest in materiality, their work documents how finance becomes entangled with more mundane practices of selling consumer goods or life insurance. See Hyman, *Debtor Nation: The History of America in Red Ink*; Jonathan Levy, *Freaks of Fortune: The Emerging World of Capitalism and Risk in America* (Cambridge, MA: Harvard University Press, 2012).

transfer back and forth of liabilities and risks between banks. However, understanding how finance shapes its world — and achieves any sense of the abstractness claimed for it by promoters and critiques alike — requires examining how, in the present case, something such as a field in the Nile Delta could become entangled in the financial calculations of an investor in London.

The Fictions of Finance

In 1944 the Hungarian-born economic historian Karl Polanyi published his most well-known work, *The Great Transformation*. Polanyi argued that the rise of fascism and economic autarky in Europe during the twentieth century could be traced to a single innovation of nineteenth-century political economy — the idea of a self-regulating market.⁷⁴ For proponents of market liberalism from David Ricardo to Ludwig von Mises, the market represented a spontaneous mechanism rooted in man's nature for organizing social life more efficient and salubrious to economic progress than the actions of government. To the contrary, Polanyi argued, the self-regulating market was an imaginary construction, a “stark utopia” that, if it ever were achieved in actuality, implied the destruction of “the human and natural substance of society.”⁷⁵ The notion that human beings and the natural environment should be identified with only one of their functions — the economic — and made subject solely to the valuation of the market was a fairly recent but nonetheless disastrous project. Whereas markets before the nineteenth century had been mere appendages of society limited to the buying and selling of commodities, the conception of the self-regulating market advanced by classical and neoclassical economists

⁷⁴ Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*.

⁷⁵ *Ibid.*, 3.

aimed at the subordination of society as a whole to the prerogatives of so-called economic progress.⁷⁶

Despite being couched in the familiar history of the Industrial Revolution, Polanyi's argument is not a rehearsal of capitalism's rise in Western Europe but an accounting of the market's emergence as a social technology for manufacturing "Economic Man." Polanyi's problematic was, therefore, anthropological in nature. He was concerned with the "practical and transformative work" — what he, using the language of twentieth-century social science, referred to as institutions — that accompanied the emergence of new notions of the human and economic in the nineteenth and twentieth century.⁷⁷ Of the four institutions discussed in the work (the balance-of-power system, the international gold standard, the self-regulating market, the liberal state), the self-regulating market was "the fount and matrix of the system... the key to the institutional system of the nineteenth century."⁷⁸ His discussion of nineteenth century legal reforms traced how laissez-faire liberalism had sought to detach — or, in Polanyi's words,

⁷⁶ Despite his emphasis on the completely artificial and utopian nature of the 'great transformation,' Polanyi's argument has been read as arguing that, with the rise of capitalism in the nineteenth century, society became dominated by the economy. This reading is especially prominent among scholars of global history who have largely assimilated, even in their criticism, Polanyi's argument into a narrative of capitalist transformation. See Fernand Braudel, *The Wheels of Commerce*, trans. Siân Reynolds, vol. II, *Civilization and Capitalism 15th-18th Century* (Berkeley: University of California Press, 1992), 225-9; Giovanni Arrighi, *The Long Twentieth Century* (London and New York: Verso, 2010 [1994]).

⁷⁷ Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*, 45-6; Stephen J. Collier and Aihwa Ong, "Global Assemblages, Anthropological Problems," in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, ed. Aihwa Ong and Stephen J. Collier (Oxford: Blackwell, 2005), 6-9. Ong and Collier place Polanyi alongside Arendt and Foucault as thinkers interested in "anthropological problems," i.e., "the constitution of the social and biological existence of human beings as an object of knowledge, technical intervention, politics, and ethical discussion" (6).

⁷⁸ Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*, 3.

“disembled” — the problems of organizing collective life from the social and political institutions that regulated one’s interchange with the social and natural world. In their place, proponents of free trade and market liberalization held out the price mechanism of the market as a neutral instrument for adjudicating questions generally understood to be a problem of ethics or politics — the distribution of wealth in society, access to means of livelihood, and society’s use of natural resources.

The problem, as Polanyi pointed out, is that nature, human beings and society do not meet the most basic definitional requirement of a commodity — they were not produced for sale. To put a price on any of them required that the natural and social substance of society be made amenable to practices of market valuation just like any other commodity. The transformation of nature, human beings and society into commodities was both a necessity and an impossibility. Instead, what proponents of market liberalism accomplished, however contentiously, was a work of fictionalization. Land, labor and money were constructed as “fictitious commodities” to which were attached a notional price — rent, wages and interest, respectively. Each was constructed as a claim on future revenue. Their fictitious nature was entirely a matter of description. Nonetheless, on the basis of this description, real-estate, labor and money markets could function as if what was bought and sold were scarce commodities produced for sale rather than the very material basis of social and political life.⁷⁹

⁷⁹ Ibid., 71-80. Polanyi is quick to distinguish his notion of fictitious commodities from Marx’s commodity fetish pointing out that the latter “refers to the exchange value of *genuine commodities*,” i.e., goods that are produced for the purpose of their sale (76). Also, Polanyi’s understanding of money and its relationship to the transformations of the nineteenth and early twentieth century are in contrast with that of Georg Simmel, who argued in his writings that money represented a means of escaping social ties. Simmel’s argument is built on the principle that money is a medium of exchange and, therefore, solely belonged to the economic domain. Polanyi understood money as a means of payment — “merely a counter embodying a quantified claim to things that would be purchased” — that could not be divorced from the political

Polanyi's understanding of fictionalization is a useful corrective to contemporary critiques about finance. Today, there is seldom a discussion of finance that does not veer towards the notion of its abstractness or fictitiousness. The term abstraction, in particular, has come to mediate between popular and academic critiques of finance's role in globalizing the economic and ecological risks associated with capitalist development. The fluid movement of capital is described as separated and decontextualized from the concrete realities of everyday life. Nonetheless, its flows shape and erode the rich heterogeneity of social relations subjecting them to the singular, all-pervading logic of financial markets and capitalist globalization.⁸⁰ The dramatization of this contradictory dynamic has become a near ritualistic response to each new crisis. Writing on the eve of the 1997 Asian financial crisis, Frederic Jameson wrote that in the present moment of postmodernity "capital itself becomes free-floating. It separated from the

institutions of the state that guaranteed its value (205). For Simmel's argument about money and individuation, see Georg Simmel, *The Philosophy of Money* (London and New York: Routledge, 2011[1900]), 305-83.

⁸⁰ For a review of abstraction in contemporary discussions about finance in popular and academic venues, see Laura Finch, "The Un-real Deal: Financial Fiction, Fictional Finance, and the Financial Crisis," *Journal of American Studies* 49 (2015); Leigh Claire La Berge, "The Rules of Abstraction: Methods and Discourses of Finance," *Radical History Review*, no. 118 (2014). For recent examples ranging across the disciplines of history, geography and anthropology, see Arrighi, *The Long Twentieth Century*; David Graeber, *Debt: The First 5,000 Years* (Brooklyn, NY: Melville House, 2011); David Harvey, *The Enigma of Capital* (Oxford and New York: Oxford University Press, 2010); Levy, *Freaks of Fortune: The Emerging World of Capitalism and Risk in America*; Edward LiPuma and Benjamin Lee, *Financial Derivatives and the Globalization of Risk* (Durham: Duke University Press, 2004); Immanuel Wallerstein, *Historical Capitalism* (London and New York: Verso, 1983 [2011]). For attempts to think about abstraction and the political economy of financial derivatives, see Dick Bryan, Randy Martin, and Mike Rafferty, "Financialization and Marx: Giving Labor and Capital a Financial Makeover," *Review of Radical Political Economics* 41, no. 4 (2009). Post-Marxist theorists have also dealt with the question of abstraction and its relation to capitalist reality in a number of ways. See for example, Derek Sayer, *The Violence of Abstraction: The Analytical Foundations of Historical Materialism* (Oxford and New York: Basil Blackwell, 1987); Moshe Postone, *Time, Labor, and Social Domination* (Cambridge: Cambridge University Press, 1993). An overview of the contributions of Althusser, Sohn-Rethel and other Marxist thinkers to the question of abstraction, see Alberto Toscano, "The Open Secret of Real Abstraction," *Rethinking Marxism* 20, no. 2 (2008).

concrete context of its productive geography... like the butterfly stirring within the chrysalis, it separates itself from that concrete breeding ground and prepares to take flight.”⁸¹ The present moment he claimed needed an “account of abstraction” linking together an analysis of postmodern culture to global financial speculation.⁸² In the wake of the 2007-8 financial crisis, David Harvey would echo Jameson’s imagery — or at least its juxtaposition between mobility and concreteness — referring to the speculative construction projects that laid empty in the crisis’s aftermath as “the disjunction between [capital’s] quest for hypermobility and an increasingly sclerotic built environment.”⁸³

Rather than acknowledging the artificiality of finance, such accounts naturalize the equation of finance with fiction and the abstract. Descriptions of finance as a field of abstraction differ little from those proffered by finance’s promoters who claim finance to be an instrument of liberation from poverty and socio-economic marginalization. Whether proponents of microfinance in international development or the extension of consumer credit to aspiring middle classes, promoters champion financial abstraction and formalization as a tool of empowerment capable of mobilizing the “dead capital” locked in the social relations of livelihood and housing.⁸⁴ Those who grab hold of abstraction as part of a critical frame from which to confront

⁸¹ Frederic Jameson, "Culture and Finance Capital," *Critical Inquiry* 24, no. 1 (1997): 251. The article was a reading of Arrighi linking it to his work on the postmodern condition. See Arrighi, *The Long Twentieth Century*.

⁸² Jameson, "Culture and Finance Capital," 260.

⁸³ Harvey, *The Enigma of Capital*, 191.

⁸⁴ Hyman, *Debtor Nation: The History of America in Red Ink*; Julia Elyachar, *Markets of Dispossession: NGOs, Economic Development, and the State in Cairo* (Durham and London: Duke University Press, 2005); Lamia Karim, *Microfinance and Its Discontents: Women in Debt in Bangladesh* (Minneapolis: University of Minnesota Press, 2011). The phrase “dead capital” was popularized by the Peruvian economist Hernando de Soto. See Hernando de Soto, "Dead Capital and the Poor," *SAIS Review* 21, no. 1 (2001). For a critique of de Soto’s “experiments,” see Timothy Mitchell, "How Neoliberalism Makes its World: The Urban Property Rights Project

contemporary financialization inadvertently reinforce the hegemonic claims of finance leaving to its promoters the prerogative to define what is both politically and economically possible.⁸⁵

As scholars in the sociology and anthropology of finance have demonstrated, abstraction is a symbolic and, therefore, necessarily material act.⁸⁶ The instruments of finance are constructed by successive layers of writing, evaluation and recalibration of documents. For instance, to transform a house into part of a specialized financial vehicle requires the extension and superimposition of the networks traced by real estate appraisals, loan applications, financial product descriptions, credit ratings, economic theories, pricing algorithms and industry standards.⁸⁷ This does not look anything like a butterfly escaping its cocoon. Nor is there anything necessarily concrete or abstract. Instead, there are a series of transformations that

in Peru," in *The Road to Mont Pèlerin: The Making of the Neoliberal Thought Collective*, ed. Philip Mirowski and Dieter Plehwe (Cambridge, MA: Harvard University Press, 2009).

⁸⁵ J. K. Gibson-Graham, *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy* (Minneapolis and London: University of Minnesota Press, 1996 [2006]). The feminist geographers J.K. Gibson-Graham highlight how overarching scripts of capitalist globalization provided by leftist critics of capitalism contribute to the discursive construction of an omnipresent and all-pervasive capitalist system. For similar critical takes on finance that situate its hegemonic claims to expertise and global dominance, see Karen Ho, *Liquidated: An Ethnography of Wall Street* (Durham and London: Duke University Press, 2009), 31-8; Bill Maurer, *Mutual Life, Limited* (Princeton: Princeton University Press, 2005), 100-5; Douglas R. Holmes and George E. Marcus, "Cultures of Expertise and the Management of Globalization: Toward the Re-Functioning of Ethnography," in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, ed. A. Ong and S. J. Collier (Malden, MA: Blackwell, 2005); Hirokazu Miyazaki and Annelise Riles, "Failure as Endpoint," in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, ed. A. Ong and S. J. Collier (Oxford: Blackwell, 2005).

⁸⁶ Fabian Muniesa, *The Provoked Economy: Economic reality and the performative turn* (Abingdon, UK and New York: Routledge, 2014), 39-40.

⁸⁷ Neil Crosby and John Henneberry, "Financialisation, the Valuation of Investment Property and the Urban Built Environment in the UK," *Urban Studies* 53, no. 7 (2016); Lepinay, *Codes of Finance: Engineering Derivatives in a Global Bank*; MacKenzie, "The Credit Crisis as a Problem in the Sociology of Knowledge."; Susan J. Smith, Moira Munro, and Hazel Christie, "Performing (Housing) Markets," *Urban Studies* 43, no. 1 (2006).

amplify certain relations (asset value) at the cost of others (house as habitation).⁸⁸ Market devices — everything from standardized forms to data centers⁸⁹ — multiply at each step. From standardized loan application forms, computation environments for options pricing and risk analysis, to a firm's standardized procedures put in place for valuing a complex financial instrument, these devices mediate the movement of people and things along the material networks formatting them to the requirements of financial calculation. If abstraction means anything in this context, it is the material transportation and transformation of something into the formal, calculative spaces utilized by financial actors, whether home owners, loan agents, computer algorithms or Wall Street traders.⁹⁰

Finance, in a sense, becomes mobile only by fixing and stabilizing the world in its market devices. This insight about the materiality of finance complements Polanyi's cursory account of fictionalization while providing some correctives. It provides an explanation as to how the commodity fictions of land, labor and money can emerge and be maintained in the often mundane practices of financial markets.⁹¹ The notional prices — rent, wage and interest —

⁸⁸ While this insight is taken from science studies, there is a resonance with arguments put forth by radical political economists and those working under the rubric of 'cultures of finance.' See Dick Bryan and Mike Rafferty, *Capitalism with Derivatives: A Political Economy of Financial Derivatives, Capital and Class* (London: Palgrave Macmillan, 2006), 52; Arjun Appadurai, *Banking on Words: The Failure of Language in the Age of Derivative Finance* (Chicago and London: University of Chicago Press, 2015), 106-11.

⁸⁹ Riles, *Collateral Knowledge: Legal Reasoning in the Global Financial Markets*; Donald MacKenzie, "Mechanizing the Merc: The Chicago Mercantile Exchange and the Rise of High-Frequency Trading," *Technology and Culture* 56, no. 3 (2015); Donald MacKenzie et al., "Drilling through the Alleghen Mountains: Liquidity, Materiality and High-Frequency Trading," *Journal of Cultural Economy* 5, no. 3 (2012).}

⁹⁰ Michel Callon and Fabian Muniesa, "Peripheral Visions: Economic Markets as Calculative Collective Devices," *Organization Studies* 26, no. 8 (2005).

⁹¹ Even Polanyi's later distinction between the substantive and the formal meaning of economy continues to neglect the material mediation of these meanings through market devices. For the distinction between the substantive and formal definition of economy, see Karl Polanyi,

become attached to these things, as Polanyi would agree, rather than flowing naturally from some essential characteristic they possess. However, what Polanyi misses is how, for instance, the attachment of rent to land is not fictional but mediated, not a creation of the minds of nineteenth-century political economists foisted upon the world but a transformation enacted in the world itself.⁹² To return to the epigraph at the beginning of this chapter, if land has been isolated and a market made for it, this has been accomplished not by disembedding land from the social and natural environment but by embedding in collective life new devices for mapping, recording and valuing it. The next section returns to late nineteenth century Egypt to examine how theoretical notions of rent shaped these devices transforming land into an object of economic calculation.

Rent and the Land Tax Readjustment

First proposed in 1879, the Egyptian government took the first steps toward reforming the revenue system in 1896. Further reductions in the land tax had been made between 1891 and 1894 particularly in the southern provinces of the country where basin irrigation predominated. These reductions were made across the board. However, by the beginning of 1895, requests for a reduction were coming from the northern provinces. Here, where most land was under a system

"The Economy as Instituted Process," in *Trade and Market in the Early Empires*, ed. Karl Polanyi, Conrad M. Arensberg, and Harry W. Pearson (Glencoe: The Free Press, 1957).

⁹² A similar critique could be made of Foucauldian histories of economic discourse. Keith Tribe's examination of land and labor in the economic discourse of the seventeenth through nineteenth century is a case in point. Tribe argues that the economic categories of land and labor have no stable meaning outside of particular economic discourses. The truthfulness of statements about these categories therefore derived not from an economy beyond that particular discourse but from the rules of formation internal to it. However, after jettisoning a modernist theory of representation, he does not move to analyze how economic statements transform the world they purport to merely represent. See Keith Tribe, *Land, Labour, and Economic Discourse* (London: Routledge & Kegan Paul, 1978).

of perennial irrigation, across the board cuts would not work as there was no relation between existing taxes — often set in 1864 prior to much of the conversion to perennial irrigation — and the current rental value of the land. Under the advice of Sir Elwin Palmer, the Finance Ministry established the Land Tax Commission under the directorship of Sir William Willcocks, one of several Royal Engineers brought from India to serve in Egypt's irrigation service.⁹³ The commission was the first large-scale inquiry into the social and economic conditions of the countryside since the beginning of the British occupation in 1882.⁹⁴ The commission was to inquire into the average rate of taxation across the country and provide a basis for what Lord Cromer described in his parliamentary report of 1899 as a “theoretical perfection in the incidence of taxation.”⁹⁵ As discussed previously, this translated into a process of “equalizing” the land tax so that taxes on each parcel of land were set at a fixed proportion to the land's rental value without reducing or increasing the total taxes collected.

To complete an equalization of the tax rate, it was first necessary to determine the rental value of land in Egypt. As previous taxes bore no relation to rent, the tax registers held by the Finance Ministry and the provincial governments never recorded this information. Therefore, the commission had to determine and record the rental value of land village by village across the entire country. Alternating between Lower Egypt in the summer and Upper Egypt in the winter,

⁹³ William Willcocks and James Ireland Craig, *Egyptian Irrigation*, 3rd ed., vol. 2 (London and New York: E. & F. N. Spon, Ltd., 1913), 800. For more on Royal Engineers in Egypt, see E. W. C. Sandes, *The Royal Engineers in Egypt and the Sudan* (Chatham: The Institution of Royal Engineers, 1937).

⁹⁴ As discussed previously, the readjustment of the land-tax was first put forward by the 1878-9 Commission of Inquiry — presided over by de Lesseps, Lord Cromer and Riaz Pasha — setup under the auspices of the Caisse de la Dette Publique to examine the financial state of the country. However, it extended only so far as the Finance Ministry's records. See, Cd. 95, 11.

⁹⁵ Egypt. No. 1 (1900), 11.

the Commission's ten subcommissions worked twenty-five consecutive days a month covering one thousand feddans a day each. By the time they had completed their work in April 1897, the commission had accounted for a total area of 4,550,181 feddans and determined the total rental value of agricultural land in Egypt to be LE 16,356,000.⁹⁶ From the information collected, the Finance Ministry calculated that the effective mean tax rate was 28.64% of the rental value.⁹⁷ This figure would, in turn, become the new basis for determining future tax obligations.

In arriving at these figures, the commission created a fundamental ambiguity between two different meanings of rent: ground (or, more generally, contract) rent and economic rent. Ground rent is a legal term denoting the amount to be paid to the owner of land, buildings or other equipment for its use as stipulated in a lease contract. Ground rent itself was not a single thing but denoted a variety of distinct configurations of land and people. Writing in 1910, W. Cartwright, a senior lecturer at the government's School of Agricultural, described at least three systems of rent payment and ten different configurations which these systems could take. Each of these configurations distributed the profits and risks of cultivation between the landowner and cultivator in different ways. In one example common to large estates, the land owner sold the crop on behalf of the cultivator, subtracted the rent from the proceeds and handed to the cultivator the difference. In other cases, the landowner pays the land tax and supplies some portion of the seed, water and manure, while the cultivator supplies the rest plus all the labor.

⁹⁶ Willcocks reported in an extract from his notes that the selling price of land varied from eight years' purchase in lands without proper irrigation and drainage to sixteen years' in areas with perfect irrigation and drainage. The average was fourteen years' purchase. See Willcocks and Craig, *Egyptian Irrigation*, 2, 802.

⁹⁷ A. T. McKillop, *Note on the Readjustment of the Land Tax in Egypt 1895-1907* (Cairo: National Printing Department, 1907). McKillop's report is also produced at length by Willcocks and Craig along with a list of some members of the Land Tax Readjustment Commission not included in his note. See William Willcocks and James Ireland Craig, *Egyptian Irrigation*, 3rd ed. (London and New York: E. & F. N. Spon, 1913), 802-9.

The landowner and cultivator then split the harvest accordingly.⁹⁸ The quantity of ground rent was only indirectly related to the soil. Instead, it was a symbolic representation of power worked out in the back and forth between landowners and tenants.

Economic rent refers to the income derived from the ownership of land, or to that part of ground rent which exceeds the cost necessary to bring land into production. Economic rent was not a quantity stipulated in lease contracts but a device for constructing the numerical models utilized first in agricultural experimentation and then in political economy.⁹⁹ Classical political economists such as David Ricardo argued that economic rent emerged from the fact that land is neither unlimited in quantity nor uniform in quality. Using the example of a newly colonized territory, he argued that the most fertile and easily utilizable lands would be cultivated first. As the population increased, it would eventually be necessary to bring into cultivation less fertile or less advantageously located land in order to meet society's growing needs. The price of all agricultural commodities was then dictated by the cost of the last or marginal unit of production. The cost of bringing the latter into cultivation, therefore, accrued as an additional profit to the owners of the most fertile land since they did not have to expend anything extra as a prerequisite of production.¹⁰⁰

⁹⁸ W. Cartwright, "Notes on Rent, Labour, and Joint Ownership," *The Cairo Scientific Journal* 4, no. 41 (1910). This mirrors the case elsewhere. As Keith Tribe argued in the case of Britain before the nineteenth century, the term ground, or agricultural, rent "is not a unitary economic category" but rather constituted by a variety of distinct configuration of land and labor. See Tribe, *Land, Labour, and Economic Discourse*, 25.

⁹⁹ See Morgan, *The World in the Model*, 44-90.

¹⁰⁰ David Ricardo, *On the Principles of Political Economy and Taxation* (London: John Murray, 1817), 35. There is a long history of critique and commentary on the theory of rent. The most prominent line of commentary follows from Marx's critique of Ricardo's work. For the more immediate response to Ricardo's work among political economists in 1830s Britain and the relation to Marx's later critiques, see Tribe, *Land, Labour, and Economic Discourse*, 146-58. Since the 1970s, rent theory has become an important tool for Marxian urban geographers. For the evolution of rent theory and its debates in contemporary Marxist political economy and urban

Such theories of economic rent provided an implicit framework for translating the different configurations of land and labor collected under the legal category of ground rent into the commissions calculations. From the beginning, the Commission's work was entirely dependent on local expertise and knowledge about the valuation of land even as it sought to displace it into the theoretical space of liberal political economy. Each subcommission was comprised of four members: two official delegates, a European official from the Public Works Ministry and an Egyptian official from the Finance Ministry; and, two non-official members to act as "land experts." The latter were selected by the provincial governor from a number of the province's land owners and were in charge of undertaking the valuation itself. The two official members were responsible for assuring that proper administrative protocols were followed and that the resulting values were not contaminated by partiality on behalf of any of a village's landowners.

Mirroring Ricardo's imaginary colonists, the commission began its work in the best lands of the cotton-growing Delta using these as a point of comparison for all subsequent valuations. The schedule of the subcommissions' visits to the villages was published in the official gazette and a notice forwarded to each village's headman (*'umdah*) requesting him to invite the parties

studies, see Harvey, *The Limits of Capital*; Anne Haila, "The Theory of Land Rent at the Crossroads," *Environment and Planning D: Society and Space* 8 (1990); Derek Kerr, "The Theory of Rent: From Crossroads to the Magic Roundabout," *Capital & Class*, no. 58 (1996); Callum Ward and Manuel B Aalbers, "'The shitty rent business': What's the point of land rent theory?," *Urban Studies* 53, no. 9 (2016). One of the other sources for contemporary thinking about rent that would also be influential on British economist such as Alfred Marshall and, therefore, later neoclassical accounts of rent was the German economist Johann Heinrich von Thünen who presented in his work *The Isolated State* a spatial theory of rent which, like Ricardo's, was based on the notion of marginal productivity. See Johann Heinrich von Thünen, *Von Thünen's Isolated State*, trans. Carla Wartenberg (New York: Pergamon Press, 1966 [1826]). For Marshall's use of von Thünen's term "marginal," see Alfred Marshall, *Principles of Economics*, 3rd ed., vol. 1 (London and New York: Macmillan and Co., 1890), x.

of the village to his residence for a meeting with the commission. At the meeting, the commission meets the landowners obtaining from them a list of the village's subdivisions (*hod*)¹⁰¹ along with the landowners' statements —and any supporting documents¹⁰² — regarding the mean renting value of each subdivision. This information was recorded on a copy of the village's register provided by the Finance Ministry that listed the subdivisions of the individual village and their respective area. Following the initial interviews, the commissioners examined the lands in question in the company of the landowners who together assign to each subdivision a classification based on its fertility, access to water, drainage and natural fertilizers.¹⁰³

With the initial investigation complete, the commissioners use the classifications derived to determine the rental value of each subdivision based on the market value of the crops it produced. After forwarding a copy of the rents to the village headman for approval, the commission tabulates the mean rental value for the village as a whole and forwards it along with the registers documenting their investigation to the Director-General. These values are checked against those assigned to other villages first at the level of the district and then at the level of the province. Any discrepancies are investigated by the Director-General in the field and complaints from landowners about the values assigned heard. The final values are then transferred to a fresh

¹⁰¹ Originally referring to irrigation basins in Upper Egypt, the term *hūd* became primarily a fiscal and administrative category by the late nineteenth century.

¹⁰² According to Cromer's report, "landed proprietors are always requested to produce contracts or copies of leases of land to support the figures they have supplied, but these documents have so far scarcely ever been produced." See Egypt. No. 1 (1896) *Report on the Finances, Administration, and Condition of Egypt, and the Progress of Reforms*, 4.

¹⁰³ One major finding of the Land Tax Commission was the correlation between high rental values and the proximity of potassium nitrate in the deserts or ancient ruins that could supplement the nitrogen-poor Nile water. See Willcocks and Craig, *Egyptian Irrigation*, 2, 801; J.B. Fuller, "Nile Cultivation and Nitrates," *Journal of the Royal Agricultural Society of England* 7 (1896).}

register and sent on to the Finance Ministry who employs an independent commission to reevaluate random villages as a check on the original commissions valuation.¹⁰⁴

The findings of the Land Tax Commission forwarded to the government in April 1897 highlighted the extreme inequalities throughout the country in regards to taxation. Tax rates in the same village could differ as much as between 3 to 82 percent of the land's rental value. Approval was requested and received from the Public Debt Commission to decrease the taxes on all lands paying over one-third their rental value to one-third until a full readjustment of the taxes could be completed.¹⁰⁵ In order to complete the readjustment, it was necessary to apply the rates not at the level of a village or subdivision as the Land Tax Commission had done but to apportion out the village's tax to the individual proprietors. While existing village land registers listed each proprietor and the amount of taxes they owed, there was no way of linking this information to the many separate parcels on the ground that might comprise their total property.¹⁰⁶ It was, therefore, not possible to relate rental value — dependent as it was on location — to individual property in any meaningful way. What was required was a complete remapping of the county's cultivable land down to the individual parcel and a contemporaneous rewriting of the tax registers.

Mapping Value

¹⁰⁴ This account of the Land Tax Commissions procedures is derived from C. 7978 and McKillop, *Note on the Readjustment of the Land Tax in Egypt 1895-1907*; Lyons, *The Cadastral Survey of Egypt 1892-1907*, 113-4.

¹⁰⁵ McKillop, *Note on the Readjustment of the Land Tax in Egypt 1895-1907*, 6-7. McKillop gives the example of 'ushrī land renting at LE 5 and taxed at 18 piastres versus *kharajī* land renting at LE 2 and taxed at 164 piastres in the same village.

¹⁰⁶ Lyons, *The Cadastral Survey of Egypt 1892-1907*, 114. Only individual properties over 20 feddans were marked on existing village maps.

As the work of the Land Tax Commission got underway in 1895, the government moved to transform the existing State Lands Survey into a comprehensive cadastral survey that would serve as a basis for an eventual readjustment of the land tax.¹⁰⁷ The State Lands Survey was limited in scope. It had been tasked with identifying tracts of government land and cases of encroachment by cultivators. Many of these lands had been previously uncultivable but, as improvements in the country's irrigation and drainage systems extended the circle of cultivability, villagers often began to incorporate them into their own holdings. However, these lands were unmapped and only vaguely described in previous registers. Once identified, already encroached land was then sold and registered with priority given to its current occupiers. Lands which had not been occupied were auctioned off, often to land development companies, under the understanding that they would bring the lands under cultivation and sell them to cultivators.¹⁰⁸

Because of the scope and the speed at which the new survey had to be undertaken,¹⁰⁹ the new maps required a level of control not possible under the plane-table methods employed by the State Lands Survey. Under this system, the only way of checking field measurements for error

¹⁰⁷ Ibid., 115.

¹⁰⁸ Ibid., 107-22. Lyons provides a short but detailed account of the State Lands Survey, its methods and extent of operation from an experimental undertaking in the village of al-Munajah, located in the most eastern extent of Sharqiya province along the Bahr al-Baqar, to a more extensive survey of the three most populous (and agriculturally productive) provinces of the Delta, Sharqia, Beheira and Gharbia.

¹⁰⁹ The readjustment was ordered to be complete by 1907. As Lyons stresses, this timeline was arbitrarily chosen with no regard for the time needed to carry out a reliable survey. In 1897, the Public Debt Commission had provided a ten-year grant to the Egyptian Government for decreasing the heaviest burdens caused by the old tax regime. As the cadastral survey was a prerequisite of the readjustment, it had to complete its work in a province before the readjustment could be undertaken. See *ibid.*, 123.

was to return to the spot, remeasure and compare with that obtained by the original survey.¹¹⁰ This cost both time and money, both of which were in short supply.¹¹¹ By the end of 1895, surveyors began to employ polygonal traverses using theodolites and magnetic azimuth compasses to enclose the detailed work of the survey. This allowed a form of control to be practiced from the central computing office. By correcting the magnetic azimuth measurements from the field, the computing staff could distribute any measurement errors across the separate traverses until they cancelled each other out.¹¹² Only in Giza, where the prior Hydrological Survey had completed a triangulation, was triangulation used as a control on the traverses. Rather than measuring the area of each plot on the ground, this method allowed field surveyors to calculate the area of each parcel on the map itself. The central computing office could then check the areas recorded for each parcel of land by surveyors in the field against that of the map itself. After the formation of the Survey Department in 1898, the detailed work of the survey could be undertaken hand-in-hand with a new triangulation.¹¹³

The readjustment of the land tax required more than the identification of specific parcels of land within the invisible framework of the triangulation. Unlike previous registers, each single parcel had to be brought into a durable relation with its rental value. Establishing this relation required not only identification of individual parcels but the work of locating it in relation to other parcels — both neighboring and distant — and classifying it alongside parcels of similar

¹¹⁰ Ibid., 110.

¹¹¹ The pressure of time and economy are a constant refrain in Lyons account of the survey. A significant part of the text deals with the cost and expenditures of the survey.

¹¹² Lyons, *The Cadastral Survey of Egypt 1892-1907*, 118-9.

¹¹³ Ibid., 125-6. An account of the triangulations is given in Timothy Mitchell's discussion of the cadastral survey. See Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*, 84-93.

quality. In order to construct this new paper landscape, the survey began not in the field but in the central office of the province where the land-tax register of each village (*mukallifa*) is kept. Each entry in the land-tax register was divided into twenty-seven separate columns which contained a description of each landowner's holdings and the taxes they owed. These entries were the basis of the tax list kept in the village by the village tax collector. The first task of the surveyors was to verify and, where needed, update the information it contained. A copy of the verified information was returned to the province and a new land-tax register compiled for use until the completion of the readjustment.¹¹⁴

The process of verifying the information contained in the land-tax register served a second purpose of identifying the subdivisions (*hod*), individual holdings and landowners of a particular village. From this basis, the identification of the holdings onto the village maps could commence. Since the survey had no legal authority to arbitrate disputes over ownership, it relied on existing documents and testimony to ascertain “the permanent occupier” — as opposed to a temporary tenant — of a particular parcel of land. Where the land-tax register was incorrect, whether because of scribal error or the individual listed having died, the current occupier of the land was recorded. Other evidence could be provided in the form of a title-deed, proof of tax payments, testimony of a village sheikh, village measurer (*dallāl*)¹¹⁵ or neighboring owner.¹¹⁶

¹¹⁴ Lyons, *The Cadastral Survey of Egypt 1892-1907*, 347.

¹¹⁵ A *dallāl* was an unofficial position in villages where basin irrigation was practiced, such as in most of Upper Egypt. The village *dallāl* was tasked with measuring and demarcating the boundaries of parcels after the annual flood. A book recording the measurements of each field dating to the 1854-9 cadastre was used as a basis. See *ibid.*, 313.

¹¹⁶ *Ibid.*, 353-4. In the case of an unresolvable dispute, the lands in question were combined as one parcel until the dispute could be settled by proper authorities.

Whereas prior maps had only displayed the subdivisions of a village, the new maps produced by the survey incorporated the individual holdings contained in each subdivision (see Figure 1 and 2). To allow for easy identification, subdivisions and individual holdings were assigned numbers. These corresponded to the village land register (*daftar al-misāḥa*) that was constructed simultaneously to serve as an index to the map (see Figure 3). The land register listed every parcel in the village in order of its numbering on the map. Surveyors then filled in the rest of the register listing the parcels area, its category (*ūshrī* or *kharājī*), the taxes assessed on that parcel and its current state of ownership. As these documents were finalized for each village, a second register (*mīzānīya*) was made collecting under the name of each landowner (listed alphabetically) the parcels he owned and the taxes owed on each (see Figure 4). Both registers, when finished, were bound together and forward to the central office of the province.¹¹⁷

The most important aspects of the survey were actually completed by the two commissions that followed in the wake of the surveyors. While the surveyors identified and located parcels within the grids of the map and property relations, an act of classification was necessary to translate the individual parcel into a calculative space where, by a process of sorting and comparing, it could be valued and assessed. Both of these commissions were comprised only

¹¹⁷ Ibid., 347, 58.

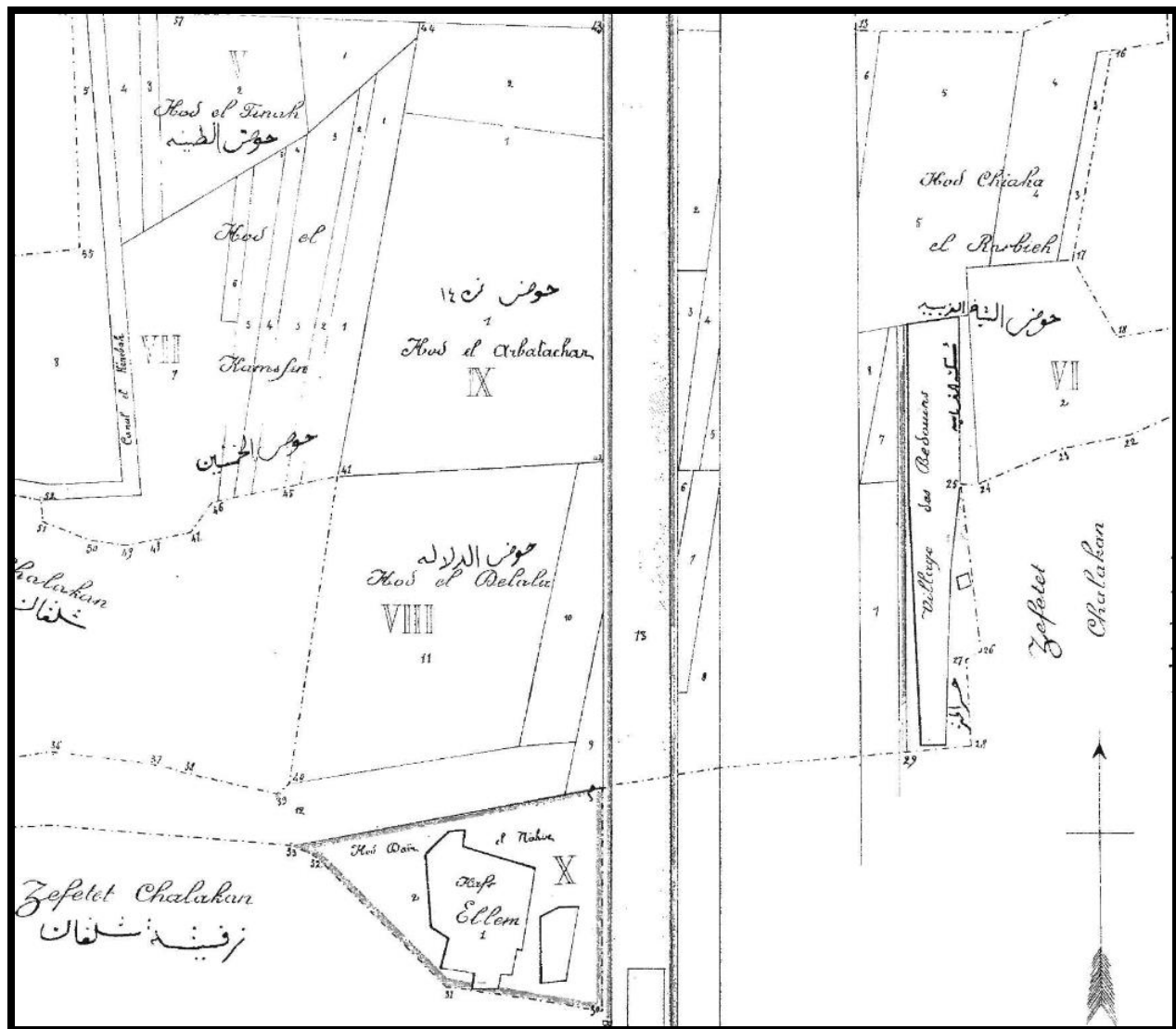


Figure 1 - Detail from a portion of the village map of Kafr Ellem produced by the cadastral survey in 1881 at a scale of 1:4000. Note that the village subdivisions are not divided into individual parcels except in a few cases and that directions are indicated by a simple map compass. (Lyons, *The Cadastral Survey of 1892-1907*, Plate XVIII.)

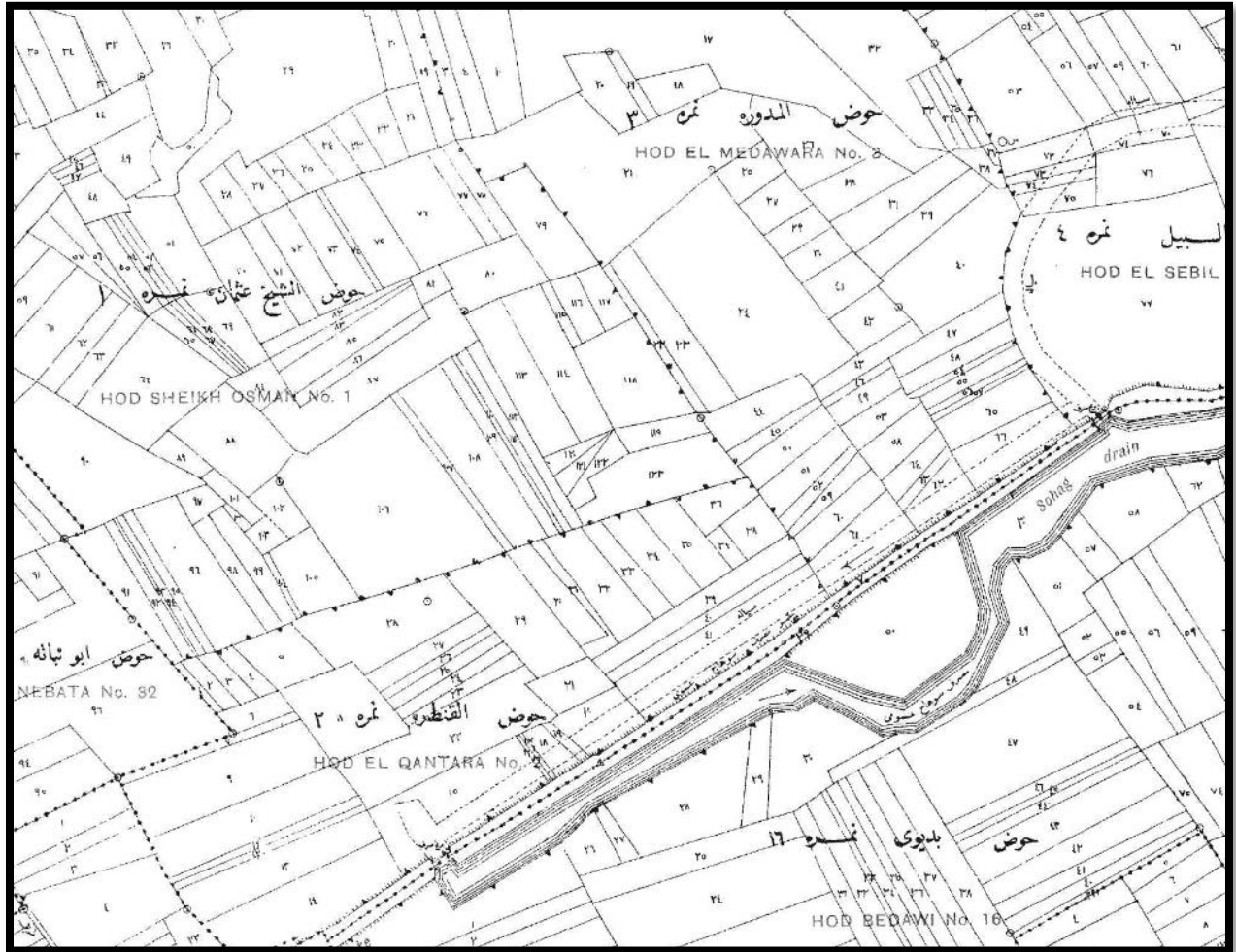


Figure 2 – Detail from a portion of a village map from the district of Sohag in Girga province printed by the cadastral survey in 1908 on a scale of 1:5000. Note the individualized parcels. (Lyons, *The Cadastral Survey of 1892-1907*, Plate VIII)

(TRANSLATION). (Right-hand page)*

Province _____
District _____
Village _____

LAND

Name and Number of Hod.	No. of each plot.	AREAS.						Category of Lands.	Old Name of Hod.	T A X .										NAMES OF OWNERS AND OCCUPIERS.		
		Area of each plot.			Area of Classes in each plot.					Final Tax.					Temporary Tax.					In Mukallifa.		
										Area.		Rate.			Area.		Rate.			Names of Registered Owners.	Names of Occupiers.	Names of Present Occupiers.
		Feds.	Qir.	Sms.	Feds.	Qir.	Sms.			Feds.	Qir.	Sms.	L.E.	M.	Feds.	Qir.	Sms.	L.E.	M.			
(1)	(2)	(3)			(4)			(5)	(6)	(7)					(8)					(9)	(10)	(11)

(Left-hand page)*

REGISTER.

KIND OF OCCUPATION.	DISTRIBUTION OF SHARED PLOTS.	REMARKS.
(12)	(13)	(14)

* Since Arabic is written from right to left the pages are placed as above indicated but column No. 1 is on the right-hand side of the right-hand page.

Figure 3 – A translation of the columns from a village land register (*daftar al-misāḥa*). (Lyons, *The Cadastral Survey of 1892-1907*, 348)

(TRANSLATION).

Province _____
District _____
Village _____

MIZZANIA.

Number of Property	Name and Number of Hod.	Number of each plot.	NAMES OF OCCUPIERS.		A R E A .														
			Actual.	Registered in Mukallifa.	Kharagi.			Ushuri.			Public Utility.			Government Lands.					
					Feds.	Qir.	Sms.	Feds.	Qir.	Sms.	Feds.	Qir.	Sms.	Feds.	Qir.	Sms.			

(INDEX OF PROPERTIES).

T A X E S .										Area owned by each name in every hod.	D I F F E R E N C E .		REMARKS.
Temporary.					Final.						Excess.	Deficiency.	
Feds.	Qir.	Sms.	L.E.	M.	Feds.	Qir.	Sms.	L.E.	M.				

Figure 4 – A translation of the columns from a village tax register (*mīzāniya*). (Lyons, *The Cadastral Survey of 1892-1907*, 352)

of Egyptian members. The first commission, the Subdivision Commission, was formed at the village level and was comprised of an official from the Finance Ministry, the village headman and the village measurer, if one existed. It was delegated with assuring that the village subdivisions represented land of similar quality and under the same system of irrigation.¹¹⁸ Armed with the new village maps, the Subdivision Commission inspected the lands of every village to determine if the Survey Department's divisions should be further subdivided in order to better reflect the classes of land contained. As the surveyors had merely used the existing subdivisions for their maps, there was no guarantee that they served the classification of the land into different classes based on fertility, access to water and other determinants of the land's productive potential.¹¹⁹

The second commission, the Assessment Commission, was formed at the level of the district. It was charged with examining every field and fixing a final tax for the subdivision in which it was located. In order to represent all interested parties, the commission was, in addition to a representative of the Finance Ministry, composed of two village headmen elected by the headmen of the district, the headman of the village under assessment and two landowners from the village elected by the cultivators. While village representatives ensured that land was valued and assessed fairly, the commissions broader geographic scope allowed it to reach a value for each subdivision in comparison with similar land beyond the immediate area.

¹¹⁸ Ibid., 65. Additional guidelines were included as to the size and shape of the subdivisions. They were to be between 50 to 100 feddans, of a regular shape and conform to natural boundaries where possible.

¹¹⁹ Ibid.; McKillop, *Note on the Readjustment of the Land Tax in Egypt 1895-1907*, 9. Further division of the subdivision was requested in about five percent of cases: 2,791 out of a total 58,013 subdivisions inspected.

The commissions' assessments were published in each village and complaints heard and addressed before their finalization. The final tax assessment of the Assessment Commission was forwarded to the Finance Ministry where it was used to complete the new land-tax registers. These were then distributed to the provinces and served as the basis for individual tax receipts (*wird*) provided to individual proprietors at the next tax collection. The tax receipts served three purposes. First, they provided proprietors an additional opportunity to correct any errors regarding the measurement of their land. Second, they provided proof of tax payment as well as an itemized explanation independent of the tax collectors records.¹²⁰ Most importantly, however, the tax receipts documented a relation of ownership not otherwise recognized with the system of title-deeds. Even if a proprietor possessed a deed to their land, the registration of such documents with the Mixed Courts was often costly and inconvenient. This was especially true for those who owned only small parcels of land: the cost of court fees being often more than the taxes they owed on the land itself.¹²¹

Conclusion — 'Not a real, but a paper movement'

In 1913, *L'Égypte Contemporaine* published a short piece by James Ireland Craig, the distinguished Scottish statistician who had served the Egyptian government since 1896

¹²⁰ The lack of detailed tax receipts was a recognized problem by British officials. See Egypt. No. 2 (1895) *Reports by Mr. Villiers Stuart Respecting the Progress of Reorganization in Egypt since the British Occupation in 1882*, 35-6

¹²¹ The new tax receipts effectively extended the privileges of legal property rights to proprietors who previously did not have them. As argued in the following chapter, this was essential to the extension of new forms of finance to small cultivators in the Egyptian countryside.

eventually becoming the chief computer for the Cadastral Survey.¹²² In the piece, Craig demonstrated his test of the Italian economist Vilfred Pareto's proposed law governing the distribution of income in society against the distribution of landed property in Egypt. Pareto, who originally formulated his law as a counterargument to proposals by Italian socialists for reducing income inequality, highlighted the similarity in income distribution across historical and geographic variation. No matter when or where one looked income in society did not fit a bell curve as one would expect if it were distributed randomly like physical characteristics in a population. Instead, income exhibited an asymmetric curve that became exponentially thinner as one moved up the income scale. He argued that the distribution of income obeyed a social law ingrained in human nature independent of any institutional considerations and, therefore, income redistribution – or state intervention of any sort, for that matter – was, at best, quixotic.¹²³

¹²² James Ireland Craig, "The Distribution of Landed Property in Egypt," *L'Égypte Contemporaine*, no. 13 (1913). Craig returned to London with the outbreak of the First World War working for the Ministry of Food in London during its last phases before becoming Food Controller to the Upper Silesia Plebiscite Commission (1918-20). He was one of five British controllers assigned to administer the Allied occupation of Upper Silesia, a territory claimed by Germany and Poland but, whose coal mines and factories were deemed vital to Germany's ability to repay reparations. He would later return to Egypt as Controller General in the Ministry of Finance (1925-8) and Financial Secretary to the Egyptian Census (1928-34) before, again, returning to Britain to serve as Commissioner of Customs (1934-47). He died on January 26, 1952 in the fire that destroyed the Turf Club in downtown Cairo during the Black Saturday riots sparked by the British army's violent seizure of the canal city of Ismailia the day before. For the history of the Upper Silesia Plebiscite Commission, see F. Gregory Campbell, "The Struggle for Upper Silesia, 1919-1922," *The Journal of Modern History* 42, no. 3 (1970). For an analysis of the Black Saturday riots and their place in the history of decolonization, see Nancy Reynolds, *A City Consumed: Urban Commerce, the Cairo Fire, and the Politics of Decolonization in Egypt* (Stanford: Stanford University Press, 2012), Chapter 6. Also, Reynolds labels Craig an economist (189).

¹²³ Alan Kirman, "Pareto, Vilfred (1848-1923)," in *The New Palgrave Dictionary of Economics* (Palgrave Macmillan, 2008). For a contemporary reading of Pareto, see the work of Benoit Mandelbrot. Benoit Mandelbrot and Richard L. Hudson, *The (Mis)behavior of Markets: A Fractal View of Risk, Ruin, and Reward* (New York: Basic Books, 2004), 152-9.

Turning to figures calculated and published by the Egyptian government for the “distribution of property amongst natives” between the years 1896 and 1908, Craig compared the values “observed,” i.e. reported by the government, against those computed by Pareto’s distribution formula. The results were somewhat mixed. The formula fit fairly well to the observed figures for the number of proprietors in the middle of the distribution who owned between 5 and 20 feddans, but diverged markedly at the bottom of the distribution. This was especially true for the number of proprietors owning less than five feddans. Craig deduced a few possible explanations for this discrepancy. First, the Cadastral Survey had split up man holdings during the period under investigation recording holdings formerly under one man’s name into multiple entries under their successors. Second, the operations of the Agricultural Bank — an institution discussed at length in the next chapter — had induced many joint owners to split their shares and have them recorded under individual names. This action made it easier to obtain the small loans offered by the bank. The movement of the land into the hands of these small proprietors was, therefore, he asserted “not a real, but a paper movement.”¹²⁴

Certainly, this was a paper movement but it was nonetheless real because of that fact. The paper landscape assembled by the surveyors and clerks of the Survey Department was not a reflection of property relations in the countryside but part of the very material fabric in which those relations now played out. The documents constructed by the Survey Department and the practices through which they were assembled became part of the landscape. They did not stand apart from it but rather enacted the very notion of land they purported to record and represent. The gap was, therefore, not between reality and its representation, but between the different

¹²⁴ Craig, "The Distribution of Landed Property in Egypt," 36.

practices and documents in which land was enacted. As the next chapter will discuss, it was in this gap that finance operated.

Chapter 2

Collateral Flows

In the practices of the cadastral survey, land was enacted as an object of economic calculation literally paving the way for its valuation and assessment. The labor of surveyors, clerks and numerous commissions translated the heterogeneous materiality of land into a constellation of mundane and concrete documents — village maps, land registers, tax registers, and tax receipts — distributed between the Finance Ministry in Cairo, the central offices of the various provinces, the tax collectors of each village and those who owned and occupied the land itself. The enumeration of a parcel's characteristics — its location relative to other parcels, its surface area, its state of ownership and occupation, and the tax owed on it — within the blank space of the various paper forms made it mobile and easily comparable to other parcels in its immediate vicinity but also those far beyond the boundaries of the village where it was situated.

Yet, the durability of this new paper landscape made possible other flows as well. As practices of mapping and valuing enacted land as an object of economic calculation, it became possible for cultivators to mobilize their parcels as collateral. While firm figures are hard to establish for the period, between 1894 and 1912, the amount of debt secured against landed property in Egypt increased by a factor of six from E£ 7 million to more than E£ 44 million. While itself memorable, the absolute increase in the debt masked a change in how debt was distributed among Egyptian landowners. In 1894, over 71.46% of mortgage debt was held among only 11,430 large landowners while only 7.82% was held among the 513,080 small proprietors

who constituted the vast majority of landowners.¹²⁵ There was also a significant divergence in the prevalence of mortgage debt among the different classes of land owners: 14.6% of land owned by large landowners was mortgaged whereas only 2.29% of the land was. However, less than ten years later, nearly half of the land owned by the class of small proprietors was subject to debt. The debt held by this class totaled E£ 15,990,661.¹²⁶ Somewhere around a half of that amount was owed to a single institution: the Agricultural Bank of Egypt.¹²⁷

The chapter proceeds by first examining the new mode of financialization¹²⁸ that underwrote the translation of landed property into a number on the Agricultural Bank's annual reports. By mode of financialization is meant the manner in which things come to be enacted as *financial* things. Just as a parcel of land can be enacted as an object of economic calculation so

¹²⁵ I follow here the distinction utilized by British officials of the period to distinguish types of landownership. Large landowners are those who own 50 feddans or more. Small proprietors own 5 feddans or less. These are loose categorizations. For a discussion of these classifications and their limits, see Abbas and el-Dessouky, *The Large Landowning Class and the Egyptian Peasantry in Egypt, 1837-1952*, 15-20.

¹²⁶ The figure for 1894 was assembled by Elwin Palmer and submitted to the Legislative Council in January 1895. See Egypt. No. 1 (1895) *Report on the Finances, Administration, and Condition of Egypt and the Progress of Reforms*, 29-31. The figure for the total mortgage debt in 1912 is taken from. The share of small proprietors for the 1912 figure are drawn from Egypt. No. 1 (1914) *Reports by His Majesty's Agent and Consul-General on the Finances, Administration, and Condition of Egypt and the Sudan in 1913*, 12.

¹²⁷ Comte Cressaty, *L'Égypte d'aujourd'hui* (Paris: Marcel Rivière et Cie., 1912), 195. At its height in January 1911, the Agricultural Bank had loans worth E£ 8,302,944 on its books. This number decreased during 1912 to just over E£ 7 million. See also the monthly reports published in *L'Égypte Contemporaine*.

¹²⁸ I use the phrase "mode of financialization" as a more general substitute for "capitalization" as used in the work of Nitzan and Bichler. Simply put, capitalization uses a discount rate to reduce a stream of future earnings to a value in the present. For Nitzan and Bichler, capital is power and capitalization its *nomos*. It is a phrase specific to contemporary corporate financing and does not translate well to the subject matter at hand nor is the present argument about the nomothetic quality of finance. Nonetheless, the connections between their argument and what is argued here should be noted. See Nitzan and Bichler, *Capital as Power: A Study of Order and Creorder*; Appadurai, *Banking on Words: The Failure of Language in the Age of Derivative Finance*.

can it become an object of financial calculation, or in other words a financial asset, as well. At the turn of the century, Egypt was made into a laboratory for testing the efficacy of debt for producing a new class of small capitalist landholders accountable not to the timeless obligations of traditional society but to modern capital accounting. Such a class, freed from the uncertainties inherent to the annual agricultural cycle by cheap short- and long-term credit and the bonds of moneylenders, would, it was hoped, with their marginal gains in income turn to profit-making. Buying up the land of those who were less productive and subsuming larger and larger swathes of the country's cultivable land into capital, they would serve as a bulwark against any radical transformation of the countryside.

Finance and Economy

In 1913 the *Banking Law Journal* published an essay whose title posed the seemingly simple question “What is Money?” The author of the essay was Alfred Mitchell Innes, a member of Her Majesty's Diplomatic Service serving at the time as Councilor of the British Embassy in Washington, D.C. He argued that the mainstream definition of money as a medium of exchange — a definition held by mainstream political economists from Adam Smith in his *Inquiry* to Innes's contemporary and doyen of political economy at Cambridge, Alfred Marshall — was utterly false.¹²⁹ Not only was money not a medium of exchange but there had never been such a thing as a medium of exchange outside the textbooks of political economy. Political economists

¹²⁹ For Smith's definition of money, see Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. Kathryn Sutherland (Oxford and New York: Oxford University Press, 1993), Book I, Chapter 4. For Marshall's, see Alfred Marshall, *Principles of Economics*, 3rd ed. (London and New York: Macmillan and Co., 1895), 83.

had mistakenly assumed that whenever reference was made in the historical record to money that this referred to physical circulating media when in actuality what was by and large meant was only a unit of account.¹³⁰

Money, he would go on to elaborate in a second essay published the following year, is only credit or, a promise to deliver a stated thing. Whether it was issued by a national government, a bank or an individual merchant did not matter. Its value did not lie in the metal it contained but in the solvency of the one issuing the credit, the debtor.¹³¹ The purchasing power of such credit money was not the right that it gave the bearer to payment but rather the right it gave to quittance — i.e., to discharge oneself of a debt — by cancelling out one's own debt with the debt of another. The need to constantly meet obligations as they came due with available credit was "the primitive law of commerce" spurring the expansion of trade and economic development throughout human history. Financial institutions were a mechanism for centralizing this process by bringing together the accumulated debts of society onto a single ledger where they could be more easily canceled one against the other.¹³²

For Alfred Mitchell Innes, finance — the set of practices and techniques for achieving quittance — was the mundane matter of economy, not its highest peaks but integral to the day-to-day functioning of commercial society. Forgotten for the better part of a century, his essays are now at the center of the project to rethink monetary economics, finance and the relation of both to the organization of collective life in the twenty-first century. Mainstream economics categorizes finance as epiphenomenal or even subordinate to concrete processes of production

¹³⁰ A. Mitchell Innes, "What is money?," *Banking Law Journal* 30 (1913).

¹³¹ Note: According to Innes, it is not a creditor that issues credit but a debtor.

¹³² A. Mitchell Innes, "The Credit Theory of Money," *Banking Law Journal* 31 (1914).

and consumption.¹³³ In the wake of the 2007-8 financial crisis, some have found it no longer tenable to posit a division between finance and the economy. This assumption had left mainstream economists not just unable to foresee and respond to the crisis but had also contributed to its very precipitation.

The crisis has fueled a surge of interest among economists in the contributions of relatively forgotten economists like Alfred Mitchell Innes as well as unvisited aspects of towering figures like John Maynard Keynes. Both of these early twentieth-century figures saw finance as integral to the workings of the overall economy.¹³⁴ Nonetheless, the hasty collapse of finance into the ‘real’ economy discounts the generative power of finance seeing it as only a representation and distribution of the value produced in the economy rather than examining how finance itself created value by “the business of bridging disjunctures” — the incessant and highly profitable work of engineering and maintaining the formulae that link different regimes of circulation and their respective transactional forms.¹³⁵ The entanglements produced by these financial instruments between what seemed otherwise disparate ends of one economic system —

¹³³ The relationship in macroeconomics between the AS-AD (aggregate demand-aggregate supply) and the IS-LM (Investment Saving-Liquidity Preference Money Supply) models is representative of the subordination of finance to “the real economy:” the IS-LM model generally appears as a sub-model incorporated into the AS-AD model.

¹³⁴ Most important in this turn has been the proponents of neo-Chartalism and Modern Monetary Theory. These new approaches to monetary economics predate the crisis but have become a critical juncture in debates post-2008. Together, they have resurrected from virtual obscurity (within mainstream economics anyways) a line of monetary thinking stretching from the late nineteenth- through the twentieth-century. This alternative tradition includes the work of economists such as H. D. Macleod, Georg Freidrich Knapp, John Maynard Keynes, Abba Lerner, Hyman Minsky, Joseph Schumpeter, Irving Fisher, Michal Kalecki and Alfred Mitchell Innes. See L. Randall Wray, “From the State Theory of Money to Modern Monetary Theory: An Alternative to Economic Orthodoxy,” (Levy Economics Institute, 2014).

¹³⁵ Lepinay, *Codes of Finance: Engineering Derivatives in a Global Bank*, 67. For regimes of circulation and transactional forms, see Jane I. Guyer, *Marginal Gains: Monetary Transactions in Atlantic Africa* (Chicago and London: Chicago University Press, 2004).

the myriad forms of consumer credit which ballooned over the preceding decades and the expanding web of shadow banking, the financial transactions occurring outside traditional depository institutions — had simply not factored into most economists' models.¹³⁶

However, the renewed interest in the work of these figures has largely ignored the intimate connection between their insights and the work of governing far-flung colonial territories.¹³⁷ In this Keynes's career was exemplary linking in one personality a body of academic writing that marked the emergence of new modes of economic and statistical thinking alongside a slew of government appointments from which he helped oversee the disintegration of an empire and the erecting of a postcolonial framework of nation-states in its place.¹³⁸ And for every Keynes, there were countless other economists and statisticians engaged in the quotidian work of colonial rule. Innes was one of them spending most of his career directly engaged with the problems of colonial finance and fiscal administration. More than half of this time he spent in Egypt first as secretary to the British Consul-General Lord Cromer (1891-1896) and then as

¹³⁶ Credit derivatives - asset-backed securities and collateralized debt obligations, in particular - are the exemplar of this entanglement. As a financial instrument, it was a hybrid whose nature remained invisible even to those tasked with their evaluation. See MacKenzie, "The Credit Crisis as a Problem in the Sociology of Knowledge."

¹³⁷ For a brief biography of Alfred Mitchell Innes noting his diplomatic career and a short discussion of one of his non-economic essays "Oriental Justice" – a comparative study of "Oriental" and Western penology, see L. Randall Wray, ed. *Credit and State Theories of Money: The Contributions of A. Mitchell Innes* (Cheltenham, UK and Northampton, MA: Edward Elgar, 2004), 3-7. For a text of the essay which was originally published in 1913 (not 1932 as stated by Wray), see A. Mitchell Innes, "Love and the Law: A Study of Oriental Justice," *The Hibbert Journal* 11, no. 2 (1913).

¹³⁸ The classic example of this is Keynes work on finance and current in India, the proofs for which he finished right before traveling to Egypt to stay with a friend who was working in the Interior Ministry. See John Maynard Keynes, *Indian Currency and Finance* (London: Macmillan, 1913); Robert Skidelsky, *John Maynard Keynes 1883-1946: Economist, Philosopher, Statesman* (New York: Penguin, 2005), 164-5.

Under-Secretary of State for Finance (1899-1907).¹³⁹ Innes shaped and directly oversaw the implementation of the Egyptian government's policies during a period of extensive reform to the fiscal apparatus of the state. These reforms were part of a more general transformation in the nature of colonial rule as late nineteenth-century liberalism imperialism was self-consciously subsumed into forms of indirect rule grounded in the immutable nature of traditional societies and the dangers of attempts to overturn traditional orders.¹⁴⁰ As others have shown, it was in relation to the exigencies of colonial governance that economists first formulated the set of tools that would come to define the enclosed space of the national economy.¹⁴¹

The new mode of financialization that emerged at the end of the nineteenth-century was one of these tools. To colonial officials like Innes and Cromer, credit seemed to be invested with a transformative power. It was increasingly mobilized by joint-stock corporations: companies whose extensive and elaborate bureaucracies and forms of legal sovereignty had more in

¹³⁹ Other than Egypt, Alfred Mitchell Innes served as financial advisor (1896-99) to King Chulalongkorn of Siam upon recommendation of Lord Cromer to Gustave Rolin-Jacquemyns, the King's Belgian advisor, Councilor to the British Embassy in Washington (1908-1913) and as Minister Plenipotentiary to Uruguay (1913-1919). For details of his work and that of successive British financial advisors to the government of Siam, see Ian Brown, *The Creation of the Modern Ministry of Finance in Siam, 1885-1910* (London: Macmillan, 1992). Innes's suggestions to the government of Siam mimicked British policy in Egypt to modernize the fiscal administration – the rationalization of taxation, regularization of accounts and the centralization of the state's fiscal apparatus in the Ministry of Finance. The text of Innes's "Report on the Financial System of Siam" from 1896 to the government of Siam reflects these priorities. It is reproduced in Chatthip Nartsupha and Suthy Prasartset, eds., *The Political Economy of Siam 1851-1910* (Bangkok: The Social Science Association of Thailand, 1978), 347-75.

¹⁴⁰ For this more general transformation, see Karuna Mantena, *Alibis of Empire: Henry Maine and the Ends of Liberal Imperialism* (Princeton and Oxford: Princeton University Press, 2010); Mahmood Mamdani, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism* (Princeton: Princeton University Press, 1996).

¹⁴¹ Ritu Birla, *Stages of Capital: Law, Culture, and Market Governance in Late Colonial India* (Durham, NC: Duke University Press, 2009); Manu Goswami, *Producing India: from colonial economy to national space* (Chicago: University of Chicago Press, 2004); Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*.

common with governments than with any other form of enterprise.¹⁴² In Egypt, these entities would reconfigure the physical and economic topography of the countryside as expanded irrigation works gave way to highly-capitalized land development companies. This went hand-in-hand with the refashioning of the nature of governance throughout the colonial world around the efficacy of private capital and foreign investment to achieve prosperity. As early as 1888, Lord Cromer had compared the countries in the place of Egypt and India as

to a great extent, in the position of the large railway companies which never close their capital accounts... the mere fact that the debt has been increased, far from being a subject of regret, is... a sign of a prosperous financial condition.¹⁴³

While written in the context of loan negotiations between the Egyptian government and the Public Debt Commission, the statement reflected a broader imaginary shared by others like Innes. It seemed to them that credit fueled the expansion of trade and the development of a country's productive powers.¹⁴⁴ For proof, one only had to look to the proliferation of new joint-stock corporations listed on the Egyptian stock markets.¹⁴⁵

¹⁴² Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (London and Cambridge, MA: Harvard University Press, 1977), 81-121. For a critical history of the corporation, see Joshua Barkan, *Corporate Sovereignty: Law and Government under Capitalism* (Minneapolis and London: University of Minnesota Press, 2013); Cronon, *Nature's Metropolis: Chicago and the Great West*; Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London & New York: Verso Books, 2011); White, *Railroaded: The Transcontinentals and the Making of Modern America*.

¹⁴³ Egypt. No. 4 (1888) *Reports by Sir E. Baring on the Finances of Egypt*, 25.

¹⁴⁴ Innes also drew heavily on the work of H. D. Macleod who stressed this very point. See H. D. Macleod, *Theory of Credit*, vol. 2 (London: Longmans, Green and Co., 1894); Neil T. Skaggs, "H. D. Macleod and the Origins of the Theory of Finance in Economic Development," *History of Political Economy* 35, no. 3 (2003).

¹⁴⁵ A. E. Crouchley, *The Economic Development of Modern Egypt* (London and New York: Longmans and Green, 1938).

Of course, similar notions of credit existed before but it gained a new generality in the colonial encounter. This generality was thoroughly detached from its universal applicability in all cultural contexts or its forced imposition on foreign categories. Instead, it was the result of the comparisons and tensions that arose as colonial administrators and other Europeans were forced to interact with local agriculturalists, village officials and existing practices of valuation. As On Barak has shown in his history of timekeeping practices in colonial Egypt, new technologies of transportation and communication intersected with one temporality leaving in its wake not a standardized time but producing a countertempo understood as rooted in the unchanging nature of Egyptians: the modernist faith in technological determinism converged with an equal faith in cultural determinism.¹⁴⁶ Far from being mutually exclusive, these determinisms were co-constituted through a double process of translation and purification — on the one hand, the proliferation of hybrid practices of timekeeping anchored in new technologies and religious tradition and, on the other, their partitioning into distinct ontological categories of technology and culture.¹⁴⁷

This project was first played out in the agricultural credit experiments carried out by the Egyptian government at the end of the nineteenth century. These experiments mobilized credit as a means to alleviate the problems of indebtedness among small farmers. Culminating in the establishment of the Agricultural Bank of Egypt in 1902, these experiments aimed to disentangle small farmers from local moneylenders and to enable them to extend their financial planning beyond the seasonal cycles of cultivation. The contractual apparatus of the mortgage would thus

¹⁴⁶ On Barak, *On Time: Technology and Temporality in Modern Egypt* (Berkeley, Los Angeles and London: University of California Press, 2013).

¹⁴⁷ Bruno Latour, *We Have Never Been Modern* (Cambridge, MA: Harvard University Press, 1993).

provide the bridge between the disjunctive temporalities of cultivation and accumulation and produce a new class of small capitalist landholders accountable not to the timeless obligations of traditional society but to modern capital accounting. Such a class, freed from the uncertainties inherent to the annual agricultural cycle by cheap short- and long-term credit and the bonds of usury, would, it was hoped, with their marginal gains in income turn to profit-making. Buying up the land of those who were less productive and subsuming larger and larger swathes of the country's cultivable land into capital, they would — or at least, officials like Cromer hoped¹⁴⁸ — serve as a bulwark against any radical transformation of the countryside.

From the perspective of its ledgers, the Agricultural Bank did exactly what Innes described internalizing the debts of (a small portion of) society and cancelling them out against available credit as they became due. Following the work of its traveling agents through the countryside however provides a completely different picture of the bank and its operations. The work of translating from the transactional forms specific to local credit practices into forms amenable to capitalization necessitated a complex reliance on local actors and practices. The delicate work carried out by the bank's district agents was no less than to purify debt from the web of relations in which it was enmeshed and allow it to move along new channels of circulation stretching from the local branch of the bank to its shareholders in London.¹⁴⁹ The contractual apparatus of the mortgage and the documents the multiplied in its wake provided the

¹⁴⁸ PRO 30/57/42. In a letter to Kitchener dated 25 July 1912, Cromer urged his successor to grant the Agricultural Bank of Egypt from the impending regulations, the Five Feddan Law, that would limit its functioning: "in spite of defective management, my belief is that the Institution has done a great deal of good and has helped to attain the principal object I had in mind, namely, to create a large class of small holders who would constitute a conservative dead weight, averse to any radical changes. It is one that I had much at heart during my tenure of office."

¹⁴⁹ Latour, *Science in Action: How to Follow Scientists and Engineers in Society*; "Circulating Reference."

material configuration of this purification and the set of rule-based transactions which marked the internalities of the Agricultural Bank against local credit practices now marked as usurious. The result was less the revolutionary transformation of the countryside by capital than a centralization of existing debts onto the surface of the Agricultural Bank's own account books. As one observer put it, "the bank has to a large extent taken the place of the usurer."¹⁵⁰

Debt in the Deccan

The mode of financialization that emerged at the turn of the century around institutions like the Agricultural Bank were deeply tied to the exigencies of colonial rule, specifically the problematic of peasant indebtedness. This problematic, however, was not formalized in Cairo but nearly three thousand miles away along the Deccan plateau. In May 1875 local Kunbi peasants from the districts of Pune and Ahmadnagar rose up against Gujarat-based Mawari moneylenders. In a bid to destroy the records of their debts, the peasants burned down the houses and shops of the relatively foreign Mawari. The Deccan riots – regardless of whether or not they were indicative of wider social transformations in Maharashtra – emerged as a significant event in a wider field of debate about the validity of the principles of political economy in the subcontinent. After prodding from the Executive Council in Simla, the Bombay government established a commission whose recommendations would form the basis of the Deccan Agriculturalists Relief Act (DARA) passed by the Bombay government in 1879.¹⁵¹

¹⁵⁰ E. W. Kemmerer, *Report on the Agricultural Bank of Egypt to the Secretary of War and to the Philippine Commission* (Manila: Bureau of Printing, 1906), 20.

¹⁵¹ The account that follows draws on the work of I. J. Catanach and Neil Charlesworth, but particularly the latter's analysis of the myth-making of the Deccan riots by colonial officials. See I. J. Catanach, *Rural Credit in Western India, 1875-1930: Rural Credit and the Co-operative Movement in the Bombay Presidency* (Berkeley: University of California Press, 1970); Neil

The recommendations of the commission fell into two main categories. These recommendations represented two differing views that, while agreeing on the name of the problem — peasant indebtedness —, disagreed on the nature of that problem and, therefore, the role of government in its remedy.¹⁵² The first involved modifying the legal system in favor of the ryot debtor by regulating debt transactions. Assuming that cultivators had become overburdened with debt whether by their own improvidence or the rapacity of the moneylenders, the government should seek to stem what was understood as a novel situation by limiting the capacity of ryots and moneylenders to enter into such contracts. These included the regulation of interest rates through an usury law, abolishing imprisonment for debt, exempting ryots' tools and land from attachment as collateral and the registration of loans.

The second sought to facilitate the ryots access to credit by intervening directly into the credit system whether by guaranteeing crop liens on behalf of cultivators or competing directly with moneylenders to drive down interest rates. The holders of this view such as William Wedderburn and Mahadev Govind Ranade saw the credit system as an essential and traditional component of rural economy in the Deccan. The impoverishment of the ryot was not a result of his indebtedness per se, but a matter of economy. The cultivator was in a position no different than “the mill-owners of Lancashire and the tenant farmers of Scotland”: “debt is simply working on borrowed capital.” Prosperity was then simply the state in which the profits earned exceeded the interest paid for borrowing that capital whereas impoverishment that in which the interest exceeds profits. The measure of successful reform, Wedderburn then argued, was the

Charlesworth, *Peasants and Imperial Rule: Agricultural and Agrarian Society in Bombay Presidency, 1850-1935* (Cambridge: Cambridge University Press, 1985).

¹⁵² There was a third recommendation representing a minority opinion of the commission suggesting that the tax liabilities of the peasantry should be reduced. This was flatly rejected by Richard Temple, the governor of the Bombay presidency, whose revenues would be at stake.

effect those reforms had on reducing the rate of interest and improving the ryot's credit by drawing capital to the land.¹⁵³ In other words, "the more capital that flows towards the land the better."¹⁵⁴

To increase the flow of capital to the Deccan plateau, Wedderburn promoted the scheme of a land bank that would employ British capital to make loans to Indian cultivators. Central to the scheme was the use of government tax collectors who would be tasked with collecting the payments due the bank from cultivators along with the usual tax liabilities each year. Officials in the Revenue Department criticized this linkage arguing that, since the tax collector was the sole representative of the government for most Indians in the interior, it would only intensify the already presumed resentment of the rural classes to the government. Facing such opposition, Wedderburn took his case back to England hoping to garner the necessary interest and support from potential investors in London and Manchester. As he argued, capital raised in Europe at 4 percent could easily be lent to Indian landholders at nine percent leaving a sizable margin of profit for shareholders in such a credit institution. Shareholders would be assured of repayment for the ryot was "a paymaster filled with a religious desire to pay his debts [not only his own] but also those incurred by his father and even remoter ancestors."¹⁵⁵

In the end, the schemes for an agricultural bank employing British capital to extend cheap credit to peasant cultivators were foreclosed by opposition from the anti-colonial nationalist such as Bal Gangadhar Tilak. After initial support from Lord Ripon's Executive Council — in

¹⁵³ William Wedderburn, "The Pancháyat: Conciliation as a Remedy for Agrarian Disorders in India," *Journal of the East India Association* 11, no. 159 (1878): 121.

¹⁵⁴ *Ibid.*, 125.

¹⁵⁵ "Money-lending in India," *The Statist* (14 July 1883); "Agricultural Banks," *The Statist* (27 October 1883). Interestingly, he does not seem to mention the government's role in the operations of the bank.

particular, that of its finance member, Evelyn Baring, the future Lord Cromer —, the idea seems to have fallen out of favor. A small experiment was initiated in the district of Pune but operations ceased after merely a year. If as Neil Charlesworth has argued “1879 formed no watershed” for agricultural policy in Bombay,¹⁵⁶ it certainly would have implications beyond the borders of the presidency. The first of which would be in Egypt.

Debt in the Delta

On December 7, 1882, Henry Villiers-Stuart arrived in Alexandria aboard a Peninsular and Oriental Company steamer coincidentally named the *Poonah*.¹⁵⁷ An MP of County Waterford, Ireland, Villiers-Stuart had convinced Lord Granville, the British Secretary of State for Foreign Affairs, to attach him to the commission of Lord Dufferin in Egypt. With the defeat of ‘Urabi’s forces at Tel al-Kabir, Dufferin had been tasked with the reorganization of the Egyptian government. Villiers-Stuart had volunteered to inspect the country beyond the immediate environs of Cairo and Alexandria, and to report his findings directly to Dufferin.¹⁵⁸ Over the course of two months, he traveled the provinces accompanied by an Ottoman dragoman and “a native Egyptian of good education and well-connected” conducting interviews and collecting what details he could on rural economy and the political views of the peasantry.¹⁵⁹

Villiers-Stuart’s reports to the commission on the situation in the Delta provinces conveyed the image of a rural population whose politics pivoted on the questions of rural

¹⁵⁶ Charlesworth, *Peasants and Imperial Rule: Agricultural and Agrarian Society in Bombay Presidency, 1850-1935*, 240.

¹⁵⁷ Henry W. Villiers-Stuart, *Egypt after the War* (London: John Murray, 1883), 1.

¹⁵⁸ Egypt. No. 7 (1883) *Reports by Mr. Villiers Stuart, M.P., respecting reorganization in Egypt*, 1.

¹⁵⁹ *Ibid.*, 14.

indebtedness rather than nationalist or religious sentiment. Between 1876 and 1882, the number of private mortgages registered with the Mixed Courts had increased from roughly E£ 500,000 to E£ 7,000,000. On top of this, the unregistered debt owed by cultivators to moneylenders was estimated to be as much as E£ 4 million.¹⁶⁰ By and large, he claimed that his informants' support for 'Urabi was grounded in the latter's promise to cancel all such debts owed by cultivators and to banish foreign moneylenders from the countryside. Even when that support took on a specifically anti-European or anti-Christian form, Villiers-Stuart reported that "it was not until the promise of cancelling the debts was promulgated that the agitation took root in the Delta." It followed then that, if any matter was to upset what he considered the "friendly disposition" of the average Egyptian villager to the British presence in Egypt, it would be the ongoing dispossession of native cultivators of their lands by foreign moneylenders who had returned to the countryside under the perceived protection of the British military.¹⁶¹

The solution Villiers-Stuart suggests, echoing the statements of his native informants, was the establishment of district loan banks that would provide cheap credit to cultivators.¹⁶² He argued that the situation in Egypt was analogous to that of India, making reference specifically to the Deccan Agriculturalists Relief Act (DARA) and to some of the conclusions of the Deccan

¹⁶⁰ There is some confusion in Dufferin's report about to whom this debt should be attributed. While identifying E£ 1,387,295 of the total to mortgages on the urban properties of "Princes and Pashas" in Cairo and Alexandria, he claims that much of the remainder could be "inscribed in the name of the fellahin." This is true only if "fellahin" is understood to mean just rural landowners. See C. 3529, 60-2. See also discussion in Baer, *A History of Land Ownership in Modern Egypt, 1800-1950*, 36; Cole, *Colonialism and Revolution in the Middle East: Social and Cultural Origins of Egypt's 'Urabi Movement*, 65-6; Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*, 271; Richards, *Egypt's Agricultural Development 1800-1980*, 41-2.

¹⁶¹ Egypt. No. 7 (1883), 2.

¹⁶² Ibid., 7-10.

Riots Commission. The introduction of European civil codes into India and Egypt had, he argued, transformed the nature of creditor-debtor relations: the civil codes had introduced the “power of selling land in satisfaction of usurious debts, conferring on the lenders first-class security without altering the rate of interest.” Coupled with an inflexible revenue system, the result was “ruin in vast numbers” and “the creation of ill-will towards Europeans on the part of the natives.”¹⁶³

The shape such a district loan bank could take was laid out in one of Dufferin’s reports in February 1883 based on two schemes that had thus far been suggested. Specifically citing the system then being introduced in India, the first scheme called for the establishment of agricultural banks in every district of the country. The working capital for the bank would be provided in the first instance by a government loan to the bank to be repaid over a two-year period and, in the second, by the subscription of local capitalists. The bank would offer mortgages at twelve percent per annum not to exceed three-quarters of a land’s value. These loans would be registered and the accounts of the bank subject to government audit. In exchange for these conditions, payments would be collected by the government tax collectors and all associated court and registration fees refunded to the bank by the government.

The second option would see an already existing private mortgage bank, the *Crédit Foncier Égyptien*,¹⁶⁴ “[converted] practically into a Department of the Government” by securing

¹⁶³ Villiers-Stuart, *Egypt after the War*, 483.

¹⁶⁴ The *Crédit Foncier Égyptien* was one of two mortgage banks founded in Egypt in 1880 and would remain throughout its history the largest such institution in Egypt. By 1910, it had over E£ 27 million of loans on its books amounting to well over three-fifths the total mortgage debt in the country. The other, a British concern called the Land and Mortgage Co., never amounted to more than E£ 4 million. For the history of the *Crédit Foncier Égyptien*, see Samir Saul, *La France et l'Égypte de 1882 à 1914: intérêts économiques et implications politiques* (Paris: Comité pour l’histoire économique et financière de la France, 1997), Chapter 9.

the appointment of several government officials to its board of directors. A government guarantee would allow the bank to secure funds at a reduced interest. These funds could then be used by the government to buy up cultivators' debts and convert them to low-interest loans. These would be repaid as an annuity collected by tax collectors along with the yearly land tax. This would have the added benefit of preventing cultivators from using their property as collateral on any other loans since the government would possess the first claim on all of his property until the whole of the loan was repaid.¹⁶⁵

From Experiment to Model Institution

It would be more than a decade, however, before any of these suggestions would be taken up and put into practice. After remaining steady for several years, the price of Egyptian cotton began to crash falling by more than a third from E£ 2.98 per qantar in 1890 to E£ 1.89 by the beginning of 1894.¹⁶⁶ The Egyptian government began a trial program advancing high-quality seeds at low price to small cultivators in hopes that doing so would provide some measure of debt relief. These offers were not taken up at any great rate by cultivators. Addressing the issue in his 1896 report, Cromer rejected the idea that protective legislation like the Deccan Agricultural Relief Act would be practicable in Egypt. He also rejected the suggestion — similar to the second option mentioned by Dufferin in 1883 — floated by some Egyptian landowners that a government land bank should be established to buy out existing debts and to act as a

For the respective market shares of the two banks in 1910, see Cressaty, *L'Égypte d'aujourd'hui*, 195.

¹⁶⁵ Egypt. No. 14 (1883) *Further Correspondence respecting the Reorganization of Egypt*, 61-2

¹⁶⁶ See Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*, 197.

dedicated mortgage bank. Neither he protested could the government abolish the right of landowners to mortgage their properties. Instead, Cromer suggested “it would be desirable that some respectable banks should take up the class of business now almost exclusively in the hands of the petty-moneylenders.” As no institution had taken this up, the government would take up the role as “pioneer in an enterprise of this sort.”¹⁶⁷

To that end, the government earmarked E£ 10,000 to begin advancing to small cultivators in sums of no more than E£ 10.¹⁶⁸ At the end of 1895, eleven villages were selected in the cotton-growing regions of Lower Egypt. In these villages, moneylenders — mostly, resident Greeks — lent money to cultivators at the beginning of the year repayable come the cotton harvest beginning in October. The interest rate on these loans ranged from 20 to 30 percent. An additional charge of 2.5 percent was obtained by demanding repayment in Egyptian pounds for loans denominated in British pounds.¹⁶⁹ The advances offered by the government were set at 6 percent. Initially it was decided that advances should only be made after a loan request was approved by provincial authorities. For one reason or another, cultivators were unwilling to avail themselves of the loans under this condition. Instead it was decided that government inspectors would carry gold money and to make advances on the spot to whomever demanded one. This worked. Between February and July 1896, the government distributed E£ 7,700 in advances. Only E£ 20 of this remained unpaid by November.¹⁷⁰

¹⁶⁷ Egypt. No. 1 (1896) *Report on the Finances, Administration, and Condition of Egypt, and the Progress of Reforms* 7-9.

¹⁶⁸ The definition of small cultivator was changed during the course of the experiment from someone owning no more than 5 feddans to no more than 20. No reason was given for this change but the limit of E£ 2 per feddan remained.

¹⁶⁹ At the time, E£ 1 = £1 6d.

¹⁷⁰ Egypt. No. 2 (1897) *Report on the Finance, Administration, and Condition of Egypt and the Progress of Reforms*, 5.

Despite the success, Cromer “hardly felt sanguine” that the experiment would bring any commercial banks to make similar advances.¹⁷¹ For two more years the government carried on the program. In 1897, it won a small concession from the Crédit Foncier Égyptien who agreed to lower the minimum amount of its advances from E£ 100 to E£ 50.¹⁷² The opportunity came in 1898 as the government began turning more heavily to private capital to finance its ambitious irrigation projects. First, in February, an arrangement was reached for the initial financing of the Aswan Low Dam and Assiut Barrage by the London-based financier Ernest Cassel and a contract signed for its construction with a private firm. In June, a contract was signed for the sale and dissolution of the former khedivial estates, the Daira Sanieh, through the agency of the Daira Sanieh Land Company newly formed by Ernest Cassel, the French financier Ernest Cronier and the Egyptian Suarès and Cattui business groups. A few days later, the creation of the privately-held National Bank of Egypt — again, with Ernest Cassel as a principle investor¹⁷³ — was authorized by khedivial decree to issue bank-notes, hold government deposits and provide loans to the government. One of the conditions attached to the government’s approval of the National Bank’s creation was that it take over and extend the government’s experimental agricultural credit scheme.¹⁷⁴

¹⁷¹ Ibid.

¹⁷² Egypt. No. 1 (1898) *Reports on the Finances, Administration, and Cotton of Egypt and the Progress of Reforms*, 9.

¹⁷³ The other main investors were the Suarès business group and Constantine Salvagos, a Greek merchant based out of Alexandria. For Ernest Cassel’s role in international finance and British foreign policy during the period, see Pat Thane, “Financiers and the British State: The Case of Sir Ernest Cassel,” *Business History* 28, no. 1 (1986).

¹⁷⁴ Egypt. No. 1 (1900), 4-5. *National Bank of Egypt 1898-1948*, (Cairo: National Bank of Egypt, 1948), 15-19. Reflecting fifty years later, the Board of Directors acknowledged that these events were “to some extent inter-related.” Two of these — the privatization of the Daira Sanieh and the construction of the Aswan Low Dam — are specifically taken up by Jennifer Derr and placed in a broader examination of the colonial state from the perspective of the Said -

In the spring of 1899, the National Bank began the first of its agricultural credit operations in Bilbeis, a district in the Delta province of Sharqia province just forty miles outside of Cairo. Of the sixty-eight villages in the district, fifty of them were dominated by small landholding cultivators making it an ideal site for the scheme.¹⁷⁵ Advances were extended primarily to cultivators already in debt to local moneylenders. The sums allowed the cultivator then to pay off their previous loans and replace it with the more favorable terms offered by the National Bank. While the amount of loans increased, the scheme was found to not be very profitable for a commercial bank. At the request of the National Bank, the government allowed the interest rates for the loans to be set at nominally at 9 percent — the highest rate allowed by law — and for an additional 1 percent commission to be charged to pay the bank's local agents.¹⁷⁶ For this, the bank agreed to extend its operations to three more districts elsewhere in the Delta: Miniet el-Kamb, Mit Ghamr and Zifta.

By June 1902, the agricultural credit operations of the National Bank of Egypt had grown to take up a sizable chunk of the bank's working capital. In order to free up its capital, the board decided to transfer its agricultural credit operations to a specially created entity, the Agricultural Bank of Egypt.¹⁷⁷ By the time of the transfer, the National Bank had extended the government's

"Egypt's deep south" - and the latter's production as an agricultural periphery. However, the question of credit and capital in particular are dissolved into the construction of a privatized sphere of land ownership and the role of private — largely, French — capital in areas outside the bounds delimited by massive irrigation projects. See Jennifer Derr, "Cultivating the state: Cash crop agriculture, irrigation, and the geography of authority in colonial southern Egypt, 1868-1931" (Stanford University, 2009).

¹⁷⁵ Egypt. No. 1 (1900), 5.

¹⁷⁶ These rates were much higher than that available to larger landowners from traditional mortgage banks like the *Crédit Foncier Égyptien*.

¹⁷⁷ Both the National Bank of Egypt and the Agricultural Bank of Egypt were hybrid public-private enterprises that though representing only the capital of private individuals relied on a set of government guarantees and monopoly privilege and in return accepted a more

experiment from 2,450 advances totaling £E 31,500¹⁷⁸ spread across a handful of districts in a single province to 15,269 advances totaling £E 409,000 spread across several provinces in the Eastern Delta region. The extent of the loan operations only accelerated after the foundation of the Agricultural Bank. During the height of its operations in 1911, the Agricultural Bank had over £E 8 million in outstanding loans representing every province of the Delta, nearly all first mortgages ranging in periods from five to twenty and one-half years.¹⁷⁹

The loans offered by the Agricultural Bank were of two types. The first class, “A” loans, was unsecured loans ranging in value from £E 1.5 to £E 20 but not to exceed twice the annual land tax. These loans were meant to be repayable in full with interest after the next harvest though extended up to fifteen months in the case that the loan was made just prior to the end of the season. “A” loans accounted for a minority of the loans outstanding both in number and volume. The second class of “B” loans was secured by first mortgages. They varied from £E 10 to as much as £E 300 and were capped at ten times the annual land tax. However, these were further limited to twice the value of the land against which they were secured. These loans were for fixed periods of no more than twenty and a half years.¹⁸⁰

‘public’ institutional role accepting the participation of government commissioners on their respective boards. For example, the decree authorizing the foundation of the National Bank of Egypt states that the bank will hold the deposits of the government and provide the latter with short- and long-term loans.

¹⁷⁸ At this time, the Egyptian pound (£E) was fixed to the pound sterling (£) at £E 1 = £ 0.975.

¹⁷⁹ "Situation mensuelle des prêts de l'Agricultural Bank of Egypt," *L'Égypte Contemporaine* 3, no. 1 (1912).

¹⁸⁰ Kemmerer, *Report on the Agricultural Bank of Egypt to the Secretary of War and to the Philippine Commission*, 11-12. In comparison, mortgage loans from other land banks in Egypt tended to be for fifty year periods and for much larger amounts. The Crédit Foncier Égyptien had lowered its minimum to £E100 only after encouragement from the Egyptian government in 1897.

The linking of debt to prosperity was diametrically opposed to the discourse surrounding local credit practices in the countryside. Since the beginning of the British occupation in 1882, the indebtedness of farmers to local moneylenders was categorized as a hindrance to their individual prosperity and the development of their productive forces. On the other hand, the provision of credit through some sort of loan bank was deemed to do the opposite — increase the average size of small landholdings, allow the purchase of more powerful engines for raising water into the fields and allow the purchase of otherwise expensive inputs like fertilizer. In order to distinguish local credit practices which retarded development and the modern ones that encouraged it was a seemingly simple comparison of interest rates. The calculation of the effective annual interest rates of simple, no-security loans from local moneylenders to small farmers was de rigueur for any text discussing rural indebtedness to indicate the arbitrary and usurious nature of local credit practices regardless of their actual form.¹⁸¹ Often this was book credit extended to cultivators by grocers and other merchants or small cash loans between cultivators and the more affluent residents of a village.

However, sometimes what became coded as usury was not something that would otherwise be considered a credit arrangement: for instance, a contract for the purchase of the upcoming cotton harvest. These contracts often included a small advance in cash and seed the price of which was deducted from the final payment or the payment of the land tax by a large landowner on behalf of a small farmer in exchange for a portion of their harvest.¹⁸² Each of these

¹⁸¹ Egypt. No. 7 (1883) *Reports by Mr. Villiers Stuart, M.P., respecting reorganization in Egypt*, 1; "Egypt No. 7. Reports by Mr. Villiers Stuart, M.P., respecting reorganization in Egypt," (1883); Baring, *Modern Egypt*. Colvin, *The Making of Modern Egypt*, 280. PRO 30/57/19, "Usure des negociantes exportateurs de coton and des negociantes du coton aux villages."

¹⁸² PRO 30/57/19, "Usure des negociantes exportateurs de coton and des negociantes du coton aux villages." Roger Owen's classic work on cotton also details a variety of transactional

constituted distinct circuits of exchange and temporalities and were often carried out in different monies of account. Cotton was still often accounted for in terms of silver Maria Theresa thalers (*talaris*) while small transactions were counted in *faddah*, a coin worth one-fortieth of a piastre, even though none of these currencies were any longer in circulation.¹⁸³

Interest rates provided a comparative apparatus for translating the diverse forms of local credit practices onto the same conceptual grid as the form of loans offered by the bank. Setting the rate of interest of all loans to an annual rate of 9 percent — even if it tacked on its 1 percent commission fee — defined the boundaries of the Agricultural bank by marking the rule-based coordination of the bank's interior against the price-based transactions. Movement across this boundary necessitated calculating the marginal gains that could be made from moving credit from local creditors to its books.¹⁸⁴ Interest rates provided an artificial juncture where it became possible to evaluate otherwise disparate transactional forms and therefore convert between them and their respective temporalities and circuits of exchange.¹⁸⁵ In theory, if the bank were to offer a lower rate of interest than a local moneylender, then it would attract credit from his books to that of the bank. The small farmer would then be disentangled of his relation to the usurer. The

forms. See Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*, 129-32.

¹⁸³ PRO 30/57/19, "Usure des negociantes exportateurs de coton and des negociantes du coton aux villages." Innes, "The Credit Theory of Money," 158. For the history of the Maria Theresa thaler in Africa and the Middle East, see Akinobu Kuroda, "The Maria Theresa Dollar in the Early Twentieth-Century Red Sea Region: A Complementary Interface Between Multiple Markets," *Financial History Review* 14, no. 1 (2007).

¹⁸⁴ Ronald H. Coase, "The Nature of the Firm," *Economica* 4, no. 4 (1937).

¹⁸⁵ Guyer, *Marginal Gains: Monetary Transactions in Atlantic Africa*.

effect of this could be measured by observing its effects on the effective annual rates charged by local moneylenders and by the number of loans that made their way onto the bank's books.¹⁸⁶

Finance in the Wild

The exponential growth of the Agricultural Bank's balance sheets after its establishment in 1902 seemed to suggest that the promises of its promoters in the government had been actualized. The credit held by local moneylenders against small cultivators — estimated to be £E 2,188,007 in 1902 — had been eclipsed nearly fourfold by the credit held on the Agricultural Bank's books nine years later. The success of the Agricultural Bank's experiments on paper obscured a subtler transformation in the countryside that was registered in the reports of high colonial officials as early as 1900 and 1901. In his annual report on the finances of Egypt of those years, Lord Cromer equivocated over the success of the credit schemes and emphasized their experimental nature. Evidence suggested that at least some cultivators were using the credit from the bank to pay off the most onerous of their debts to moneylenders and subsequently using the margin of income obtained to contract more debt. Sir Elwin Palmer, the governor of the National Bank and later the first president of the Agricultural Bank, reasoned that the ease by which the bank had been able to recover the loan installments due indicated that this use of the loans was not the case.¹⁸⁷ Further contradictory remarks from bank employees and observers close to its provincial operations led even those enthusiastic about emulating the experiment abroad doubtful about its more philanthropic mandate to ameliorate the financial conditions of

¹⁸⁶ Egypt. No. 1 (1901) *Reports by His Majesty's Agent and Consul-General on the Finances, Administration, and Condition of Egypt and the Soudan in 1900*, 8.

¹⁸⁷ Ibid.

small cultivators. Even if this was the case, Cromer noted, measured in strictly commercial terms, the bank had “attained a certain measure of success.”¹⁸⁸

Yet, the process of translating the credit held in the circuits of local credit practices to the bank’s account books required more than making the annual interest rates calculable and comparable. It required extending the banks own networks of practice “into the wild” where it could engage with local actors and institutions to perform an economy of credit that would allow credit to move between the circuits of local credit to the bank’s accounts.¹⁸⁹ This extension required formatting the identities it encountered through the framing device of the mortgage contract — contracting parties, simple fee property rights and the present value of future revenue from the property against which the mortgage was secured. While the mortgage contract provided a useful device, it was reliant on a coterie of local actors and institutions to complete the frame. At the same time, this reliance created new relations which threatened to interrupt the new circuit of credit constructed.

A financial institution like the Agricultural Bank must extend beyond its brick and mortar to carry out its daily business. The Agricultural Bank was a distributed firm dependent on a hierarchy of personnel to move credit from the Egyptian countryside to its offices in Cairo and London. The personnel of the Agricultural Bank were divided into three groups. The first comprised the staff of the central office. Depending on the season, this ranged from 200 to 350 employees from clerks to bank directors. The second group consisted of 220 local clerks assigned to the bank’s branches in the provinces and who dealt with the day-to-day interactions with

¹⁸⁸ Kemmerer, *Report on the Agricultural Bank of Egypt to the Secretary of War and to the Philippine Commission*, 20. Quoting Lord Cromer from Egypt. No. 1 (1903) *Reports by His Majesty's Agent and Consul-General on the Finances, Administration, and Condition of Egypt and the Soudan in 1902*, 16.

¹⁸⁹ Callon, "What Does it Mean to Say that Economics is Performative?."

Egyptians and maintaining a set of records for the branches transactions. The connection between the central office in Cairo and the seventy-two local branches was maintained by the twenty-four British traveling agents that each supervised an average of three branches in their respective districts and were held responsible by the central office for all the business conducted in each.¹⁹⁰

It was the latter group of British traveling agents who were recognized to embody the work of the bank.¹⁹¹ The traveling-agent transported the bank with him as he moved through the countryside. The way he interacted with Egyptians, supervised the local branches and even the way he traveled comported him as a man of credit and authority. The regulations of the bank formalized the role by not only assigning him responsibility for the money transmitted to the local branches in his assigned district but by mandating the particular ways he should embody that role through his personal behavior. For example, the traveling-agent was required to travel first-class aboard trains and to always take with him a native clerk because “it is undignified to go alone, and any lack of dignity on the part of the agent reflects discredit upon the bank and lowers its prestige.”¹⁹²

The traveling-agents had two main tasks in the field beyond the supervision of the local branches — the advertising of the bank’s services to the local villages and the collection of delinquent loans. These two tasks were combined into the practice of the *murūr* (lit. “passage” or “inspection”). The *murūr* referred to the regular practice of the traveling-agent who accompanied

¹⁹⁰ Kemmerer, *Report on the Agricultural Bank of Egypt to the Secretary of War and to the Philippine Commission*, 27.

¹⁹¹ Ibid.; Egypt. No 1 (1903), 16. Cromer notes specifically their work as “capable, vigilant, and honest.”

¹⁹² Ibid., fn 27.

by one of the local Egyptian clerks would personally visit every village within his assigned district. The *murūr* highlights the reiterative and open-ended nature of enacting finance, its circuits of exchange and temporalities. Each passage through required a shoring up the stability of the circuit and the identities upon which its enframing depended. The *murūr* was instituted early during the bank's expansion as a means of advertising the bank's services to an audience who either did not read or have access to print newspapers.

The practice of *murūr* also makes clear the reliance of the banks agents on both local actors and the material network of documents that enacted land as an object of economic calculation. The first of these local actors was the village headman, a figure appointed by the government in Cairo and in return for performing administrative services was cleared of his obligations to pay the land tax. Upon entering the village, he would call at the residence of the village headman and request that he call a meeting of all the land-owning cultivators in the village. Once assembled, the traveling-agent would explain the bank and its services to the group through the interpretation of his Egyptian clerk.¹⁹³ In staging the reception for the bank's traveling-agent, the village headman participated in the purification of the social and power relations of the village into the simple categories that could be inscribed into the terms of the mortgage contract: small land-owning cultivators holding property in fee simple. Before moving on to the next village, the traveling-agent would give to the headman a stack of loan application forms. He was charged with handing these applications out to any farmers who wished to apply for a loan and was held responsible for the authenticity of the information provided on them: the measure and delimitation of any land to be mortgaged, the right of the individual to mortgage

¹⁹³ Ibid., 16. All references to the *murūr* are derived from Kemmerer's description unless otherwise noted.

that land and the signature of the applicant.¹⁹⁴ In exchange for his services, he was given a preferential loan rate of seven per cent, two per cent below that given to the rest of the villagers.¹⁹⁵

If the headman translated the complex social and power relations of the village into the category of fee simple property, the traveling-agent relied on the village tax collector to navigate the paper landscape of the individual village. Tax collectors were in charge of certifying the ownership of specific parcels of land and their testimony affixed to every loan application.¹⁹⁶ Since there was rarely a record for the sale of small parcels of land in rural Egypt, the only available figure for assessing a lands value or the amount of land an individual owned was the network of documents constructed by the cadastral survey and the readjustment commissions whose work was singled out by the bank's general manager, G. Scott-Dagliesh. Hence, the maximum amount for a loan was computed in multiples of the annual land tax due on the land as opposed to figuring it from its rental value. Only in special cases was a second land expert called in to reassess a property.¹⁹⁷ The tax collector also assisted the bank by collecting the annuities and installments due after the harvest season. These amounts were added to the cultivator's tax

¹⁹⁴ For an example of these forms, see Bureau of Insular Affairs, War Department. *Seventh Annual Report of the Philippine Commission* (1906), Part 1, 549-50.

¹⁹⁵ He was alleged to also collect fees from the villagers for assistance in securing their loans.

¹⁹⁶ Again, for an example of these forms, see Bureau of Insular Affairs, War Department. *Seventh Annual Report of the Philippine Commission* (1906), Part 1, 547-9.

¹⁹⁷ G. Scott-Dagleish, "The Agricultural Bank of Egypt and Its Success in Suppressing Usury," *Banking : Journal of the American Bankers Association* 8, no. 11 (1916): 978-9.

receipts and collected with the taxes. The amounts were then transferred to the Ministry of Finance before being transferred by check to the Agricultural Bank.¹⁹⁸

However, in the intervening periods of a loans execution, its existence was tied to a chain of documents that linked the cultivator who had transacted it to the head office of the bank in Cairo. The first part of this chain was a pair of documents: the engagement form and the receipt.¹⁹⁹ These were copies of one another giving the identifying number of the loan alongside the name of the applicant, the amount and any additional notes made by the local agent. The engagement form was kept on record at the head office while the receipt was kept by the cultivator. The engagement forms accompanied the original loan application to the head office where the bank's clerks created two separate registers, one to be kept at the head office and the other for the use of the district agent.

However, whereas the engagement form and receipt were exact copies, the registers held by the head office and the district agent were unique documents each of which enacted the loan not only in different sits but also as different objects.²⁰⁰ The register held by the district agent (see Figure 3) serves as a payment schedule accounting for the district agent's interactions with the borrower and scripting specific actions to be undertaken. It begins with the characteristics of the borrower: the number of the loan, followed by the name of the borrower, their village of residence, how much land they own, how much have they mortgaged and how much is that mortgage for. The remainder of the register has blank spaces for the annual installments the

¹⁹⁸ Kemmerer, *Report on the Agricultural Bank of Egypt to the Secretary of War and to the Philippine Commission*, 28.

¹⁹⁹ Again, for an example of these forms, see Bureau of Insular Affairs, War Department. *Seventh Annual Report of the Philippine Commission* (1906), Part 1, 548, 550.

²⁰⁰ The following description is only for the "B" loans which were first mortgages. However, there are similar differences between the different registers of "A" loans as well.

borrower pays over the life of the loan to be filled out after the annual collection. If a borrower fails to make a payment, the district agent then inquires with the borrower on the next *murūr*

AGRICULTURAL BANK OF EGYPT.														(No. 9.)				
Form of register of "B" loans kept by bank's agents.																		
List of "B" loans.—Province, District																		
Number.	Name of applicant.	Name of village.	Amount of land owned.	Amount of land to be mortgaged.	Amount of loan.	Costs of mortgage.	Amount paid to applicant.	First installment.	Second installment.	Third installment.	Fourth installment.	Fifth installment.	Total repayment.	Date of application.	Date of mortgage.	Date of pay order.	Date of payment.	Notes.

through the district.

Figure 5 – A blank register from the Agricultural Bank of Egypt provided in Kemmerer's evidence to the American Philippines Commission. The register was held by the bank's district agents. (Bureau of Insular Affairs, War Department. Seventh Annual Report of the Philippine Commission (1906), Part 1, 551.)

The register held by the head office in Cairo (see Figure 4) begins not with the name of the applicant but with the current loan capital. The first row of the register records the first year of the loan and each succeeded row an additional year of the loan period. In the blank spaces of the form, the clerks add the amount of interest charged that year, any arrears, the amount due and the total amount repaid since the beginning of the loan. Whereas the register held by the district agent lays out the series of actions between the agent and the borrower, this register translates their actions into a set of quantities. These quantities are then combined into the figure listed as the loan capital. This figure can then be aggregated across all the banks loans into a single figure reportable to the Agricultural Bank's shareholders at the end of the year as part of the bank's assets rather than an individual parcel of land in the countryside.

(No. 11.)

Form of register of "B" loans kept at the head office of the bank.

190...

Capital.	Expenses of mortgage.	Amount paid to mortgager.	Interest charged for 190...	Total amount due.	Date of payment.	Total repaid.	
						Capital.	Interest.

Capital.	Interest charged for 190...	Arrears of interest.	Total amount due.	Total repaid.		Village.	Name of mortgager.
				Capital.	Interest.		

Figure 6 - A blank register from the Agricultural Bank of Egypt provided in Kemmerer's evidence to the American Philippines Commission. The register was held by the bank's head office. (Bureau of Insular Affairs, War Department. Seventh Annual Report of the Philippine Commission (1906), Part 1, 551.)

In this way, the *murūr* pulled the network of documents and actors into an enactment of land as a financial asset that circulated between the local villages, through the bank's district offices, to Cairo and, finally, to its shareholders in London. The delicate work carried out by the bank's district agents was no less than to purify the notion of landed property from this web of relations and allow it to move along new channels of circulation defined by the mortgage contract.²⁰¹ The contractual apparatus of the mortgage provided the material configuration of this purification and the set of rule-based transactions which marked the internalities of the Agricultural Bank against, for instance, the social relations of the village or the contingencies of the market in which individual cultivators were embedded. The mortgage contract functioned as a script prefiguring a series of actions to be performed. It gave definition to a set of actors by assigning roles vis-à-vis one another as contracting parties and coordinating a series of regular temporal junctures between them.

The work of maintaining these scripts was a constant struggle of trying to fit the complex relations that defined landed property in Egypt into the framing device of the mortgage contract while at the same time allowing for the wealth of connections that gave it value.²⁰² Social and power relations within individual villages were mediated through the paper landscape constructed by the cadastral survey which reduced these relations to the boundaries between parcels. At the same time, the relations between villagers (and between villages) allowed for the revenue that cultivators would use to meet their loan payments. The cultivation of crops depended on the annual rains in the African interior channeled through the engineered

²⁰¹ Latour, *Science in Action: How to Follow Scientists and Engineers in Society*; "Circulating Reference."

²⁰² Michel Serres, *The Parasite* (Minneapolis: University of Minnesota Press, 2007).

hydrography of the Nile River and neighboring basins. If the inundation should fail to reach a particular plot of land or saturate it beyond cultivability, there would be no way to make the annual payment. This meant exercising a control over the framing process but at the same time required that that process always remain incomplete and dependent on the connections which overflowed the frame.²⁰³ What appeared on paper as a number in the directors' annual report — the sum of outstanding loans, for example — was not a signifier of a reality beyond the pages of the report but rather a tenuous process of translating the heterogeneous nature of landed property in Egypt into a single quantitative value.

Conclusion

By 1912 the difficulty of operating a bank along “philanthropic” and commercial lines had become readily apparent. The rise in cotton prices upon which Egyptian cotton growers had depended and which had fed a boom in land speculation began to slow giving way to a period of fluctuations in the market price of cotton. The collapse of this trend was further exacerbated by the financial crisis of 1907 and the series of poor inundations which ruined the cotton crop in 1908 and 1909.²⁰⁴ Meagre output and the inability to garner dependably profitable prices for their cotton left many growers whether large landowners or small cultivators to repeatedly miss their payments to creditors including the Agricultural Bank. Of the £E 1,507,841 in annuities scheduled for collection by the bank in 1912, £E 337,356 — nearly a quarter — was deemed uncollectable and added to what would be a rapidly growing tally of arrears. This was more than

²⁰³ Lepinay, *Codes of Finance: Engineering Derivatives in a Global Bank*; Michel Callon, "An essay on framing and overflowing: economic externalities revisited by sociology," in *The Laws of the Markets*, ed. Michel Callon (Oxford: Blackwell, 1998).

²⁰⁴ These are discussed in more detail in Chapter 4.

the total of outstanding arrears from all previous years combined (£E 315,978).²⁰⁵ In the same year, the directors of the bank entered into negotiations with the Egyptian government to change the bank's regulations so as to increase the limit on individual loans, facilitate their recovery and put a check on unnecessary borrowing.²⁰⁶ However, after the government passed a series of modifications the following year to the Mixed and Native Codes forbidding small cultivators from utilizing their land as collateral,²⁰⁷ the Agricultural Bank was forced to cease its lending operations and focus on the recovery of loans outstanding.²⁰⁸

Yet, providing credit to small cultivators had nonetheless proved to be an attractive idea beyond Egypt's borders. In 1906, the American Philippines Commission appointed the American economist Edwin Kemmerer as a Special Commissioner to Egypt in order to determine whether the bank was an ideal model for developing the productive resources of the American-occupied Philippines through the use of private capital. Even as an experiment, Kemmerer reported, the Agricultural Bank had shown the success of such a commercial enterprise: it had no bad debts on its books, foreclosure proceedings had only been initiated in four cases, dividends had been paid

²⁰⁵ FO 141/531/2. Director's Report of the Agricultural Bank, Cairo, March 1913.

²⁰⁶ FO 141/531/2. Director's Report of the Agricultural Bank, Cairo, March 1913.

²⁰⁷ These modifications, commonly referred to as the Five Feddan Law, are often interpreted as protecting from expropriation the property of small cultivators owning less than 5 feddans. As stated, their effect is actually to prevent such individuals from entering into mortgage contracts and not to invalidate contracts entered into before the law's promulgation. That being said, the modifications also included changes to the structure of court fees required to transfer deeds. Officials reasoned that the legal expenses required to sell small parcels of land had prevented many small proprietors from raising funds necessary to pay their outstanding debts and avoid the expropriation of their entire property. Therefore, contrary to much of the historical analysis of this law, it is not at all surprising to see the continued dissolution of such small landholdings through the preceding decades

²⁰⁸ FO 141/490/9. In 1932 the last of the Agricultural Bank's outstanding loans amounting to £E 600,000 were transferred to the Crédit Agricole after the latter was granted an exemption to the Five Feddan Law by the Egyptian government.

to shareholders every year, the bank held ample surplus funds and the stock was selling at 65 per cent above its initial offer price.²⁰⁹ Kemmerer would go on to recommend that such an institution be established as soon as possible by the Insular Government along identical lines.²¹⁰ American colonial administrators were not the only ones to see in the Agricultural Bank a model. In his report of 1900, Cromer states that he had received several inquiries from outside Egypt regarding the Agricultural Bank and its operations.²¹¹ Even as late as 1909, the Indian government requested information regarding the bank to guide them in their attempts to carry out similar experiments in the subcontinent.²¹²

The interest shown towards the Agricultural Bank was symptomatic of a transformation in the mode of financialization and its relation to society best summed up by the work of Alfred Mitchell Innes. From the perspective of its ledgers, the Agricultural Bank did exactly what Innes described in his account of credit money: internalizing the debts of (a small portion of) society and cancelling them out against available credit as they became due. Keynes himself, influenced in part by Innes's argument, to place finance at the center of his work *The General Theory*.²¹³

²⁰⁹ Kemmerer, *Report on the Agricultural Bank of Egypt to the Secretary of War and to the Philippine Commission*, 20. For the context of Kemmerer's mission to Egypt, see Yoshiko Nagano, "The Agricultural Bank of the Philippine Government, 1908-1916," *Journal of Southeast Asian Studies* 28, no. 2 (1997).

²¹⁰ E. W. Kemmerer, *Report of the Philippine Commission* (Washington: Bureau of Insular Affairs, War Department, 1906), 75-76. Despite Kemmerer's recommendation, the Insular Government ended up in establishing an agricultural bank only in 1908 and wholly owned by the government rather than by private capital as in Egypt.

²¹¹ "Reports by His Majesty's Agent and Consul-General on the Finances, Administration, and Condition of Egypt and the Soudan in 1902," Egypt. No 1 (1903), 16.

²¹² FO 368/284, "Memorandum Regarding the Agricultural Bank of Egypt."

²¹³ J. M. Keynes, "What is Money? by A. Mitchell Innes (review)," *Economic Journal* 24, no. 95 (1914); *The General Theory of Employment, Interest and Money* (London: Macmillan, 1936). The central argument of Keynes's work was to argue that the level of employment was not determined by wages but by the spending of money or what he referred to as aggregate demand. After reading Innes's work, Keynes turned to the more elaborated arguments of the

However, what the operations of the Agricultural Bank demonstrated at the level of practice, was that finance was neither the embodiment of the apparatus for organizing and coordinating society's productive powers. Nor was it something which stood apart from other economic processes. Rather like the banks traveling-agents, finance transited and strung together in its flows an unsteady host of actors and practices that always marked the boundaries of the Agricultural Bank's operations and yet were essential to its functioning.

German economist Georg Friedrich Knapp whom Keynes was influential in getting translated into English. See George Friedrich Knapp, *The State Theory of Money* (London: Macmillan, 1924).

Chapter 3

Subjects of Finance

“The natural order among animals is that each species... does not feed upon itself. Only man consumes his fellowman. Instinctively, the animal seeks its sustenance (*ar-rizq*) from God, its natural source. But man is bent on seeking it from his brother.”

- ‘Abd al-Raḥmān al-Kawākibī, *Ṭabā’i ‘al-Istibdād wa Maṣari ‘al-Isti ‘bād* (1903)²¹⁴

“The substance, the body clothing the *spirit of money* is not money, paper, but instead it is my personal existence, my flesh and blood, my social worth and status. Credit no longer actualizes money-values in actual money but in human flesh and human hearts.”

- Karl Marx, *Excerpts from James Mill’s Elements of Political Economy* (1844)

Introduction

An aspect of the Agricultural Bank’s practices not discussed in the last chapter is race.

The Agricultural Bank’s British agents operated through the process of racial and religious differentiation peculiar to liberal imperialism.²¹⁵ On one side, the moneylender — always a

²¹⁴ ‘Abd al-Raḥmān al-Kawākibī, *Ṭabā’i ‘al-Istibdād wa Maṣari ‘al-Isti ‘bad* (Cairo 1902), 59.

²¹⁵ I use this term anachronistically to refer to the material and conceptual entanglements of liberal political and economic thought to empire following its use by others. See Mantena, *Alibis of Empire: Henry Maine and the Ends of Liberal Imperialism*; Uday Mehta, *Liberalism and Empire: A Study in Nineteenth-Century British Liberal Thought* (Chicago: University of Chicago Press, 1999); Jennifer Pitts, *A Turn to Empire: The Rise of Imperial Liberalism in*

foreigner, whether Greek, Jew or Syrian — whose cold-calculations were aimed at maximizing profits above all else through all forms of dishonesty and trickery. On the other, the peasant proprietor — by definition Egyptian and typically Muslim — whose improvidence led him to pile up obligations to myriad creditors and personal relations sinking him into perpetual indebtedness. Only the bank's British agents possessed the financial acumen to determine the right balance of attachment and detachment that would render the future calculable, albeit, in a form amenable to derivation and sale as bonds to European investors. The curtailment and eventual dissolution of the bank's lending operations following the financial crisis of 1907 signaled an end not just to a colonial mode of financialization but also to the specific racial ordering of empire that that financialization underwrote. From within this mode of financialization arose the market as a technology for organizing collective life through calculation.

Before examining the emergence of the market in following chapters, this chapter explores two critiques of “possessive individualism” – a “conception of the individual as essentially the proprietor of his own person or capacities, owing nothing to society for them”²¹⁶ – and the alternative modes of financialization that followed from them: that of ‘Abd al-Raḥmān

Britain and France (Princeton: Princeton University Press, 2006). For an acknowledgement of the phrase's anachronicity, see Mantena, *Alibis of Empire: Henry Maine and the Ends of Liberal Imperialism*, 193n3.

²¹⁶ C. B. Macpherson, *The Political Theory of Possessive Individualism: Hobbes to Locke* (Oxford and New York: Oxford University Press, 1962), 3. Macpherson suggests that “the central difficulty” of modern liberalism lies in the “possessive quality” of the seventeenth-century notion of the individual. “The relation of ownership,” he argues, “having become for more and more men the critically important relation determining their actual freedom and actual prospect of realizing their full potentialities, was read back into the nature of the individual.” My use here is heavily indebted to Samira Haj's study of ‘Abduh. See Samira Haj, *Reconfiguring Islamic Tradition: Reform, Rationality, and Modernity* (Stanford: Stanford University Press, 2009).

al-Kawākibī and Muhammad ‘Abduh. The connection between them here is conceptual. Though their overlapped and intersected,²¹⁷ they moved through different intellectual and social circles in Cairo inhabiting relatively distinct discursive spaces: al-Kawākibī, a late Ottoman writer claimed variously as precursor to Arab nationalism, Arab socialism and Pan-Islamism; and, ‘Abduh, the Egyptian reformer seen as the quintessential intellectual of Islamic Modernism. Nonetheless, each engaged the question of financialization, and particularly the extension of capital to the countryside. In their critiques, prevailing modes of financialization concretize a conception of the individual around the act of profit-making. This act, however, was grounded in the radical dehumanization of others. Yet, even in seeing in finance a force for the disruption and dissolution of the material basis of social life, they also saw a tool for its possible renewal. The solution each offered, therefore, reflected not a rejection of finance, but experimentation with the limits and possibilities of finance for inscribing the individual within the common socialist life (al-Kawākibī) and the moral community of Islam (‘Abduh).

Race and Modern Subjects

Race and finance, of course, did not disappear with the breakdown of empire but their place and significance was reconfigured within the framework of economic nationalism.²¹⁸ The continued relevance of race is a point rarely taken up in the history of economic nationalism in

²¹⁷ For instance, Rashid Rida, ‘Abduh’s closest disciple was a long-time acquaintance of al-Kawākibī, with whom he had collaborated during their time in Syria. See Muḥammad Rashīd Riḍā, *Riḥlatān ilā Sūrīyah, 1908-1920* (Beirut: al-Mu’assasah al-‘Arabīyah lil-Dirāsāt wa-al-Nashr, 2001), 37.

²¹⁸ For a discussion of the constitutive relationship between racism and nationalism, see Etienne Balibar, "Racism and Nationalism," in *Race, Nation, Class: Ambiguous Identities* (London and New York: Verso, 1991).

Egypt²¹⁹ despite its centrality to the new conceptualizations of society that emerged in the context of the nationalist movement. If, as Samira Esmeir has argued, colonialism did not dehumanize Egyptians but rather worked “to include them in the realm of universal humanity,” this was only accomplished by finding new persons to dehumanize.²²⁰ The dehumanization of populations both internal and external of the nation²²¹ was concomitant with their enactment as objects of profit-making.²²² This section examines how race was resignified in the shift from colonial to nationalist modes of financialization. In the process of constructing the paper landscapes discussed in previous chapters, race is seemingly effaced from the world constructed by financial practice. Yet, its presence is hinted at in the way finance is embodied by the agents of the Agricultural Bank in their interactions with cultivators. This section uses the personal writings of Alfred Mitchell Innes to shed light on how race and finance were reconfigured in the first decade of the twentieth century.

²¹⁹ There is a fairly large literature on national economy in Egypt, but none of them deal with its racial dimensions. The focus is instead on relations between labor and capital, whether foreign or domestic. See Davis, *Challenging Colonialism: Bank Misr and Egyptian Industrialization 1920-1941*; Vitalis, *When Capitalists Collide: Business Conflict and the End of Empire in Egypt*. Labor historians have noted the racial dimension but only as it pertains to the formation of the labor movement. See Joel Beinin and Zachary Lockman, *Workers of the Nile: Nationalism, Communism, Islam, and the Egyptian Working Class, 1882-1954* (Cairo: American University Press, 1996); Gorman, "Foreign Workers in Egypt 1882-1914: Subaltern or Labour Elite?." For a possible corrective coming from the perspective of political ecology, see Jakes, "Booms, Bugs, Bust: Egypt's Ecology of Interest, 1882-1914."

²²⁰ Esmeir, *Juridical Humanity: A Colonial History*, 68.

²²¹ El Shakry, *The Great Social Laboratory: Subjects of Knowledge in Colonial and Postcolonial Egypt*, Chapter 2; Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*, Chapter 6; Eve Trout Powell, *A Different Shade of Colonialism: Egypt, Great Britain, and the Mastery of the Sudan* (Berkeley: University of California Press, 2003).

²²² Jakes, "Booms, Bugs, Bust: Egypt's Ecology of Interest, 1882-1914."

Race, finance and empire share a long history. In his discussion of eighteenth century political thought, J. G. A. Pocock argues that thinkers like Defoe and Montesquieu “recognized that, in the credit economy and polity [that emerged in the wake of the financial revolution of the 1690s], property had become not only mobile but speculative: what one owed was promises, and not merely the functioning but the intelligibility of society depended upon the success of a *program of reification*.”²²³ Credit invented “a new image of social personality” attached to negotiable instruments and financial calculation. Society had to be trained to see and evaluate these “new social persons” who were anchored in the new speculative and mobile forms of property.

Yet, such accounts of the financial revolution discount how programs of reification were also programs of depersonification.²²⁴ Slavery and the emergence of the joint-stock company were integral to the emergence of these new “monied interests” and the Atlantic cycles of accumulation upon which they fed. The connection was both conceptual and material. While property was a pivot point around which notions of personhood were articulated, it was the possession of black and brown bodies, i.e., the depersonification of other human beings, that underwrote the circulation of negotiable instruments. As an anonymous writer for *The Economist* would write in regards to the collapse of Egyptian bond prices on the London money market in 1907, it was not the land but “the peasantry [that] forms the tangible wealth of a country.”²²⁵

²²³ J. G. A. Pocock, *Virtue, Commerce, and History: Essays on Political Thought and History, Chiefly in the Eighteenth Century* (Cambridge: Cambridge University Press, 1985), 113.

²²⁴ In another context, Arjun Appadurai has described financial derivatives as the exploitation of “the dividualization of the many for the individuation (by profit-making) of the few.” See Appadurai, *Banking on Words: The Failure of Language in the Age of Derivative Finance*, 112.

²²⁵ “Land Situation in Egypt – Landed Interests and Government Intervention,” *The Economist*. February 8, 1908.

Credit reified both race and value through the speculative operations of finance capital.²²⁶ How were the linkages between race, finance and empire to be refashioned in the first decade of the twentieth century?

In 1907, Alfred Mitchell Innes circulated a long essay he had written the previous year while on leave privately among the British employees of the Ministry of Finance with whom he had worked for the past eight years. Entitled “To see with others’ Eyes,”²²⁷ the essay was a product, he says, of his reflections “on my conduct towards natives and my feelings for them” that he hoped would provide his fellow countrymen in Egypt with “some basis on which to found their own ideal of conduct.”²²⁸ This act of introspection had been sparked by an incident which had “produced at the time a profound impression on my mind”:

Standing on the bank of the river one evening outside my house, I was watching a boat being unloaded of its cargo of stone, wondering at the strength and endurance of the carriers... an immensely, powerful, untamed-looking Saidi... called out to me, in a somewhat insolent tone for a cigarette. I shook my head and said I had none, when he returned to the boat shouting and continuing to shout loud and insulting oaths. I was furious... and, if it had been in my power, should have had him summarily and severely punished. ... Over dinner I reflected... and resolved to try an experiment. Next day I walked out again on to the bank. The man again shouted for a cigarette. To his evident astonishment, I pulled out several from my pocket and gave them to him. He turned away jumping and dancing with delight, and returned to the boat shouting the most exaggerated expressions of gratitude. As I walked back to the house I still heard him. Day after day, afterwards... he would quietly and respectfully salute me, and sometimes, with the submissive demeanor of a dog, would without a word put out his hand for a cigarette. ... Never again... did he venture to address me a word, and I am sure that had I had any

²²⁶ Iam Baucom, *Specters of the Atlantic: Finance Capital, Slavery, and the Philosophy of History* (Durham and London: Duke University Press, 2005), especially Chapters 1-3. See also Peter James Hudson, "Dark Finance: An Unofficial History of Wall Street, American Empire and the Caribbean, 1889-1925" (New York University, 2007).

²²⁷ The essay is prefaced by a long excerpt from the famous monologue of Shakespeare's Shylock from *The Merchant of Venice*, "Hath not a Jew eyes?" (Act III, Scene 1), from which the title is derived.

²²⁸ A. Mitchell Innes, *To see with Others' Eyes: An Essay* (Cairo: Government Press, 1907), 3.

work to have given him he would have been my willing slave. ... His insults were but the petulant cries of a disappointed child become articulate in the coarse language of the fellahin; his absurd gratitude for a few cigarettes the glee of the same child who has not yet learned to control his feelings.²²⁹

Innes extracts from his experiment a moral responsibility to soften the touch of colonial rule by making it more agile and responsive to the “feelings” of the colonized: “To govern a weaker race is, perhaps, the greatest trust that can be reposed in a man. Just because of their weakness, to rule them demands great qualities. The power to put one’s self in another’s place, *to see with others’ eyes*, is, it would seem, the most difficult part of our duty – the rarest quality.”²³⁰

Innes’s essay and its haughty concern for the sentiments of Egyptians was written in the shadow of concerted opposition to colonial rule not only among the colonized but also the expanding British public.²³¹ In Egypt, a national opposition crystalized in 1906 around the heavy-handed response of British authorities — the rounding up and arrest of seventy Egyptians by the military and the assembly of a special tribunal for their prosecution — that resulted in four executed by hanging, eight flogged, two sentenced to penal servitude for life and ten others to between one and fifteen years — all for the death of a single British officer from sunstroke following an altercation near the village of Dinshaway.²³² In India, British authorities faced an ongoing agitation against Lord Curzon’s 1905 partition of Bengal led by members of the Indian Association and their calls for *swadeshi*, the boycott of British goods.²³³ On the other side of the

²²⁹ Ibid., 39-41.

²³⁰ Ibid., 49. Emphasis mine.

²³¹ Innes euphemistically labels this opposition as “unpopularity” for the British, footnoting the “sedition” in the Punjab which took place after the text was written.

²³² See Owen’s biography of Cromer for an account of the Dinshaway incident and its political fallout Roger Owen, *Lord Cromer: Victorian Imperialist, Edwardian Proconsul* (Oxford: Oxford University Press, 2004), 335-41.

²³³ Sumit Sarkar, *The Swadeshi Movement in Bengal 1903-1908* (New Delhi: People's Publishing House, 1973). For Hindu-Muslim relations in Bengal during the period, see "Hindu-

subcontinent, resistance against new legislation in the Punjab, the Colonisation Bill of 1906, meant to strengthen the authority of colonial officials in the canal colonies led some 10,000 in Chenab colony to call for both Muslims and Hindus to unite against British oppression.²³⁴ In Natal, long-standing grievances against white settlers over the distribution of land and a new poll tax levied by colonial authorities with the intent to force black Africans into wage labor on white plantations, led to an armed revolt with the intention of overthrowing the rule of the republic's white settler minority.²³⁵

The clamoring of anticolonial movements in the global South was echoed in London through the activism of men like Wilfred Scawen Blunt and J. A. Hobson who made more palpable the atrocities of imperialist policies abroad and, in the latter case, their intimate connections to “the social problem” in Britain.²³⁶ Imperialism not only cost British lives and

Muslim Relations in Swadeshi Bengal, 1903-1908," *Indian Economic and Social History Review* 9 (1972).

²³⁴ N. Gerald Barrier, "The Punjab Disturbances of 1907: The Response of the British Government in India to Agrarian Unrest," *Modern Asian Studies* 1, no. 4 (1967); Imran Ali, *The Punjab under Imperialism, 1885-1947* (Princeton: Princeton University Press, 1988), Chapter 3. Lord Kitchener, then Commander-in-Chief of the Indian Army following his command of forces, pushed Lord Minto to veto the legislation reporting the widespread dissatisfaction among the Indian army. Punjab was a historical base for army recruitment and the colonies themselves were created partly through grants to military personnel.

²³⁵ Shula Marks, *Reluctant Rebellion: The 1906-8 Disturbances in Natal* (Oxford: Clarendon Press, 1970). "Class, Ideology and the Bambatha Rebellion," in *Banditry, Rebellion and Social Protest in Africa*, ed. Donald Crummery (London: James Currey, Ltd., 1986). Marks argues that the rebellion was a defensive measure “the last armed resistance to proletarianisation by Africans” (1986: 351). Redding – less dismissive of the effective reality of the supernatural – argues that rather than a last ditch effort, the rebels fully expected to succeed in toppling the regime. See Sean Redding, "A Blood-Stained Tax: Poll Tax and the Bambatha Rebellion in South Africa," *African Studies review* 43, no. 2 (2000).

²³⁶ Wilfrid Scawen Blunt, *Atrocities of Justice Under British Rule in Egypt* (London: T. Fisher Unwin, 1907), 6. In 1906, Blunt orchestrated a media campaign against Lord Cromer publishing a long pamphlet detailing how the Dinshaway incident was not an exception to but inherent to “a system in which every principle of civilized law has been for years past made subservient to... political advantage.” [“The White Man’s Burden, Lord, is the burden of his

resources in conflicts on the behalf of private investors' interests but also robbed the country of badly needed investment at home.²³⁷ Riding on the unpopularity of the Boer Wars, the pro-manufacturer protectionist policies of Arthur Balfour's Conservative government and growing public concern about the extent of poverty throughout Britain, the Liberal party swept to power in 1906 ensconcing a new liberalism wedded to policies of social reform and an ideology of national efficiency grounded in the new science of statistics.²³⁸

The result was a set of prophylactic reforms that, while acknowledging the necessity of self-government, legitimated the continued dominance of European minorities on the basis that only they made self-government possible.²³⁹ The Indian Councils Act of 1909 introduced a modicum of representation to the legislative institutions of the Raj anticipating that "the aristocratic elements in society and the moderate men, for whom there is at present little place in Indian politics, will range themselves by the side of the government, and will oppose any further shifting in the balance of power and any attempt to democratize Indian institutions."²⁴⁰ In South Africa, the new British High Commissioner and one of Innes's predecessors at the Egyptian

cash." "Satan absolved - A Victorian Mystery (1899)," in *The Poetical Works of Wilfred Scawen Blunt* (London: Macmillan and Co., 1914). Blunt's verse was a riposte to Rudyard Kipling's poem calling for the United States to take up the burden of empire as the Spanish-American War broke out in 1899.

²³⁷ See J. A. Hobson, *Imperialism: A Study* (London: James Nisbet and Co., 1902).

²³⁸ Pat Thane, "The Liberal Party and Family Welfare, 1906-1922," *Cercles* 21 (2011); Geoffrey Russell Searle, *The Quest for National Efficiency: A Study in British Politics and Political Thought, 1899-1914* (Berkeley: University of California Press, 1971), Chapter 2. In 1902, Seebohm Rowntree published his sociological survey of York laying bare the realities of poverty even outside the metropolis of London — more than a quarter (28%) of York's 46,000 inhabitants were unable to acquire basic necessities. B. Seebohm Rowntree, *Poverty: A Study of Town Life* (London: Macmillan and Co., 1902).

²³⁹ Mitchell, *Carbon Democracy: Political Power in the Age of Oil*, 71.

²⁴⁰ Morley-Minto 21 March 1907. Quoted in Perry Anderson, *The Indian Ideology* (London and Brooklyn: Verso, 2013), 16.

Ministry of Finance, Alfred Milner engineered the annexation of the Boer republics laying the groundwork for the alliance between British mining interests and the white settler minority that would undergird the Union of South Africa and the system of apartheid which sprang from it.²⁴¹ The inclusion of a narrow elite into the administrative and legislative machinery of empire represented “an attempt to soften racial antagonism by mediating and refracting the impact of racial domination” through ever many “local despotisms.”²⁴²

Egypt was no different.²⁴³ With Lord Cromer’s hasty departure from Cairo in May 1907, his replacement Sir Eldon Gorst was tasked by the Foreign Office with implementing Egypt’s own “liberal experiment.” Gorst outlined his policy as one of “rendering our rule more sympathetic to the Egyptians... by restoring good feeling between the Anglo-Egyptian officials and the natives of the country... [and] giving greater encouragement to the Egyptian official class”²⁴⁴: expanding the scope of the Provincial Councils, filling more administrative posts with

²⁴¹ Shula Marks and Stanley Trapido, “Lord Milner and the South African State,” *History Workshop* 8 (1979). Milner served as Director-General of Accounts under the Austro-Hungarian Julius Blum Pasha. Upon the latter’s decision to return to Vienna to serve on the Board of Directors for his family’s banking business, the Credit-Anstalt, Milner was promoted to Under-Secretary of State for Finance. For a biographical account of Milner in Egypt, see J. Lee Thompson, *A Wider Patriotism: Alfred Milner and the British Empire* (London: Pickering and Chatto, 2007), Chapter 3.

²⁴² Mamdani, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism*, 27.

²⁴³ As Mamdani argues, South Africa was the model, not the exception, for the colonial state in Africa. However, the expansion of colonial administrations and the new forms of expertise which it called into being ‘internationalized’ such models. For the legacy of colonialism and the formulation of international institutions that came into being after the First World War, see Mitchell, *Carbon Democracy: Political Power in the Age of Oil*, Chapter 3; Anthony Anghie, *Imperialism, Sovereignty and the Making of International Law* (Cambridge and New York: Cambridge University Press, 2004), Chapter 3.

²⁴⁴ Gorst Papers, Autobiographical Notes., v.2, 119-21. Quoted in Archie Hunter, *A Life of Sir Eldon Gorst 1861-1911* (London and New York: I.B. Tauris, 2007), 175-6.

Egyptians, working to end (unsuccessfully) the system of capitulations, and putting a stop to some of the more visible manifestations of British favoritism such as the Egyptian government's construction of villas for Anglo-Egyptian employees in Zamalek.²⁴⁵ Innes's exhortation to his fellow countrymen was aimed at dislodging the "physical aversion" between British officials and native Egyptians which he likened to "the prejudice of caste."²⁴⁶ Such an aversion, he argued, "derived not from a natural impulse but... from an instinctive desire to adopt a line of action which will assert publicly the superiority of the dominant race, and largely from the mere imitation of pride in others."²⁴⁷ The outward performance of dignity exaggerated the physical barrier between races which was doubled in a similar notion of "a mental gulf which can never be bridged."²⁴⁸ Superiority was, therefore, constructed upon not just a difference of degree but also a difference of kind. However, such a doctrine implied that "we... could never govern our subject races successfully or wisely."²⁴⁹

"Our superiority consists neither in kind nor degree, but in the proportion which the good bears to the bad": "the great superiority of the English over the Egyptians... consists in the fact that while the proportion of Egyptians who are endowed with fine qualities is small, the

²⁴⁵ Ibid., Chapter 16. Between 1906 and 1907, 19 villas were built. With the withdrawal of government investment, realty speculators turned to the wider European settler community. However, even in 1913, the majority of the long-term residents were still British. For the development of Zamalek as an 'English suburb', see James Moore, "Making Cairo Modern? Innovation, Urban Form and the Development of Suburbia, c. 1880-1922," *Urban History* 41, no. 1 (2014): 91-3.

²⁴⁶ Innes, *To see with Others' Eyes: An Essay*, 14.

²⁴⁷ Ibid.

²⁴⁸ Ibid., 19.

²⁴⁹ Ibid.

proportion of English endowed with the same qualities is greater.”²⁵⁰ England had accomplished this not by chance but through a purposeful system of schooling that had produced a “whole class of men... from which our army and navy and civil services are mainly recruited, the great upper class, educated at our public schools and universities, brought up amid magnificent traditions, bred in a code of honour and a sense of justice to which the whole world does homage.”²⁵¹ Such a class was utterly lacking in Egypt. Its closest approximation was the effendi. In comparison to the fellahin, the effendi was “more vicious, more dishonest, inferior in physique, less pleasing in appearance, but incomparably more intelligent – often, indeed, intellectual.”²⁵² Nonetheless, he is a product of Europeans: “It is we who have dressed him in hideous and unwashable clothes and given him his education... have lied to him, outwitted him, swindled him, despoiled him... introduced him to drink... unsettled his religious faith; and in all these things we have found him an apt pupil.”²⁵³

For colonial administrators such as Cromer and Milner, the effendi — the Egyptian version of the Indian babu — was a product of modernity’s collision with a non-modern society.²⁵⁴ Innes placed the blame squarely at the feet of the French (“our near relations in the human race”).²⁵⁵ After all, it was to France that many of the generation of young Egyptians who

²⁵⁰ Ibid., 25-6.

²⁵¹ Ibid., 27.

²⁵² Ibid., 34.

²⁵³ Ibid., 35.

²⁵⁴ Alfred Milner, *England in Egypt*, 9th ed. (London: Edward Arnold, 1902), 322-3. See also the discussion of “the modern effendi “under the colonial gaze” in Wilson Chacko Jacob, *Working Out Egypt: Effendi Masculinity and Subject Formation in Colonial Modernity, 1870-1940* (Durham, NC: Duke University Press, 2010), 46-51.

²⁵⁵ Innes, *To see with Others' Eyes: An Essay*, 35.

came of age during the occupation had gone for education — Mustafa Kamil, first among them. The government's policy towards education was explicitly designed to limit the production of an educated class beyond the narrow needs of the bureaucracy for a small cadre of civil servants to staff the secretariats of the various ministries and departments.²⁵⁶ Innes's insistence on racial difference as a matter of degree rather than of kind was certainly a departure from the stated views of Cromer or Milner. However, he did not advocate for increasing government spending on education or curricular reform – both key demands of Egyptian opposition to the government. Rather, it was sportsmanship. Sports would provide a space of socialization between the British official and the Egyptian effendi breaking down the physical barriers between the two communities. Integration would designify race as a political category just as, he argued, it had done for class in Britain.

On April 8, 1907, the national sporting club was founded at a meeting of Alfred Mitchell Innes, Idris Bey Ragheb, Isma'il Pasha Sirry, Abd al-Khaliq Tharwat Bey and 'Umar Bey Luṭfī. The group elected Innes the club's first president and on a subsequent meeting on April 24 at Innes's Cairo residence, established a governing council for the National Club for Sporting Games, later renamed the National Club for Physical Culture.²⁵⁷ It would be opened two years later on the southeast side of the Gezira, half a kilometer away from the bastion of British social life in Cairo, the Khedivial Sporting Club. Established in 1882, the Khedivial Sporting Club was

²⁵⁶ Milner described the educational system in Egypt as “an inverted pyramind” where the little funds earmarked for education were spent “on educating some 11,000 pupils, mostly of the well-to-do classes, mainly for the careers of civil employés or lawyers.” Milner, *England in Egypt*, 391-2.

²⁵⁷ Jacob, *Working Out Egypt: Effendi Masculinity and Subject Formation in Colonial Modernity, 1870-1940*, 85-7. Jacob suggest that Innes was selected president to facilitate the acquisition of land for the club. This is probably true but does not explain why he was a member of the group to begin with.

a gift to the British army from the Khedive after the restoration of khedivial rule following the defeat of the revolutionary government. Limited to army officers, high-ranking administrators, wealthy British residents and members of the Egyptian aristocracy,²⁵⁸ it was an institution that symbolized the caste mentality Innes criticized among the British in Egypt but also a model to be emulated by him and his Egyptian collaborators. Abd al-Khaleq Tharwat would explain on the eve of the Egyptian revolution of 1919 that the idea for the National Club came from a desire to build and maintain a sense of solidarity among the students and graduates of the public schools in Cairo. As Jacobs argues, “the normative force of *al-riyada* [physical exercise] as an ethical and ascetic concept was harnessed to the very material and aesthetic project of building national bodies.”²⁵⁹

The conceptual problem of constructing modern subjects in a non-modern society was a permutation of liberal imperialism’s legitimating project to mediate the, at times, inevitable collision of modernity with traditional society.²⁶⁰ The National Club was the institutionalization of a “mechanism for molding Egyptian bodies to a modern world” only if we take these two terms – “Egyptian bodies” and the “modern world” – as constituted dialectically within the permutation of empire. What is interesting here is how such a site lays claim to a particular conception of the interface between ‘the modern’ and ‘the traditional,’ a means of articulating *simultaneously* the boundaries that separate one from the other and the proper ways for bodies to move between them. Both as an ideal type and social category, the effendi would come to be, as

²⁵⁸ Jean-Marc Ran Oppenheim, "The Gezira Sporting Club of Cairo," *Peace Review* 11, no. 4 (1999). Even in the period from 1907-24, of 1500 new members only 32 were Egyptian. Of those, five were royal princes and the rest pashas or beys (553).

²⁵⁹ Jacob, *Working Out Egypt: Effendi Masculinity and Subject Formation in Colonial Modernity, 1870-1940*, 87-8.

²⁶⁰ Mantena, *Alibis of Empire: Henry Maine and the Ends of Liberal Imperialism*.

Lucie Ryzova has argued, the embodiment of “a border problem” naming those who most deftly possess and deploy the props and repertoire of modernity and authenticity and, therefore, a discursive space around his particular - rather than universal - modernity.²⁶¹ Race, in this framework, has been displaced into a set of hierarchies between the effendi as bearer of a collective subject and his de-subjected others – the peasant, the worker, the aristocrat, the Nubian, the Sudanese.²⁶² It is along these trajectories that national economy would be articulated and flows of finance reconstituted in the first decades of the twentieth century. But, the subject of Egyptian nationalism is only one of many scripts thrust upon actors even as it is the one enshrined as normative by history.

Al-Kawākibī's Science of Politics

The Syrian émigré ‘Abd al-Raḥmān al-Kawākibī arrived in Cairo in the second half of 1898 having left his native Aleppo under the false pretense of pursuing an official post in Istanbul. Descendant from a family of notables, he came of age during the last years of the Tanzimat era and his subsequent career within the provincial administration reflected the tensions and contradictions of the Hamidian period.²⁶³ He took up his first official post in October of 1875 as

²⁶¹ Lucie Ryzova, *The Age of the Efendiyya: Passages to Modernity in National-Colonial Egypt* (Oxford: Oxford University Press, 2014), 85-7.

²⁶² El Shakry, *The Great Social Laboratory: Subjects of Knowledge in Colonial and Postcolonial Egypt*, Chapter 2; Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*, Chapter 6; Powell, *A Different Shade of Colonialism: Egypt, Great Britain, and the Mastery of the Sudan*.

²⁶³ The principal sources for al-Kawākibī's biography are the eulogies published in *al-Manār* shortly after his death (Vol 5, 237-40 and 276-80) which are reproduced along with some additional information in al-Tabbākh's biographical dictionary of Aleppine ‘ulamā’. See

editor and translator of the bilingual (Turkish and Arabic) weekly *al-Furat*, the official circular of the provincial administration before adding on the editorship of *al-Shahba*, the first privately owned paper in Aleppo, in May 1877. He was twice made head of the municipal authority (*niqab al-ashraf*) by Osman Nuri Pasha, first in 1887 and then again in 1893 after his deposition and imprisonment by intervening governors. In 1894, he was appointed head secretary of the sharia court and subsequently elected president of the local Chamber of Commerce and to the administrative council of the provincial branch office of the Agricultural Bank (*Ziraat Bankasi*).²⁶⁴

He resigned from all his positions in mid-1895 travelling first to Istanbul – the first and only time in his life – before returning to Aleppo at the beginning of 1896 and securing from the government an appointment as the manager of the Régie des Tabacs in Aleppo and the district of Deir El-Zor. His close friend and historian of Aleppo, Kamil al-Ghazzi, reports he went to work defending the rights of the cultivators against corrupt agents and firing those who were inefficient. He hired smugglers giving them an incentive to rein in the illegal purchase and sale of tobacco. He also persuaded some of his wealthy acquaintances to create a joint-stock company to work the concession under his direction and sold shares to fund its operation. The company was successful at first but the disruption and upheaval following the uprising of Armenians in Zeitun and the massacres that followed seem to run the company into the ground.²⁶⁵

Muḥammad Rāghib al-Tabbākh, *I'lām al-Nubalā' bi-Tārikh Ḥalab al-shahbā'* (Aleppo: Dar al-Qalm al-'arabī, 1988 [1926]), Vol 7, Entry 1298, 473-85.

²⁶⁴ See Donald Quataert, "Dilemma of Development: The Agricultural Bank and Agricultural Reform in Ottoman Turkey," *International Journal of Middle East Studies* 6, no. 2 (1975).

²⁶⁵ Al-Kawākibī's friend and historian of Aleppo Ghazzi gives the fullest account of his dealings with the Régie. For the only comprehensive biography of Al-Kawākibī in English, see

Al-Kawākibī's critique of despotism belongs to a series of contemporaneous and, at the very least, contiguous debates about the nature of collective life and, in particular, the role of money and debt at the turn of the twentieth century. As described in the previous two chapters of the dissertation, colonial Egypt was made into a laboratory for testing the efficacy of debt for producing a new class of small capitalist landholders accountable not to the timeless obligations of traditional society but to modern capital accounting. Such a class, freed from the uncertainties inherent to the annual agricultural cycle by cheap short- and long-term credit and the bonds of usury, would, it was hoped, with their marginal gains in income turn to profit-making. Buying up the land of those who were less productive and subsuming larger and larger swathes of the country's cultivable land into capital, they would serve as a bulwark against any radical transformation of the countryside. It was precisely against the "possessive quality" of individualism undergirding such projects of ordering society that al-Kawākibī offered his critique.

Until recently, historians of the Middle East have largely read the work of late Ottoman writers like al-Kawākibī through the prism of identity looking for the stirrings of nationalist sentiment that would emerge in the first decades of the twentieth century. This scholarly activity has been contemporaneous if not at times coextensive with the task of tracing the diffusion of Western concepts and technologies and their influence on the historical trajectory of different communities in the region. Intrinsic to both the endogamous and diffusionist models is a reified notion of ideas and technologies emanating from the West and of traditions grounded elsewhere, as things transmitted, traded and passed along through space and through time, respectively.

Itzhak Weismann, *Abd al-Rahman al-Kawakibi: Islamic Reform and Arab Revival* (London: Oneworld, 2015).

Even in disagreement, the models contribute to a stark binary scheme for sifting the authentic from the foreign, secular from the religious, Muslim from Christian, and the universal from the particular.²⁶⁶

These binaries are, of course, not entirely absent from the work of late Ottoman writers, but they served more as signposts for making sense of and navigating the changing social landscape of the late nineteenth and early twentieth century more than they denote the closed-off, balkanized identities intellectual history, in part, made them to be over the preceding century.²⁶⁷ In the case of al-Kawākibī, these poles are nowhere more clearly marked out than in the scholarship of Sylvia Haim and Jān Dāya. Haim's scholarship on al-Kawākibī attempts to trace the influence of European writers on al-Kawākibī's two main works, *Ṭabā'ī 'al-Istibdād wa Maṣari' al-Isti'bād* and *Umm al-Qurā*.²⁶⁸ His ideas are said to have "contradicted the traditional Muslim doctrine" by offering "a purely secular view justifying dissent and revolution, and its introduction into Muslim lands could not fail to have far-reaching consequences."²⁶⁹ Writing

²⁶⁶ Albert Hourani's work is the exemplar of this. See Albert Hourani, *Arabic Thought in the Liberal Age 1798-1939* (Cambridge and New York: Cambridge University Press, 1983[1962]).

²⁶⁷ Asad, *Formations of the Secular: Christianity, Islam, Modernity*; Marwa Elshakry, *Reading Darwin in Arabic, 1860-1950* (Chicago: University of Chicago Press, 2013); Barak, *On Time: Technology and Temporality in Modern Egypt*; Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University Press, 2000).

²⁶⁸ Both articles are drawn from her thesis. See Sylvia Kedourie (née Haim), "The Ideas of a Precursor, 'Abd al-Raḥmān al-Kawākibī (1849-1902), in Relation to the Trend of Muslim-Arab Political Thought" (University of Edinburgh, 1953). These articles form the basis for Albert Hourani's assessment of al-Kawākibī's work (though he adds that "there is something original about his writings owing no doubt to his strong political interests and convictions"). See Hourani, *Arabic Thought in the Liberal Age 1798-1939*, 271-4.

²⁶⁹ Sylvia Kedourie (née Haim), "Alfieri and al-Kawākibī," *Oriente Moderno* 34 (1954): 334.

some thirty years later, Jān Dāya vehemently criticized Haim's presupposition that Arab intellectuals could only have borrowed their ideas from the works of Western thinkers. Rather than arguing for a more nuanced account for the diffusion of ideas and texts, Dāya inserts al-Kawākibī into a purely indigenous intellectual discourse identifying possible predecessors in Butrus al-Bustani and Jamāl al-Dīn Afghānī.²⁷⁰ Yet, neither Haim's nor Dāya's account address the discursive space in which al-Kawākibī operated and, therefore, miss the work and creativity to which he puts the notion of despotism seeing in it a euphemism for Sultan Abdulhamid II or a system of Ottoman autocracy of which he is the figurehead.

Far from needing to unravel unacknowledged chains of transmission, one could turn to al-Kawākibī's own conception of the science of politics (*'ilm al-sīyāsah*) and its distinction from earlier political arts (*funūn al-sīyāsah*). Al-Kawākibī defined politics simply as "the management of collective affairs in accordance with prudence (*idārat al-shu'ūn al-mushtaraka bi-muqtaḍā al-ḥikma*)."²⁷¹ The primary distinction between the older writings on the political arts²⁷² and the new science of politics that emerged among European writers²⁷³ was, first, the latter's

²⁷⁰ Jān Dāya, *Sihafat al-Kawākibī* (Beirut 1984), 97-134.

²⁷¹ al-Kawākibī, *Tabā'i al-Istibdād wa Maṣari' al-Isti'bad*, 7.

²⁷² The earliest examples of writing on this topic were largely digressions in the histories of the Roman Empire; in works of ethics like the collection of fables *Kalīla wa Dimna*, Ibn al-Muqaffa's 8th-century translation of the *Panchatantra* from Middle Persian to Arabic, or the letters of Gregory of Nazianus; and, in religio-political works like *Nahj al-Balāghah*, the collected sermons of 'Alī bin 'abī Tālib, and the advanced works of jurisprudence. This tradition was kept and passed on by Islamic scholars during the Middle Ages even as it flickered out throughout the rest of the world. Al-Kawākibī identifies three systems of thought during the period: the *ṭarīqat al-fars* of al-Rāzī, al-Ṭūsī and al-Ghazālī who mingled discussion of politics with ethics; the *ṭarīqat al-'arab* of al-Ma'arī and al-Mutanabi who mingled it with literature; and, the *ṭarīqat al-maghāriba* of ibn Khaldūn and ibn Baṭūṭah who mingled it with history.

²⁷³ Alongside the work of Europeans, he placed on equal footing those of modern Turkish writers like Ahmad Cevdet Pasha, the prominent scholar and bureaucrat during the Tanzimat and the central figure behind the codification of the Mecelle; Namık Kemal, the renowned poet and political philosopher of the Young Ottomans; Suleiman Pasha, the Ottoman general and

systematization and elaboration into a plethora of subfields and, second, its empirical bent – as opposed to the allegorical logic of the political arts – that necessitated a dialectical conversation between theoretical concepts and observable phenomenon. In his own time, political writing among Arabs had multiplied in the pages of the newspapers and magazines on innumerable topics. In this way, the Arabic press draws attention to the most important political themes “enlightening the thoughts of their Eastern brothers, awakening them, especially the Arabs among them, to what they are unaware and availing them of research, explanation, examples and analysis of what is the truth (of the Eastern disease and its remedy).”²⁷⁴ Despotism (*al-istibdād*) was that disease. However, its meaning went well beyond a euphemism for the Ottoman regime. It signified a “disease” pervading all society. In this context, despotism (*al-istibdād*) referred to more than just the simple definition of “the limiting of man to his own judgements in what otherwise requires consultation.” As he notes, the term has a particular technical meaning for men of politics: “the disposal by an individual or a group of the people’s rights (*ḥuqūq qawm*)

education reformer; and, Hasan Fahmi Pasha, a distinguished Ottoman bureaucrat and author of a short treatise on international law. Equal contribution to the discourse on politics could be found in Arabic contrary to Haim’s claim that al-Kawākibī considered politics a subject that Arabs had “unfortunately neglected. Among Arab writers, al-Kawākibī singled out the Egyptian scholar Rifā‘a al-Ṭaḥṭāwī; Khayr al-Dīn al-Tūnsī, a reform-oriented minister serving first in Tunis and, then, in Istanbul under Abdulhamid II; the writer and translator Ahmad Fāris al-Shidyāq; and, the Syrian writer Salīm al-Bustānī who assisted his father Buṭrus al-Bustānī with the publication of the first eight volumes of his Arabic encyclopedia *Dā‘irat al-Ma‘ārif* as well as experimenting with what would become the genre of the Arabic historical novel. For more on the Salīm, see Roger Allen, “The Beginnings of the Arabic Novel,” in *The Cambridge History of Arabic Literature: Modern Arabic Literature*, ed. M. M. Badawi (Cambridge: Cambridge University Press, 1992).. For an account of al-Bustānī’s encyclopedia, see Albert Hourani, “Bustānī’s Encyclopaedia,” *Journal of Islamic Studies* 1 (1990).

²⁷⁴ al-Kawākibī, *Ṭabā‘i al-Istibdād wa Maṣari‘ al-Isti‘bad*, 5-6.

without fear of consequence.”²⁷⁵ It is this definition that al-Kawākibī adapts in his studies of late Ottoman society.

Al-Kawākibī begins his essay “On Despotism and Wealth (*al-istibdād wa-l-māl*)” with a genealogy of modern forms of subjection.²⁷⁶ Man, unlike all other living things, sought its sustenance not from God or nature but from members of his own species. That man had eaten other men’s flesh was not new. Abolished partially by the sages of China and India, it was only with the first religious law that it was abrogated and superseded by the ritual of human sacrifice to the divine. Gradually, man “forgot the taste of his brothers’ flesh,” and human sacrifice was replaced by animal sacrifice. Despotism, however, had “reanimated the practices of eating human beings in a subtler and more pernicious manner.” The difference was only a matter of form: if ancient man had sacrificed and eaten the flesh of those he captured, despots now captured entire communities rendering “the people (*al-aqwām*) food for the unjust... sacrificing and bleeding them with a scalpel of injustice [while] sucking up their life-blood through the confiscation of their wealth, cutting short their lifespan through coerced labor, and expropriating the fruits of their toil.” In the place of flesh, “the manufacturer of fine goods and greedy,

²⁷⁵ Ibid., 6.

²⁷⁶ Ibid., 58-74. The essay was published as part of a series in the Cairene weekly *al-Muayyad* between 1899 and 1902. The book containing all the individual essays and a new introduction was published the following year under the pseudonym “the Great Traveler K” as *The Characteristics of Despotism and the Demise of Subjugation* (*Ṭabā’i ‘al-Istibdād wa Maṣari‘ al-Isti‘bād*). Sami Hanna and George Gardner provide a partial English translation of the essay in their documentary survey of Arab socialism. See S.A. Hanna and G.H. Gardner, *Arab Socialism: A Documentary Survey* (Leiden: E. J. Brill, 1969), 217-24. For an annotated version of the text in Arabic, see Muḥammad Jamāl Ṭaḥḥān, *‘Awdat al-Kawākibī: Ḥayyāt al-Mufakkir al-Thā’ir wa ‘amāluhu* (Aleppo: Ḥalab ‘āṣmat al-thaqāfat al-‘islāmiyyah, 2006), 341-477. All references are to the 1903 edition.

monopolistic merchants” devoured the material basis of others’ lives subsisting “each of them on what tens or hundreds of thousands of craftsmen and agriculturalists live.”²⁷⁷

Wealth, or money, (*al-māl*)²⁷⁸ was the “life-blood” that made available the material necessities of others available for the sustenance of the wealthy. Al-Kawākibī’s essay on wealth holds a conceptual priority in his account of despotism and social life. Despots are concerned not with morality but with money. Provided from the abundance deposited by God in nature and its laws, no one can possess it except by working upon nature or as compensation.²⁷⁹ Wealth was a means, and therefore, ready equivalent to all desirable human attributes: strength, intelligence, knowledge, religion, steadfastness, dignity, beauty, education and prudence. It was at once “the storehouse of everything from which mankind benefited” and “the site for the corruption peculiar to despotism and the cause of its bad consequences.”²⁸⁰ Despotism led men to forget their God and in his place “worship wealth and beauty making them his goal and aspiration as if he was created a servant to his stomach and his member alone.”²⁸¹

The nature of despotism’s corruption of wealth can be elucidated by reading al-Kawākibī against Marx, not the master-theoretician who wrote *Capital* in London but the young newspaper editor in Cologne. Writing in response to the debates taking place in the provincial assembly of the Rhineland on the theft of wood, Marx relates how the criminalization of taking dead wood traditionally gathered by the poor to heat their homes and cook their food from the forest of the

²⁷⁷ al-Kawākibī, *Ṭabā’i’ al-Istibdād wa Maṣari’ al-Isti’bad*, 61-2.

²⁷⁸ In Arabic, *māl* denotes both wealth as an abstract but also quantifiable thing much as “wealth” does in English.

²⁷⁹ al-Kawākibī, *Ṭabā’i’ al-Istibdād wa Maṣari’ al-Isti’bad*, 63.

²⁸⁰ Ibid., 58.

²⁸¹ Ibid., 62.

large landed estates transformed what had previously been worthless into a source of private wealth. The system of fines put in place as punishment guaranteed payment to the forest owner for the loss of what criminalization rendered *his wood* if not in money than by obligating the “wood thief” to perform forced labor for the owner’s profit. The privation of the customary right of the poor by the invocation of private property meant also the sacrifice of his freedom and humanity for the enrichment of the large land owner: “the forest owner, in exchange for his piece of wood, receives what was once a human being.”²⁸²

The process of dehumanization – the alienation of man from “species-being” – was not only the cutting off of man from nature but also the rendering of man into money, a process which culminated in the credit system:

What constitutes the essence of credit? ... Credit is the *economic* judgement on the *morality* of a man. In the credit system *man* replaces metal or paper as the mediator of exchange. ... Human individuality, human *morality*, have become both articles of commerce and the *material* which money inhabits. The substance, the body clothing the *spirit of money* is not money, paper, but instead it is my personal existence, my flesh and blood, my social worth and status. Credit no longer actualizes money-values in actual money but in human flesh and human hearts.²⁸³

For Marx, the credit system was the culmination of the contradictions between social production and private appropriation that already indicated in sharp relief its own overcoming.²⁸⁴ However,

²⁸² Rheinische Zeitung, No. 307, Supplement, November 3 1842.

²⁸³ Karl Marx, "Excerpts from James Mill's *Elements of Political Economy*," in *Early Writings* (London: Penguin, 1975), 263-4.

²⁸⁴ *Capital: A Critique of Political Economy*, vol. 3 (London: Penguin, 1981), 572-3. “The credit system has a dual character immanent in it: on the one hand it develops the motive of capitalist production, enrichment by the exploitation of others’ labor, into the purest and most colossal system of gambling and swindling, and restricts ever more the already small number of exploiters of social wealth; on the other hand, however, it constitutes the form of transition towards a new mode of production. It is this dual character that gives the principal spokesmen for credit, from Law through to Isaac Périere, their nicely mixed character of swindler and prophet.”

for al-Kawākibī the effect of despotism on wealth was not the instantiation of the contradictory logic of capital but rather the distinction between its rationality and its irrationality from the perspective of politics, “the proper management of collective affairs according to prudence.” This irrationality could only be overcome by subjecting the despotic individual, inscribing him into the common social life, by an Islamic mode of financialization.

Al-Kawākibī elaborates such a mode of financialization around the process of wealth accumulation (*al-tamawūl*). There are few legitimate reasons to accumulate wealth but it was always legitimate if it was to be spent on the poor or in countries that lacked “public organization (*al-intiḡām al-‘ām*)” — institutions like the public ownership of the land and the distribution of wealth through public expenditure — through which society could practice “a common socialist living” as was done during the first two centuries of Islam.²⁸⁵ But even in this case, there were three conditions. The first stipulated that money could only be earned through effort whether as a payment for work or as return on a guarantee. However, this was further limited by the remaining two conditions: that accumulation should not exceed one’s needs and that accumulation should not suppress the needs of others.²⁸⁶

This last condition — that accumulation should not suppress the means of others to acquire their needs— formed the basis of his critique of possessive individualism. He gave three examples of such suppression: the creation of monopolies over life’s necessities, competition with weak workers and the enclosure of public spaces such as through the ownership of land. Of

²⁸⁵ al-Kawākibī, *Ṭabā’i‘ al-Istibdād wa Maṣari‘ al-Isti‘bad*, 63. Al-Kawākibī points to the society that existed during the first two centuries of Islam as exemplifying what he terms “a common socialist living.” He highlights the custom of *zakaṭ* as a central aspect of this form of collective life.

²⁸⁶ *Ibid.*, 65-7.

the three, it was the last — the ownership of the earth — that was the most grievous to collective life. It was “the most unjust despots who established laws for the protection of [landed property] from the children of the earth and who have separated the one from the other.” Ireland and Egypt, he argued, exemplified such despotism. In Ireland, “one thousand English capitalist despots [were protected] so that they can enjoy two-third to three-fourths the production of ten million people created the earth of Ireland.” Egypt would become far worse, he warned, if action was not taken. He pointed to land reforms proposed in China and Russia as a solution. In China, he claimed, the government did not allow individuals to own more than more than the equivalent of five Egyptian feddans.²⁸⁷ A similar law in Russia added a prohibition against filing suit over the unregistered debts of cultivators and limiting the amount of debt cultivators could have to 500 francs. Without such laws, “[Egypt’s] arable lands after fifty or one-hundred years would become like that of the poor Irish.”²⁸⁸

Al-Kawākibī’s discussion of wealth accumulation demonstrated a mode of financialization bent towards the creation of “a common socialist living” against the possessive individualism that he saw as infecting not just society but human nature. Rather than throwing finance to the wayside, al-Kawākibī sought the limitation of its possessive tendencies by attaching conditions and stipulations to how and to what purpose accumulation should take place. As the next section shows, there were other ways of refashioning finance. Whereas al-Kawākibī saw the possessive individualism as a natural human tendency, Muhammad ‘Abduh

²⁸⁷ It is unclear what Chinese laws he is referring to here. As far the literature on property in Qing China discusses, there were no such limits on land ownership.

²⁸⁸ al-Kawākibī, *Ṭabā’i’ al-Istibdād wa Maṣari’ al-Isti’bad*, 65-6.

saw it as a particular outcome of ethical self-making. Finance then became a site among others for refashioning the modern subject inscribing the individual into the moral community of Islam.

Delineating an Islamic Mode of Financialization

In 1904 Muhammad ‘Abduh issued a response to queries from the Egyptian government regarding the legality under Islamic law of the savings certificates issued by the recently established Post Office Savings Bank. His response, later published in Muhammad Rashid Rida’s journal *al-Manār*, was that such operations were allowed under the rubric of *muḍāraba*, a contract between depositors and fund manager (here, the Postmaster-General) in which the depositors agree to share their profits with the manager but also to bear any losses.²⁸⁹ Abduh’s pronouncement is widely considered as a founding event for Islamic discourse on modern finance.²⁹⁰ In his *Islamic Finance in the Global Economy*, Ibrahim Warde claims “modern Finance entered the Islamic world alongside Western colonial expansion,” a process in which “Egypt’s role in legitimizing modern finance cannot be overemphasized.” Not only was it “the first Islamic country to possess indigenously controlled banks” but more importantly “it is in Egypt that interest was legitimated by religious authorities.”²⁹¹

²⁸⁹ *al-Manar* 1904: 28-9. For a discussion of the pronouncement, see Chibli Mallat, "Tantawi on Banking Operations in Egypt," in *Islamic Legal Interpretation: Muftis and their Fatwas*, ed. Muhammad Khalid Masud, Brinkley Messick, and David S. Powers (Cambridge, MA: Harvard University Press), 286; *ibid.*) For a discussion of the *muḍāraba* contract in contemporary Islamic finance, see Hasan Zubair, "Mudarabah as a Mode of Finance in Islamic Banking: Theory, Practices and Problems," *Journal of Middle East Business and Economics* 2, no. 14 (2002).

²⁹⁰ Ibrahim Warde, *Islamic Finance in the Global Economy* (Edinburgh: Edinburgh University Press); Mallat, "Tantawi on Banking Operations in Egypt."

²⁹¹ Warde, *Islamic Finance in the Global Economy*, 49.

‘Abduh figures as the most prominent of those religious authorities. Yet, his pronouncement did not legitimate modern finance as is often argued. Instead, ‘Abduh’s pronouncement sought to refashion finance as a discursive site for enacting new ethical dispositions and sensibilities around questions of calculation. Calculation in this context does not mean simply the carrying out of numerical operations. It refers to a more general process of detachment, reattachment and assemblage that encapsulates not just arithmetic calculation but also qualitative judgements and collective action.²⁹² As Michel Callon and Fabien Muniesa describe it, “calculation starts by establishing distinctions between things or states of the world, and by imagining and estimating courses of action associated with those things or with those states as well as their consequences.”²⁹³ Yet, no calculation is possible without the labor of formatting that sets a limit to what should and should not be taken into account in a particular formatting regime. All formatting regimes share, in the words of Callon and Bruno Latour, “a common categorical imperative,” the interdiction “Thou shall not calculate!” The difference between formatting regimes then is not one of competencies – between calculating individuals and non-calculating individuals – but merely “the way in which we distribute the associations we wish to highlight and those we do not want to trace at any price.”²⁹⁴ The interdiction of

²⁹² Franck Cochoy, "Calculation, Qualculation, Calculation: Shopping Cart Arithmetic, Equipped Cognition and the Clustered Consumer," *Marketing Theory* 8, no. 1 (2008).

²⁹³ Callon and Muniesa, "Peripheral Visions: Economic Markets as Calculative Collective Devices."

²⁹⁴ Michel Callon and Bruno Latour, "« Tu ne calculeras pas » ou comment symétriser le don et le capital," *La Revue du Mouvement anti-utilitariste dans les sciences sociales* 9: 11. Page number refers to the translation by Javier Krauel available at <http://www.bruno-latour.fr/sites/default/files/downloads/P-71%20CAPITALISME-MAUSS-GB.pdf>.

calculation her sets the norms, “the epistemological horizon within which subjects come to be” through acts of ethical self-making.²⁹⁵

The Post Office Savings Bank, the subject of Abduh’s pronouncement is a case in point. First opened in 1901, the Post Office Savings Bank was alongside the Agricultural Bank of Egypt part of a broader experiment in what Lord Cromer described as a project “to create a large class of small holders who would constitute a conservative dead weight, averse to radical changes” through the provision of cheap credit that would displace usurers and bring wealth into sanctioned regimes of circulation where it could be measured and regulated by the colonial bureaucracy.²⁹⁶ The Savings Bank accepted small cash deposits, the total for any individual not to exceed £E200, which the Bank then used in various small investments. In exchange for the deposits, the Bank issued savings certificates entitling the holder to a fixed rate of 2.5% on the money deposited. Through these experiments, the government sought to conscript a large segment of the agricultural population into the calculative arrangements underpinning imperial visions of social and moral order, visions predicated on a particular relationship between individual self-interest and public utility.²⁹⁷

²⁹⁵ Judith Butler, *Giving an Account of Oneself* (New York: Fordham University Press), 17.

²⁹⁶ PRO 30/57/4, Lord Cromer to Lord Kitchener, 25 July 1912. This is the subject of Chapter 2.

²⁹⁷ Esmeir, *Juridical Humanity: A Colonial History*, Chapter 2. Esmeir argues for a reading of the history of colonization as “not a dehumanizing, but as working to include [Egyptians] in the realm of universal humanity, which colonial law simultaneously facilitated (68).” The argument here is that these experiments did much the same on an economic register, bringing Egyptians into circuits of capital. On colonial legitimization and public utility, see Jakes, “The Scales of Public Utility: Agricultural Roads and State Space in the Era of the British Occupation.”

By the end of the Savings Bank's first year of operation, Lord Cromer was already expressing concern about a possible "obstacle" to the experiments success. Of the 6,740 individuals to open accounts, 390 individuals, all Muslim, had renounced the interests on their deposits.²⁹⁸ By December 1903 that number had increased to 3,159. This was troubling for it seemed indicative of a reservation about the legality of such deposits in the eyes of Muslims, and, therefore, a plausible explanation for why the predominantly Muslim agricultural population targeted by the experiment did not amount to even one percent of total depositors.²⁹⁹

The solution devised was to displace questions of legality by opening a second section of the Savings Bank that would cater to Muslim concerns. By the end of 1903, the government had already drafted a revised law "in consultation with the Grand Mufti [Muhammad Abduh] and other high authorities on the law of Islam... couched in terms which will... remove all doubts from the minds of Moslems as to the legality of placing their money in the Savings Banks."³⁰⁰ Promulgated the following March, the new legislation created a special section of the Savings Bank. Depositors in this special section authorized the employment of their deposits by the Postmaster-general but only in a manner authorized by Islamic law. The individual deposits would be combined in a common fund and the depositor would be entitled to a share of the profits not to exceed one-fortieth of his capital – analogous to the 2.5% rate of interest applied to deposits in the ordinary section. Any excess profit was to be retained by the Post Office as

²⁹⁸ Egypt. No. 1(1902) *Reports by His Majesty's Agent and Consul-General on the Finances, Administration, and Condition of Egypt and the Soudan in 1901*, 9.

²⁹⁹ Egypt. No. 1 (1904), 16. Of the 20,199 total depositors on December 31, 1903, only 169 were registered as "engaged in agriculture."

³⁰⁰ Ibid.; Egypt. No. 1 (1905), 41. Language is repeated in both reports.

commission.³⁰¹ This arrangement was lauded as a success by Lord Cromer in his reports to the British parliament. By December 1904, the special section had 12,945 Muslim depositors, among whom 94 were described as religious authorities whether *shaykh* or *‘ālim*.³⁰²

What Muhammad ‘Abduh acquiesced to was not a legitimization of modern finance but the articulation of a different interdiction of calculation, a different formatting regime that would redistribute the associations to be taken into account. A fixed and predetermined interest rate of 2.5 percent effectively compartmentalized the calculative bounds that defined the calculative property of the individual depositor from the investment decisions of the Bank. This compartmentalization prevented the depositor from exercising an ethical concern with how his deposit was put to use. Hence, it could be argued, the renouncement of that interest by some Muslim depositors. By vesting the Postmaster-General with only a limited authority that required funds to be used in religiously sanctioned ways, the depositor could perform a subtle difference in the balance of attachments and discharges, interestedness and disinterestedness, that constituted the sequence of transactions defined by the deposit agreement.³⁰³

Conclusion

Both al-Kawālibī and ‘Abduh critiques highlight how the prevailing modes of financialization concretize a conception of the individual around acts of profit-making. This act, was grounded in the dehumanization — radically so in the case of al-Kawālibī — germane to

³⁰¹ *Journal Officiel* (March 15, 1904)

³⁰² Egypt. No. 1 (1905), 41.

³⁰³ Callon and Latour, "« Tu ne calculeras pas » ou comment symétriser le don et le capital."

both prevailing and emerging modes of financialization. Yet, even in seeing in finance a force for the disruption and dissolution of the material basis of social life, they also saw it as a possible means of renewing society and refashioning the individuals place in it. The solution each offered, therefore, reflected not a rejection of finance, but experimentation with the limits and possibilities of finance for inscribing the individual within alternative frameworks for collective life. While forms of national economy reconfigured the significance of race and finance around a new set of others to be dehumanized as factors of production, sought to use finance as a means of remaking the foundations of the social world.

Chapter 4

Through a Camera Obscura

Introduction: “Kairo, 2 März 1908”

In 1908 the Austrian economist Joseph Schumpeter, considered one of the greatest economic thinkers of the twentieth century, published his first book, *Das Wesen und der Hauptinhalt der Theoretischen Nationalökonomie (The Nature and Content of Theoretical National Economics)*. The 626-page monograph proposed a rapprochement between the German Historical School’s “national economics” and the Austrian marginalists’ atomistic view of economic phenomena. Whereas the former had aimed at creating a panoramic vision of national economy through trade statistics, the latter sought to ground such complicated phenomena into the most elementary of its parts, the calculating individual *homo economicus*. Schumpeter proposed a “pragmatic” approach to the study of economics that would combine the concerns of national economy with the methodological individualism of the Austrian marginalists. As early as 1905, he identified the floor of the great stock and commodity exchanges that had arisen during the nineteenth century as the “concrete spatial centers of price formation” through which economics must be rethought if it were to claim any sort of scientific authority.³⁰⁴ The observation of price changes would produce “a snapshot of the national economy” that when put

³⁰⁴ Joseph A. Schumpeter, “Die Internationale Preisbildung,” *Statistische Monatsschrift* 10 (1905): 923. Quoted in Quinn Slobodian, “How to see the world economy: statistics, maps, and Schumpeter’s camera in the first age of globalization,” *Journal of Global History* 10, no. 2 (2015): 325.

in motion by the mathematical models of general equilibrium would serve as an objective basis for investigating the dynamics of the wider economic system.³⁰⁵

Schumpeter's early writings capture a moment not just in the history of twentieth century economics, but in the emergence of a new set of arrangements that would simplify the world into reality and its calculations. The genealogy of these forms of calculation were inextricably colonial, linked to broader transformations that brought cities like Cairo and Alexandria into the emerging circuits of late imperial finance described by his East European contemporaries.³⁰⁶ Schumpeter was well aware of this having written the manuscript of *Das Wesen* not in London or Vienna, but in Cairo. One of many Europeans to take up employment in Egypt during the heyday of British colonial rule, he had been engaged by an Italian law firm to represent cases before the Mixed Courts and, through circumstances that remain unclear, came to manage the investments of a daughter of Khedive Abbas II among other lucrative ventures.³⁰⁷ By the first decade of the twentieth century, Cairo formed one of a handful of major junctures in the world financial system alongside London, New York and Paris. In 1907, the total capitalization of companies

³⁰⁵ Joseph A. Schumpeter, *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie* (Leipzig: Duncker & Humblot, 1908), 128.

³⁰⁶ Rudolf Hilferding, *Finance Capital: a study of the latest phase of capitalist development* (London: Routledge & Keegan Paul, 1981); Vladimir I. Lenin, *Imperialism: The Highest Stage of Capitalism* (London: Pluto Press, 1996); Rosa Luxemburg, *The Accumulation of Capital* (London and New York: Routledge, 2003).

³⁰⁷ Thomas McCraw, *Prophet of Innovation: Joseph Schumpeter and Creative Destruction* (Belknap Press: Cambridge, MA and London, 2007), 60-2; Robert Allen Loring, *Opening Doors: The Life and Work of Joseph Schumpeter - Europe* (New Brunswick, NJ: Transaction Publishers, 1991), 66-8. Little explanation is given of Schumpeter's dealings in Cairo by his biographers. Loring even indicates that some aspects were embellished by Schumpeter himself. In any case, Khedive Abbas II had attended the Theresianum in Vienna until he was recalled to Egypt following his predecessor Tewfik's death in 1891. Schumpeter would matriculate there in 1893. This social proximity may explain in part how he came to be employed by a member of the royal family. Reference is also made to his part in the reorganizing of a sugar factory in Cairo, though again the details are unclear.

established or operating primarily in Egypt amounted to £92,617,219 including many whose stocks and bonds were traded on exchanges in London and, to a lesser extent, Paris.³⁰⁸ At the same time, the dominance of all economic questions by the figures of the annual cotton crop reduced the complexities of national economy into a singular figure – the price of cotton – amenable to mathematical modeling and other forms of graphical manipulation that constituted the technical repertoire of early twentieth century statisticians and economists.³⁰⁹ Cairo, far from a colonial periphery or intellectual backwater, functioned as a laboratory for economists like Schumpeter to fashion the techniques and instruments around which the discipline of economics would congeal in the following decades.

This chapter examines the emergence of the cotton market as an object of empirical investigation - an “epistemic thing”³¹⁰ - and the forays of economists and their allies in colonial Egypt to contain it within new calculative arrangements. The history of cotton cultivation in Egypt and its export to European manufacturers dates to the 1820s and the work of Louis Alexis Jumel, a French engineer in the service of Egypt’s ruler Muhammad Ali.³¹¹ Before the turn of the century, however, the phrase “cotton market” was only occasionally used to refer in a vague sense to different aspects of the material and legal infrastructures that transformed seed cotton into the relatively homogenous pressed and packaged bales transported to the shore of the Nile

³⁰⁸ *L'Annuaire Statistique 1912*, 526-7.

³⁰⁹ Jacques Lumbroso, "Le Coton: Son influence sur la prospérité générale de l'Égypte," *L'Égypte contemporaine* 1, no. 2 (1910). Also quoted by Timothy Mitchell who makes a similar point linking the dominant position of cotton to “the homogenization of economic relations.” See *Rule of Experts: Egypt, Techno-politics, Modernity*, 95.

³¹⁰ Hans-Jorg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Stanford: Stanford University Press, 1997), 28-9.

³¹¹ Gabriel Dardaoud, "Un Ingenieur Francais au Service de Mohamed Ali, Louis Alexis Jumel (1785-1823)," *Bulletin de l'Institute d'Egypte* 22 (1940).

(or later the nearest rail station) for transport to the district of Minat al-Bassal in Alexandria.³¹²

In the wake of catastrophic harvest of 1909, the cotton market took on a new specificity in Egypt around questions of economic forecasting and futures pricing. Even as it retained some semblance of wider economic processes, the cotton market increasingly came to refer to, in Schumpeter's apt phrasing, "concrete spatial centers of price formation." In the case of Egypt, such centers referred to the trading pit of the Alexandria Cotton Bourse. Marginalists' propensities to objectivity through scientific observation fit keenly with the systems of observation that mediated the historically negotiated boundaries of speculative finance in Egypt. Price quotations and market reports would mediate between the speculative calculations of the brokers and jobbers who inhabited the Bourse and the work of economists to enlist the cotton market into new calculative arrangements for engendering a more certain collective future.

The focus in this chapter on calculation is meant to highlight the work done by economists in framing the economic, or what Michel Callon and Koray Çalişkan term "economization,"³¹³ as well as to make visible the historical relation between these acts of framing and speculative finance. Through notions of performativity, sociologists of finance have attempted to step beyond the dichotomy between economics and the economy by placing the emphasis on the persistence of economic phenomena. While this has paid off in cases where phenomena can be taken as constant for the sake of analysis such as in contemporary financial

³¹² In this it was interchangeable with phrases like 'the marketing of cotton' which remained prevalent well into the twentieth century. See John A. Todd, *The Marketing of Cotton: From the Grower to the Spinner* (London: Sir I. Pitman & Sons, Ltd., 1934).

³¹³ Caliskan and Callon, "Economization. part 2: a research programme for the study of markets."; "Economization, part 1: shifting attention from the economy towards processes of economization."; Callon, *The Laws of the Markets*.

markets,³¹⁴ it offers little guidance in tracing how new forms of economic knowledge production such as neoclassical economics engendered novel arrangements of collective life, or vice versa.³¹⁵

Calculation allows for a further analogy to the experimental sciences, a move often shunned by historians of economics – its “graphematic materiality.”³¹⁶ Calculation in this context does not mean simply the carrying out of numerical operations. It refers to a more general process of detachment, reattachment and assemblage that encapsulates not just arithmetic calculation but also qualitative judgements and collective action.³¹⁷ As Michel Callon and Fabien Muniesa describe it, “calculation starts by establishing distinctions between things or states of the world, and by imagining and estimating courses of action associated with those things or with those states as well as their consequences.” As with scientific experimentation, the mark of an accomplished calculation is the production of a new entity that “corresponds precisely to the manipulation effected in the calculative space and links the entities taken into account,” but is able to be extracted from the space of calculation and circulate without carrying in tow the entire calculative apparatus.³¹⁸ Price quotations, futures contracts, cotton samples, crop estimates: these

³¹⁴ "What Does it Mean to Say that Economics is Performative?."; MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets*.

³¹⁵ Callon, "Performativity, Misfires and Politics."; Judith Butler, "Performative Agency," *ibid.*

³¹⁶ Hans-Jorg Rheinberger, "'For all that gives rise to an inscription in general'," *Radical Philosophy*, no. 187 (2014): 11. The work of Mary Morgan and Donald MacKenzie are the principle exception in the historiography of economics. See Morgan, *The World in the Model*; MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets*.

³¹⁷ Cochoy, "Calculation, Qualculation, Calculation: Shopping Cart Arithmetic, Equipped Cognition and the Clustered Consumer."

³¹⁸ Callon and Muniesa, "Peripheral Visions: Economic Markets as Calculative Collective Devices."

calculated entities circulate to be taken up and used anew. In the economist's wake is left a series of representational chains whose objectivity is guaranteed not by logical deduction, induction or any sort of causality but merely by the amenability of these graphical traces to further calculation.³¹⁹

The following pages explore how the cotton market emerged as an object of economic inquiry in colonial Egypt and how economists enlisted it in new calculative arrangements. It begins with the foundation of the Khedivial Society of Political Economy, its inaugural research program on landed property and the absence of any significant place in it for the market. This is followed by a historical outline of what would come to be called the cotton market in Egypt, specifically the Alexandria Cotton Bourse and the Alexandria General Produce Association, and its place within the calculative arrangements that tied physical bales of cotton to the derivative instruments traded on the floor of the Bourse. With the scene set, a discussion of the cotton disaster of 1909 emphasizing the role played by forms of calculation – crop forecasting and forward contract pricing – demonstrates how the cotton market became a matter of concern for economists and statisticians. The next chapter will continue the story by examining how economists worked to contain and harness the speculative powers of the cotton market.

Beginnings

³¹⁹ Latour, "Circulating Reference."; "Visualization and Cognition: Thinking with the eyes and hands."; Michel Foucault, "On the Archaeology of the Sciences: Response to the Epistemology Circle," in *Aesthetics, Methods, and Epistemology*, ed. James D. Faubion, The Essential Works of Michel Foucault 1954-1984 (New Press, 1998).

In April 1909, some two dozen members of Cairo's elite gathered under the auspices of Prince Ahmed Fuad Pasha (Fuad I), future ruler of Egypt and rector of the recently established Egyptian University, to found the Khedivial Society for Political Economy, Statistics and Legislation (KSPE).³²⁰ They met in a leased mansion along the southern edge of Midan al-Ismā'īlīyyah where the Egyptian University had opened its doors for the first time only four months prior.³²¹ The impetus for the society emerged from a lecture course offered at the university by the French economist Paul Reboud during the preceding semester which had regularly attracted a sizable audience of bank employees, members of the bar, judges and government administrators.³²² The amount of interest highlighted a fairly large lacuna in the scholarly landscape of the country that could not be filled by the young university, requiring instead a specialized forum that could bring together the wealth of economic expertise already in

³²⁰ The official title of the society is the Société Khédiviale d'Économie Politique, de Statistique et de Législation. Very little has been written on the society especially given its importance for the country's history in the twentieth century. Robert Vitalis's seemingly offhanded reference to the KSPE as "Egypt's first economic-policy think tank" is, perhaps, not that far off the mark. For Vitalis's remark, see Vitalis, *When Capitalists Collide: Business Conflict and the End of Empire in Egypt*, 202. For other discussions of the society, see Kristin Koptiuch, *A Poetics of Political Economy in Egypt* (Minneapolis and London: University of Minnesota Press, 1999); Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*.

³²¹ The meeting took place at the former mansion of Ahmed Khairy Pasha, former education minister and confidant to Khedive Ismail. The building had been purchased by the tobacco magnate Nestor Giancalis who converted the living quarters into his company's offices and added a large cavernous hall to house the expanded production facilities for ready-made cigarettes. In 1907, he moved his facilities eventually leasing the former mansion to the Egyptian University. Today it houses the administration of the American University in Cairo. See Relli Shechter, *Smoking, Culture and Economy in the Middle East: The Egyptian Tobacco Market, 1850-2000* (London and New York: I.B. Tauris, 2006), 38-9; Donald Malcolm Reid, *Cairo University and the Making of Modern Egypt* (Cambridge: Cambridge University Press, 1990), 31.

³²² Germain Martin, *Conférences sur l'évolution économique des grandes nations au XX siècle* (Cairo and Paris: Egyptian University and Arthur Rousseau, 1910), v. Germain Martin's lecture course delivered the preceding fall had started off with 40 registered. By the middle of the semester, this had increased to 140.

the country to focus on “the problems of national life.”³²³ Towards this end, Prince Fuad enlisted the financial backing of Cairo’s wealthy, both native and expatriate, and solicited donations from the branches of European banking houses established in the city over the preceding decades. By April, a board of directors had been assembled and statutes drawn up for governing the new society.

The purpose of the KSPE, as described in its statutes, was “the theoretical and practical study of questions of political economy, statistics and legislation, not solely for the instruction of its members but also for that of the public.”³²⁴ By the end of its first year, the society’s membership numbered three hundred individuals drawn from the city’s elite, both native Cairenes and European expatriates: bank directors, industrial magnates, government ministers, judges, lawyers, scholars, statisticians, and two royal princes. In order to coordinate the scholarly activity of its diverse membership, Prince Fuad requested in July 1909 that the French Ministry of Education designate a professor of political economy who could, over the next six months teach a lecture course at the Egyptian University, organize the work of the new society and assist in the setting up of a special journal to communicate its work to its members and the wider educated public. Germain Martin, a professor of political economy and colleague of Paul Reboud’s at the Law Faculty of Dijon, was recommended for and accepted the nomination for the position.³²⁵ Over the course of the following months, Martin worked closely with Isaac G.

³²³ "Introduction," *L'Égypte Contemporaine* 1, no. 1 (1910).

³²⁴ *Ibid.*, 2.

³²⁵ Martin had also served as managing editor of the *Revue d'Economie Politique*, a journal founded by Charles Gide which would be the major organ of mathematical economics in France, regularly publishing the work of Léon Walras and other proponents of Austrian marginalism who were otherwise shut out of French economic circles by the dominant liberal school. He was elevated to the journal’s executive committee after his sojourn in Egypt. For the

Lévi, the society's secretary and employee of the government's General Statistical Service, to establish the society along scientific lines. For this purpose, it was decided to develop a single research program that would not only satisfy the diverse interests of the society's members but also ground the work empirically in the political economy of the country.

An outline of the research program was presented in a report to the KSPE's board of directors in December and subsequently published in the first issue of the society's journal *L'Égypte Contemporaine* in January 1910. The report proposed that the society dedicate itself to the problematic of landed property which Martin described as "the great problem" from which flowed "causes material, economic and social."³²⁶ The extent of what such a research program would encompass was laid out in the accompanying outline. The program was divided into four parts each composed of several chapters and sections. Part I *La Nature et L'Homme* would treat Egypt's geography and climate, its major geological and hydrological structures, its population and juridical systems. Part II *Le Mise en Valeur du Sol: Evolution des Méthodes Générales* would examine existing modes of land ownership and agricultural production, their historical evolution and their relation to capital. Part III *La Vente des Produits Agricoles* would describe systems of marketing agricultural products and recent historical transformations in the relation between the market, prices and the value of land. Part IV *La Condition des Producteurs* would discuss the socialization of agricultural labor (credit cooperatives, mutual associations,

Revue d'Economie Politique and its centrality to the emergence of French marginalism, see Yves, "French Economists and Marginalism."

³²⁶ Germain Martin, "Rapport à S. A. le prince Ahmed Fouad pacha et au Conseil d'administration sur l'*Organisation des travaux*," *L'Égypte Contemporaine* 1, no. 1 (1910): 19.

syndicates and educational societies) and the current conditions prevailing among agricultural producers in the countryside.³²⁷

Such an envisioning of national economy drew on the nineteenth century tradition of French and Anglo-Scottish political economy represented by Quesnay, Say and Ricardo, but did so through the more contemporary prism of the French historical school and the specific sociomaterial assemblage of land in Egypt.³²⁸ The former understood the ownership and exploitation of land to be the source of all wealth. For Ricardo in particular, the aim of political economy was to determine the laws that regulated the distribution of wealth – “the produce of the earth – all that is derived from its surface by the united application of labour, machinery, and capital.”³²⁹ Yet, the space of agrarian property that appears in the work of Ricardo is a small world framed by the system of numerical accounting peculiar to scientific agriculture and which came to constitute the forms of economic reasoning embedded in his models.³³⁰ By the end of the nineteenth century, this small world had apparently undergone a scale shift fueled by the new communication and transportation technologies that brought vast new tracts of land in the United States and Argentina ever closer to agricultural producers throughout continental Europe and the colonial world, Egypt included.³³¹ This increased financial and economic entanglement was comprehended in tabular form: kilometers of railway and telegraph cable laid, metric tons of steel and wheat production, rail and ship tonnage, and the periodic movement of stock and

³²⁷ Ibid., 21-33.

³²⁸ This addendum is critical for understanding Martin’s collaborations with I. G. Lévi, discussed in the following chapter.

³²⁹ Ricardo, *On the Principles of Political Economy and Taxation*, 67.

³³⁰ Morgan, *The World in the Model*, 44-90.

³³¹ For how this process unfolded in the American Midwest, see Cronon, *Nature's Metropolis: Chicago and the Great West*.

commodity prices.³³² If for Ricardo, all questions of wealth were framed by the possibility of landed property and numerical accounting, then for Germain Martin and many of the founders of the KSPE, this had to be embedded in the legal and material infrastructures that had come to constitute the world market at the beginning of the twentieth century and, therefore, the tabular space through which it was comprehended.

In this context, landed property did not name a subject of research unto itself but a schema for organizing and making sense of the country's political economy, a representational space whose local genealogy examined in the two previous chapters was the work of Royal Engineers, financial advisors and rural bank agents. Yet even before the first issue of *L'Égypte Contemporaine* went to press, new ways of making visible the realm of the economic were emerging as Egyptian and colonial officials grappled with the consequences of this new world. By the end of 1909, it seemed to many that, rather than land, it was at least partly from the market that wealth flowed and, therefore, it was to the market that economic inquiry should be directed. At the same time, the market became something different: visible not in the aggregate of railways and telegraph wire that connected continents and brought the world market into being, but in the movement of prices on the floor of the stock and commodity exchanges.

This new way of seeing the market was literally slipped into the first issue of *L'Égypte Contemporaine* at the last minute: a massive graph measuring six by two feet prepared by the banker Adolphe Cattai plotting the price movement of Egyptian cotton futures based on the daily quotations of the Alexandria Cotton bourse from November 1908 to the end of October

³³² For the tabulation of price movements as a precursor to first differences, see Judy L. Klein, *Statistical Visions in Time: A History of Time Series Analysis, 1662-1938* (Cambridge: Cambridge University Press, 1997), 56-59.

1909 (see Figure 1).³³³ Totalling some 1,200 individual plots, the graph traced the price movement of the four or five different cotton futures contracts sold on the Bourse in any given month. What Cattauai had accomplished was to render the futures market in a novel calculative space, making visible the temporal and geometric relation between individual price quotations. Its production required combing through the Bourse's weekly reports for the previous year and bringing the otherwise disparate figures into a single process over time on a two-dimensional plane. Once rearranged in this way, the graph was reproduced for the KSPE's membership using the same techniques devised for the reproduction of the government's massive cadastral maps: projecting it through the aperture of a camera obscura onto photo-metal lithography plates (see Figure 2). If for Freidrich Engels writing in 1890, "the money market man" saw the world through the stock market upside-down, inverted as if through a camera obscure,³³⁴ then for economists in Egypt at the turn of the century, the camera obscura sealed the market's objectivity.

Framing the Market

"Long, tolerably fine in staple, but rather dull in colour, and not very well cleaned" – this is how a clerk described the first recorded shipment of cotton to arrive in Liverpool from Egypt in April 1823. It would sell the next month at auction fetching a premium over all but the best

³³³ Adolphe Cattauai, "Graphique des variations des prix des cotons futurs à la Bourse d'Alexandria pendant les mois de novembre 1908 à fin octobre 1909," *L'Égypte Contemporaine* 1, no. 1 (1910). This is the first graph of its kind printed in Egypt, as far as I've been able to determine, and consists of some 1200 individual plots tracing the movement of 4-5 different futures sold during a given month.

³³⁴ Freidrich Engels, "Engels to Conrad Schmidt in Berlin, 27 October 1890," in *Karl Marx Frederick Engels Collected Works* (New York: International Publishers).

bales of the comparably long-stapled Pernambuco cotton from Brazil. By the end of the year, three thousand “bags” had arrived each fetching a handsome price at auction.³³⁵ While the history of cotton cultivation in Egypt is well accounted for in Egyptian historiography,³³⁶ little attention has been paid to the complex machinery and forms of calculation that disentangled those “long, tolerably fine” fibers into the homogenous abstraction bought and sold on the floor of the Alexandria Bourse or the Liverpool Cotton Exchange. The figures Adolphe Cattau brought together on his graph were themselves products of such calculative arrangements. Before dealing with how the cotton market emerged as a matter of concern at the end of 1909, it is necessary to understand what exactly it was that economists were drawing on when they started to detach and rearrange the calculated figures of the cotton market.

That such little attention has been cast by historians on the operations of the exchanges is surprising given that they were both a matter of regular cultural consumption and political debate within Egypt. As On Barak has pointed out, the cotton and stock exchanges were key sites in the history of the Arabic press overlooked by historical accounts that have largely reproduced “the anthropocentric biases” of the Egyptian literary elite and their contribution to the Arabic cultural renaissance of the period while ignoring the sociotechnical infrastructures that made it possible. *Al-Ahrām*, the first private newspaper, began in 1876 as a weekly printed across the street from the Alexandria Cotton Bourse, and the first daily newspaper in the country, or rather “wallpaper,” consisted of the posting of daily telegraphic news hung on the walls of the Cairo

³³⁵ Quoted in Thomas Ellison, *The Cotton Trade of Great Britain including a History of the Liverpool Cotton Market and of the Liverpool Cotton Brokers' Association* (London: E. Wilson, 1886), 88.

³³⁶ Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*. Owen’s work remains the central and only monograph dedicated solely to the history of cotton in Egypt.

Cotton Bourse in the 1890s.³³⁷ Price quotations from the major European and Egyptian exchanges appeared daily in both Arabic and foreign language newspapers in Egypt. Stock and commodity brokers as well as their speculating clients were prevalent characters in literature appearing regularly in the pages of Muhammad Muwaylihi's newspaper *Miṣbāḥ al-Sharq* and the work of his son Ibrahim.³³⁸ The series of world financial crises beginning in 1873 resonated strongly within Egypt leading to debates about speculation that mirrored and informed those in France and elsewhere around the role of the stock and commodity markets in society.³³⁹ Even Lord Cromer chimed in during his annual report to Parliament in 1901 to denounce speculation on the exchanges in Cairo and Alexandria based on "the wildest rumors... and numerous prophecies that were made as to the future levels to which the river would rise or fall and as to the ultimate yield of the cotton crop."³⁴⁰

Central as these institutions were to Egyptian cultural production at the beginning of the century, their significance extended beyond the boundaries of the country. The world's first organized cotton futures market began operating in Alexandria following the laying of the Alexandria-Malta telegraph line in October 1861 only six months after the Union blockade of southern ports was proclaimed in the United States. New York would follow almost a decade later in 1870 after the laying of the second transatlantic cable; Liverpool in 1873; Mumbai in

³³⁷ Barak, *On Time: Technology and Temporality in Modern Egypt*, 130.

³³⁸ Muhammad al-Muwaylihi, *Hadith `Isa ibn Hisham* (Cairo: Matba'at al-Ma'arif, 1907); Roger Allen, *A Period of Time: A Study of Muhammad al-Muwaylihi's Hadith `Isa ibn Hisham* (Beirut and Oxford: Middle East Center).

³³⁹ Emile Vercamer, *Étude Historique et Critique sur les Jeux de Bourse et Marchés a Terme* (Bruxelles et Paris: Bruylant-Christophe & Cie. et Librairie A. Maresco & Cie., 1903); *La Question Internationale des Jeux de Bourse en Égypte* (Bruxelles et Paris: Bruylant-Christophe & Cie. et Librairie A. Maresco & Cie., 1904).

³⁴⁰ Egypt No. 1 (1901), 21.

1875; New Orleans in 1880; Le Havre in 1882; and, Osaka in 1894.³⁴¹ By the end of the nineteenth century, a complex network of undersea cables and telegraph stations allowed cotton merchants in Liverpool and New York to “straddle” the cotton market, offsetting purchases of cotton in one market against those in another, effectively bridging the very asymmetrical acceleration of goods and information brought into being by the telegraph.³⁴² However, this modernization narrative was an accomplishment itself only sealed with the tales spun by financiers and speculators of a later period to negotiate and manage the very charges of speculation as mere gambling,³⁴³ charges which were rife at the beginning of the century even among British consul-generals. The narrative gives too much credence to the “empires of cotton” built upon such tales.³⁴⁴ It also does not distinguish between the different assemblage of forces that brought traders in Liverpool and Alexandria or New York and New Orleans together. The local genealogies of each exchange paints a strikingly different portrait of the emergence of finance during the period, one that is grounded in the particular obstacles encountered in disentangling the commodity-form from the heterogeneity of seed cotton in their respective hinterlands.³⁴⁵

The Alexandria cotton futures market is a case in point. Its opening in 1861 fulfilled a much more specific role of financing the annual harvest in the absence of slave capital. Before

³⁴¹ Caliskan, *Market Threads: How Cotton Farmers and Traders Create a Global Commodity*, 107.

³⁴² Alexander Engel, "Buying Time: Futures Trading and Telegraphy in Nineteenth-Century Global Commodity Markets," *Journal of Global History* 10, no. 2 (2015).

³⁴³ Preda, *Framing Finance: The Boundaries of Markets and Modern Capitalism*.

³⁴⁴ Beckert, *Empire of Cotton: A Global History*.

³⁴⁵ Cronon, *Nature's Metropolis: Chicago and the Great West*. This is the value of Cronon's account of grain markets in the American Midwest.

the outbreak of the Civil War in the United States, American cotton dominated the cotton trade by the nature of its sheer volume. The annual movement of cotton from the fields of the Mississippi Valley to the port of Liverpool was financed not by the movements of gold or other species but by credit and debt obligations backed by the most liquid asset slaveholders possessed: human beings. Enslaved people were the primary form of collateral in the American South able to be sold in any Southern city any day of the week unlike the land they worked or even the cotton they produced.³⁴⁶ The city of Liverpool itself was built on the wealth derived from the commodification of human beings, and it was that wealth which continued to finance the annual flows of white gold into the city's warehouses and the industrialization of its hinterlands even after the abolition of the Atlantic slave trade relegated the city's merchants to an indirect and, in their estimation, spectatorial role in that "peculiar institution."³⁴⁷

In order to finance the early expansion of cotton cultivation in the Nile Valley, an entirely new collateral was needed to back the advances made by cotton exporters at the beginning of the season. While land would come to serve this purpose to a large degree by the end of the century, existing forms of land tenure in the 1860s prevented land's transferability and, therefore, its ability to stand as the material basis for financing the crop. A mechanism was needed for transforming bales of cotton that would not reach market for months or even a full year into abstract monetary units in the present. To this end, a group of cotton brokers gathered in Alexandria sometime in 1861 and founded the Société de la Bourse, the world's first cotton futures market.³⁴⁸ The market allowed merchants to in effect create funds for financing the

³⁴⁶ Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom*, 86-7.

³⁴⁷ Baucom, *Specters of the Atlantic: Finance Capital, Slavery, and the Philosophy of History*.

³⁴⁸ al-Motaal, "Les Bourses en Égypte: Histoire, État Actuel, Reorganisation," 104.

movement of the crop by issuing their own debt in the form of a contract for future delivery of cotton whose standard form and general negotiability allowed it to be bought and sold at any time. In practice, these would be bought back up by the original issuer before delivery became due. The entire scheme depended on this gap between the futures contract and the as yet imaginary bales of cotton. Financing the crop through the circulation of these derivative instruments depended on the disjuncture between the circulation of the futures contracts and their underlying asset. They derived their value from that very gap.³⁴⁹

In its first decades, the work of maintaining this disjunction was the responsibility of the individual merchants. During the 1882-3 cotton season, a dispute broke out when one of the large merchants issuing contracts for future delivery attempted to fulfill the order with the actual physical goods stipulated (bales of cotton) rather than buying back the contract before the date of delivery.³⁵⁰ In order to facilitate the resolution of this and future disputes, the Alexandria General Produce Association (AGPA) was established the following February by merchants and brokers operating in the country to provide a set of regulations to govern the operations of the spot market that had sprung up in the district of Mina al-Basal and the delivery of cotton on futures. This distinction between futures trading and the sale of physical cotton formalized boundaries that had previously only been acknowledged in practice and began a process of professionalization akin to that of the stock markets elsewhere.³⁵¹ The markets would themselves

³⁴⁹ Lepinay, *Codes of Finance: Engineering Derivatives in a Global Bank*, 226-30.

³⁵⁰ Fritz Alleman, "Aims and Objects of the Alexandria General Produce Association," in *Official Report of the International Cotton Congress* (1927). The chain of events here is rather unclear, but given the level of destruction in the European quarters of Alexandria caused by the British bombardment the previous July, it is plausible that the issuing party in question had only limited funds to make good on all of its outstanding contract.

³⁵¹ Preda, *Framing Finance: The Boundaries of Markets and Modern Capitalism*.

be organized as separate corporations over the coming year each with their own governing body and regulations: the cotton futures market, or Bourse de Coton under the Société Anonyme de la Bourse Khédiviale d’Alexandrie in 1883 and the spot market under the Société Egyptienne de la Bourse Commerciale de Minet-el-Bassal in 1884.³⁵²

One of the most important tasks the AGPA took up was to define the various types and grades of cotton. This work in part fixed the difference between the spot and futures market. For example, in 1912 the types recognized by the AGPA were Mit Afifi, Ashmouni, Asili, Abbassi, Joanovitch, Nubari and Sakellaridis. Each of these was further broken down into grades ranging from “fair” to “good” for the first three types and “good fair” to “extra” for the latter.³⁵³ Yet all futures contracts were quoted on the basis of expected spot prices for “Fully Good Fair Brown Mit Afifi (FGF Brown)” for one of a handful of delivery dates during the year set by the Association. A sample of this type and grade was set as the standard at the beginning of each season by the AGPA and placed at the disposal of its members for comparison to lots delivered in the spot market. In order to close an open contract in the futures market, a broker had either to settle in cash or match the open futures contract with a contract for sale in the spot market. Both required a settling of differences between the contracted price of the future and the spot price, but ensured a requisite distance between the physical good and the derivative instrument.³⁵⁴

³⁵² Moritz Schanz, *Cotton in Egypt and the Anglo-Egyptian Sudan* (Manchester: Taylor, Garnett, Evans, & Co., 1913), 104-5. The former also included the Alexandria Stock Market, or Bourse de Valeurs.

³⁵³ Ibid., 102.

³⁵⁴ Bally Freres, *Le Coton Égyptien et la Bourse des Marchandises á Alexandrie* (Alexandrie: Société de Publications Egyptiennes, 1912); Schanz, *Cotton in Egypt and the Anglo-Egyptian Sudan*.

Even in the spot market at Mina al-Basal the physical bales were absent. With the incorporation of the spot market in 1884, a building was erected to house the offices of cotton exporters and local dealers. From 11:30 a.m. to 1:30 p.m., cultivators and brokers brought samples of cotton for sale to the individual offices after having each sample evaluated according to type and grade by an expert. The sale of cotton was conducted entirely through such samples with the appended certificates marked with their respective grade and classification. The evaluation practices around the grading and classification of cotton were closely regulated by the AGPA who not only defined the different types but also published a list of approved “cotton experts” that could be used by its members. It was the job of these experts to maintain and guarantee for other market participants the referentiality of samples to bales of cotton sitting in warehouses. If a buyer was interested in a particular lot, he then ordered new samples for evaluation upon which a definite price for the cotton would be set and receipts made out to the respective parties. After the market closed, the buyer would take his receipt to the specified warehouse and have the bales marked and further samples examined. If satisfied, he then took possession of the cotton within two days or, if not satisfied, filed for arbitration with the AGPA. In the latter case, each party selected and paid for their own expert from the list approved by the Association. If a resolution was not found, a third expert would be brought in whose decision was considered final.³⁵⁵

These procedures for evaluation allowed cotton to circulate as samples and paper certificates saving the labor that would have otherwise been spent moving daily the hundreds of thousands of packed cotton bales, each weighing one hundred pounds, sold in the spot market

³⁵⁵ *Cotton in Egypt and the Anglo-Egyptian Sudan*, 103-4.

during the high season. They also served to mediate between the physical goods sitting in the warehouses and the calculations of brokers and exporters who daily needed to square their accounts between the spot and futures market. Another activity of the AGPA which regulated the connection between the two was the publication of monthly reports on the state of the harvest and the association's estimate of the annual harvest. The estimate was calculated monthly by a committee of sixteen of the association's members. Each month the committee sent out a questionnaire to correspondents in the countryside regarding the state of the harvest: the retardation or precocity of the cotton plants in the fields, climatic conditions, the appearance of the cotton worm or other pests, the state of irrigation works, etc. From the information collected, the committee set a maximum and minimum figure for the expected harvest. Then each member would give an estimated figure based on their own proprietary formulae.³⁵⁶ If the member's estimate fell within the parameters set by the committee at the outset, it was added to the account from which a mean was derived. The final figure arrived at was then considered the official estimate of the AGPA and published along with a summary of the reports from the committee's correspondents during the first week of the month.³⁵⁷ As can be expected, these forecasts conditioned and framed the calculations of speculators and brokers on the Bourse factoring into the present values they assigned to contracts for future delivery.

In sum, the calculative arrangement of the cotton market – standards of classification and grading, expert certification, price quotations, procedures for closing contracts, crop estimates -

³⁵⁶ These formulae were constantly revised and discarded by the computers working for the large export and brokerage houses as each attempted to anticipate and remain ahead of expectations. See Myer M. Orenstein, "Cotton Statistics," *Cairo Scientific Journal* 6, no. 70 (1912): 292.

³⁵⁷ Alleman, "Aims and Objects of the Alexandria General Produce Association," 129; Freres, *Le Coton Égyptien et la Bourse des Marchandises á Alexandrie*, 43-4.

seek to maintain the distance between physical bales of cotton and the derivative instruments traded in the Bourse. But, this necessarily requires leaving open the possibility of closing the gap – they remain contracts for future delivery after all and their price depends on their underlying assets. The reality of cotton, in a sense, is distributed by the calculations of the market and made multiple – in the bourse an as of yet imaginary bale, in the spot market a sample, in the hands of the cotton expert a certificate stating grade and type, and in the warehouse a tightly packed bale of off-white fibers.³⁵⁸

Making of a Bad Year

The importance of this distribution and the calculations which hold it together can be seen clearly when one aspect falls out of place as it did during the 1909-10 cotton season. On December 5, 1909 the AGPA published its final outlook for the year's cotton crop. The news from its correspondents in the countryside was bleak, and the association's members – the large cotton-exporting firms operating out of Alexandria like Lindemann, Choremi Benachi and Carver Bros. – were preparing for the worst harvest in over a decade. At best, they expected 5,250,000 qantars (cwt. of ginned cotton). By the season's end, only 5,000,772 qantars would arrive in Alexandria. The figure was stark in contrast to the start of the season. The association had published their initial expectation for a record harvest of 7,250,000 qantars, a slight improvement over the previous 6,950,000 and 7,100,000 qantars produced in 1907 and 1908, respectively. As planting wound down at the end of April, these estimates were revised down to 7,000,000 qantars on account of a small decrease in the amount of land sown with cottonseed

³⁵⁸ Mol, *The Body Multiple: Ontology in Medical Practice*, 96.

from the previous season. In June, the estimates were decreased a second time to 6,500,000 qantars after the floodwaters of the Nile arrived three weeks before its usual date. September saw a third tweak to 6,250,000 million, a figure which was maintained in the circulars of October and November as the first picking of the season was underway.³⁵⁹ The Association's circular on December 5 then understandably came as a shock. In a matter of one month, nearly one fifth of the country's cotton crop had disappeared. Over the course of one week in November, field after field of cotton plants suddenly wilted and began to shed the ripening bolls of seed cotton that would have constituted the second picking of the season. This coincided with a serious infestation of boll-worm which decimated the entirety of the third picking. To compound the already bad news, the first reports from the ginning factories in the Delta towns indicated that the quality of raw cotton from the first picking had been relatively poor yielding 2-4% less ginned cotton than the previous year.³⁶⁰

The cause of the cotton disaster of 1909-10 would later be pinned on a cascade of events linked in no small part to exactly what Lord Cromer in his 1901 diatribe against speculation on the stock market had hoped would singlehandedly eliminate the "main element of uncertainty... from the calculations of the speculators:" the completion of the Aswan Dam.³⁶¹ Finally finished in 1902 after four years of construction, the Aswan Dam was the keystone of British irrigation projects carried out during the period. Its purpose was to increase the supply of water during the summer months by holding back a proportion of the annual inundation. This water could then be released periodically and, in conjunction with the raising of the water levels at the Delta Barrage

³⁵⁹ M. Achille Sékaly, "Le désastre cotonnier de 1909 et ses causes," *L'Égypte contemporaine* 1, no. 2 (1910): 226-7.

³⁶⁰ *Ibid.*, 226.

³⁶¹ Egypt No. 1 (1901), 21.

down river, would allow for perennial irrigation over a wider swath of the Nile Valley. Yields would rise as water became plentifully available year-round and more land could be brought into cultivation as higher water levels made it easier to reach fields further up the plateaus lining the river's course.

The effects were felt even before the Aswan Dam opened its sluices for the first time in 1903. With the preparatory raising of the water level on the Delta Barrage's gauges from 14 to 15.5 meters in 1901, the yield of cotton in the Nile Delta fell. This only worsened when the Aswan Dam came into operation. With the plentiful supply of summer water, restrictions on irrigation were relaxed if not lifted entirely.³⁶² A fall in yields was acknowledged publicly as early as 1905, but the fault was laid on a severe infestation of cotton worm and, perhaps, a decrease in soil fertility due to over-cropping.³⁶³ To address public concerns, a series of commissions were established, first by the Khedivial Agricultural Society in 1908 and then by the government in 1910. The numbers clearly demonstrated that although overall cotton production had remained steady in the period this had only been maintained by the extension of cultivation against the steep decline in yields. The decline was surprisingly not on the poorer more saline land only recently brought into cultivation but on what had been considered the best irrigated lands of the Delta.³⁶⁴ The Khedivial Agricultural Society's 1908 commission had identified six principal theories for the decline, but in the end found themselves unable to measure their relative validity due to a dearth of reliable statistics or scientific observation: 1)

³⁶² William Willcocks and James Ireland Craig, *Egyptian Irrigation*, 3rd ed., vol. 1 (London and New York: E. & F. N. Spon, Ltd., 1913), 412.

³⁶³ Egypt No. 1 (1906).

³⁶⁴ Willcocks and Craig, *Egyptian Irrigation*, 1, 412; James Ireland Craig, "Statistics of Yield of Cotton," *L'Égypte Contemporaine* 2, no. 8 (1911): 588.

deterioration of soil fertility due to the biennial system of crop rotation; 2) insufficient irrigation during the summer months; 3) the rise in the level of water in the subsoil due to insufficient drainage; 4) inferior seed strains leading to a decrease in both quantity and quality; 5) the lack of natural manures and the disinclination of cultivators to use synthetics to replenish soil nutrients; and, 6) pest infestations.³⁶⁵

By 1912, blame had been assigned to a single factor: water. Observations made by Lawrence Balls, a botanist in the employ of the Khedivial Agricultural Society, confirmed that the root-growth of the cotton plant was severely limited by deficient soil-oxygen the primary cause of which was water-logged soil. Within only a few weeks, perfectly healthy mature plants could wilt and drop their bolls, just as had happened during the 1909-10 season, as their once woody roots decomposed and died.³⁶⁶ The weak plants made easy prey for the cotton worm, who previously had died off in large numbers during the dry season. With steady supplies of summer water, cultivators had continued to grow clover, a favorite food of the worms, interspersed among the growing cotton rather than allowing the clover to die off in the heat of the summer. The humid atmosphere of the well-irrigated fields further encouraged the worm population to the point that, when the cotton plants began to mature, they were overwhelmed with the worms as the green fields of clover had provided “a convenient bridge.”³⁶⁷ The end result in 1909-10 had been a catastrophic loss in production just as the harvest had begun.

³⁶⁵ “The Commission of the Khedivial Agricultural Society on Cotton, 1908,” *Khedivial Agricultural Society Yearbook*, 1909.

³⁶⁶ W. Lawrence Balls, *The Cotton Plant in Egypt: Studies in Physiology and Genetics* (London: Macmillan and Co., 1912), 37-8.

³⁶⁷ Willcocks and Craig, *Egyptian Irrigation*, 1, 413.

However, these explanations of the cotton disaster of 1909-10 ignore the specific temporal structure of the crisis, as do historians who without exception lump it under the secular decline in agricultural yields. What had made it a crisis in the first place was not the fact that the harvest was relatively small, but the sudden change in future expectations on the cotton market in Alexandria. Writing in the second issue of *L'Égypte Contemporaine*, Jacques Lumbroso, an Italian sitting on the board of a handful of companies in the city, indicated two critical moments in the history of cotton speculation relevant to the crisis that had disengaged prices from their “real value.”³⁶⁸ The first was the installation in 1900 of a pit (*une corbeille*, literally, “a basket”) in the Alexandria Cotton Bourse modeled on that of European stock exchanges. Access to the exchange was thereafter restricted leaving a small group of broker-speculators in a position to manipulate the price for futures contracts. Whereas previously, the quantity of goods exported had largely controlled the price of cotton, it now followed the movements of speculation on the Bourse. Generally, this had not been an issue since the speculation pushed prices up to the benefit of cultivators and the prosperity of the country. Lumbroso calculated that speculation on the Bourse had in fact augmented the country’s wealth by £E60,008,986.34 (roughly, the same amount in British sterling) over the previous decade.³⁶⁹

However, after the financial panic of 1907 – itself sparked by the unexpectedly large Egyptian cotton harvest in 1906-7 –, speculation on the Bourse fell as credit became harder to come by from over-stretched European banks. This in turn meant that there was less credit available to finance the harvest. As a substitute, merchants resorted to the use of forward contracts. These required a cultivator to promise delivery of the harvest against a cash advance,

³⁶⁸ Lumbroso, “Le Coton: Son influence sur la prospérité générale de l’Égypte,” 276.

³⁶⁹ *Ibid.*, 258. The conversion was set at LE 97.5 to L 100.

the price of sale to be determined at a later date in accordance with the going price of futures contracts on the Bourse. In effect, merchants had handed cultivators against their harvest a speculative position that prices would go up. These positions quickly became worthless as the small clique of brokers-speculators pushed the price for contracts down as the end of the season approached. The gain for exporters was matched only by the loss to cultivators when it came time to liquidate positions in March.³⁷⁰ This loss would be even greater in 1909-10 now that cultivators had a fifth less cotton to actually deliver to market, essentially, having oversold based on the earlier estimates of the AGPA.

What was needed was to bring prices back into line with “real value.” Lumbroso’s practical solution was to counterbalance the speculators by establishing a financial institution whose shareholders would be rural and urban landowners that could function as a “natural auxiliary” to the agricultural syndicates proposed by others in Egypt, such as his fellow KSPE member ‘Umar Bey Lutfi who would establish the Cooperative Financing Company in Cairo the following year.³⁷¹ Lumbroso shared with other members of the KSPE an epistemic concern about the cotton market following the disastrous harvest of 1909-10. Even if that concern was informed more by practical matters of investment and speculation, they were no less calculative for it.

Conclusion: Containing the Market

³⁷⁰ Ibid., 260.

³⁷¹ ‘Umar Lutfi, “Note sur la première coopérative du crédit fondée en Égypte,” *L’Egypte Contemporaine* 1, no. 3 (1910); Amy J. Johnson, *Reconstructing Rural Egypt: Ahmed Hussein and the History of Egyptian Development* (Cairo: American University of Cairo, 2004), 24.

By the end of 1909, the cotton market had emerged as a matter of concern for economists and other members of the Egyptian elite who took part in the KSPE. At the first meeting of 1910 on January 7, following a paper by John A. Todd, a Scottish political economist teaching at the Khedivial Law School, on the cotton industry in Lancashire, it was unanimously agreed that the paper should be published in full in *L'Égypte Contemporaine* and distributed in abbreviated form through the Arabic press before the new harvest so that cultivators could respond to the “demands” of the market so eloquently elaborated by Todd. Cattai’s graph of the price movement on the Alexandria Cotton Bourse (see Figure 5) was also presented. In response, Isaac G. Lévi and Germain Martin announced their interest to create a “price barometer (*mercuriales*)” that could be published and circulated among the agricultural population in Egypt to inform them of the price movements.³⁷² The calculated figures of the market would be detached and arranged into new spaces of calculation that sought to enlist the market in new arrangements. Whereas Lumbroso sought to enlist the calculations of speculators against themselves, economists like John Todd, Isaac Lévi and Germain Martin sought to frame the calculative arrangements of the cotton market by intercalating it with other spaces of calculation beyond the walls of the exchange. It is to their projects that the next chapter turns.

³⁷² "Procès-verbal de la séance de vendredi 7 Janvier 1910," *L'Égypte Contemporaine* 1, no. 2 (1910).

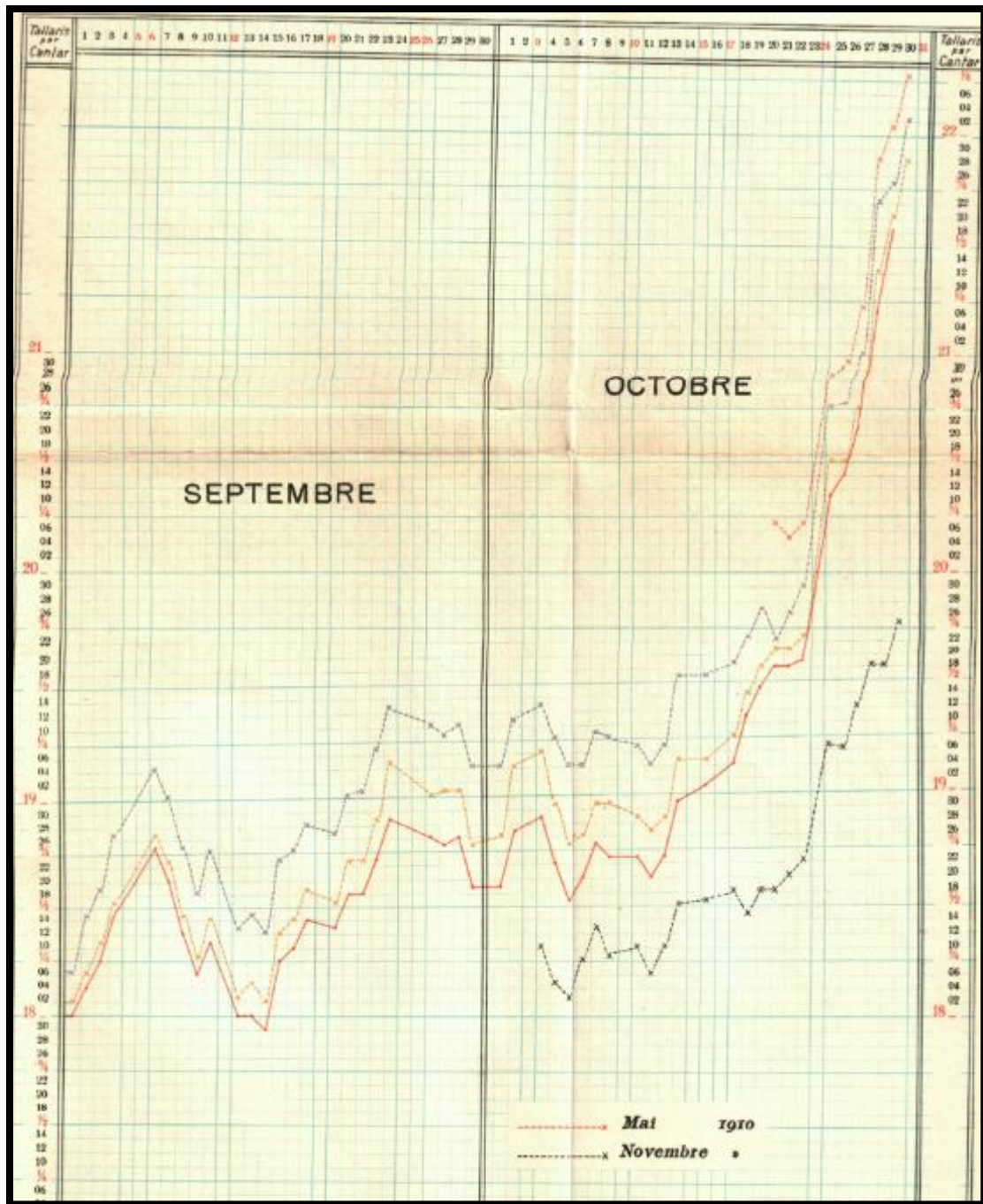


Figure 7– Selection from Adolphe Cattau’s “Graphique des variations des prix des cotons futurs à la Bourse d’Alexandrie pendant les mois de novembre 1908 à fin octobre 1909” plotting daily price quotations of cotton futures for September and October 1909.

Chapter 5

Engineering Markets

Introduction

The new calculative arrangements of the cotton market in Egypt — the cotton market at Mina` al-Basal and the Alexandria Cotton Exchange — adjudicated the spatial and temporal boundary between cotton as physical good and cotton as an abstract claim on part of the harvest that enabled new forms of calculation and capitalization. The ability of the Egyptian government to service its loans (before and after the British occupation), the rush to form companies at the beginning of the twentieth century, the flood of financial capital and land speculation which followed in its wake: all of these were in part made possible by the ability of these two sites to organize and coordinate the flows of cotton from the interior of the country, through the port of Alexandria and to the manufacturing capitals of Europe, i.e., on the ability of these sites to make cotton a commodity. However, the terms of this arrangement were unmoored in the first decade of the twentieth century by crises at both ends – the financial speculation of land and the unusually high flood of 1908 disrupted the boundary between these two poles. While the work Agricultural Department and its scientists established in the wake of the 1910 Cotton Commission worked to reground cotton in its physicality, government administrators and advisors struggled to reconstitute the calculative arrangements of the cotton market.

This chapter examines economists and government administrators reconstituted not just the cotton market but also the imagination and organization of collective life on radically new grounds. As in the nineteenth century, this process involved accumulating interest in specific matters of concern – systems of grading and classifying cotton, pricing cotton bales, etc. –

through which the calculative arrangements of the cotton market operated. However, this accumulation took a new form. By deploying a new form of economic expertise – neoclassical economics – and embedding technologies of calculation – price barometers and cotton sales rings (*halaqāt al-qutn*) – at points distant from the center of the cotton trade in Alexandria, it became possible to mobilize and organize an entirely different set of interests in the calculative arrangements of the market – the hundreds of thousands small cultivators who labored to cultivate the annual cotton crop. Now, individual cultivators could seemingly participate in the formation of prices – acting back upon the prices offered them cotton merchants in the interior by deploying something called ‘the market price’ which had been telegraphed to their cotton sales ring from the trading floor of the cotton market in Mina’ al-Basal, Alexandria.

While these technologies of calculation allowed calculation through access to a distant site – a chain of referents connecting the market price in the cotton circle with that of the state of the market in Alexandria –, it also allocated a specific course of action to individuals in the cotton sales rings. By their participation in the calculative arrangements of the sales ring, cultivators took on the role of an individualized calculative agent – a seller – whose arithmetic algorithm led him to seek maximum profit by minimizing the difference between the price at which he sold his cotton and the given market price. Conversely, a cotton merchant was cast as a buyer who sought to maximize the difference between the price he paid for cotton and the given market price. The accumulative translation of the interest of these buyers and sellers in the market price transformed the cotton market at Mina’ al-Basal into a center of calculation capable of coordinating the many contradictory and competing passions of the market.

The Thin Line between Cooperation and Competition

At the end of October 1912, 49 delegates of the International Cotton Federation including its president, the Lancashire manufacturer Sir Charles Macara, arrived in Alexandria for a two week tour of the cotton growing regions of the Nile Delta and a two day conference with local experts on Egyptian cotton cultivation.³⁷³ Founded amidst the 1904 cotton shortage in Lancashire and eventually representing the cotton manufacturers of 16 different countries, the Federation worked under the principles of “industrial cooperation” to bring cotton growers and spinners into conversation about “the difficulties incident to the carrying on of the various sections of this world-wide industry.”³⁷⁴ Indicating the mutual interests of both of these principal parties to the prosperity of the cotton industry as a whole, the Federation alongside its institutional partner the International Institute of Agriculture promoted the application of scientific management to agriculture under the relatively recent neologism “scientific agriculture.” The publications of the Federation’s conferences and committees identified and highlighted the inefficiencies and waste caused by the current methods in growing, transporting and marketing cotton in cultivating countries like the United States, Brazil, Chile, India and Egypt. Speculation on futures markets, the mixing of different varieties of cotton seed, the lack of warehousing, excess moisture content in baled cotton: by opening up these numerous matters of concern along cotton’s pathway from seed to spindle, the Federation sought to intensify and deepen the shared interests of growers and

³⁷³ *Official Report: Egypt and the Anglo-Egyptian Sudan 1912* (Manchester: Taylor, Garnett, Evans, & Co. Ltd., 1913). Formally, the International Federation of Master Cotton Spinners’ and Manufacturers’ Associations, most frequently referred to simply as the International Cotton Federation. The Federation’s secretary had visited previously in 1911 and would this time continue on to the Anglo-Egyptian Sudan after the delegation’s departure in 1912. Both of these accounts are also published in the *Official Report*.

³⁷⁴ *Official Report: Second International Conference of Cotton Growers, Spinners, and Manufacturers* (Manchester: Taylor, Garnett, Evans, & Co., Ltd., 1908), iv.

spinners, thus, enframing and performing the “world-wide industry” it claimed to represent through the calculation and management of its overflows.

The published report details the agenda for the delegation’s two-week tour and highlights the Federation’s concern for the deterioration of the Egyptian harvest over the preceding years – in terms of both quantity and quality. More than a technical concern, the deterioration had led to an increasing substitution of mid-grade Egyptian cotton by similar American varieties threatening Egypt’s relative monopoly over supply to several of the largest consumers of Egyptian cotton. Eager to stymie any further movement away from Egyptian cotton, the Egyptian government and members of the cotton trade spared neither time nor expense in showcasing the work being undertaken to assure the future reliability of the Egyptian cotton supply. After a welcome reception at the Hotel Savoy in Alexandria hosted by Isma’il Sidqi, then Under-Secretary to the Ministry of the Interior and future Prime Minister of Egypt, and P. Fenderl, President of the Alexandria General Produce Association, the delegates were transported by government steamer and “train *de luxe*” on a tour of the Nile Delta and the environs of Cairo. Along with official audiences with Prime Minister Muhammad Said, the British Consul-General Viscount Kitchener and the ruling Khedive Abbas II, the delegation was brought to see the cotton market at Mina’ al-Basal and speak with cotton merchants, cotton ginneries to witness the process of mixing and pressing bales for transport and the vast cultivation operations on the cotton plantations of the Aboukir Estate Company in al-Mamoura and of the State Domains near Saqqara. In addition, the delegates were treated to a series of presentations on the work being conducted on the Agricultural Department’s experimental and demonstration farms: W. Lawrence Balls, the chief botanist assigned to the Department presented a paper on the deterioration of particular cotton varieties and the Department’s project

to breed pure seed lines;³⁷⁵ the chief entomologist, Dr. Lewis-Gough outlined the different species of cotton pests and the methods being undertaken for their eradication;³⁷⁶ and G. C. Dudgeon, the director-general of the Department, spoke of several other recent initiatives of his department to improve the yield per acre and consistent quality of cotton in the country.³⁷⁷

However, what these papers did not address was how to remake the Egyptian countryside along the lines of the Agricultural Department's experiments. The problem, as Abdul Hamid Abaza, the director of the Khedivial Agricultural Society, laid out in the final paper of the conference (and the only one apparently interesting enough to be reproduced at length as part of the *Official Report*) was how to translate the interests of cultivators into the calculative arrangements of scientific agriculture so as to bring each plot of land into the metrological regime of the Department. As he explained, this was made more difficult by the migration over the preceding two decades of large landowners from their estates and the provincial towns to the large urban centers of Cairo and Alexandria. Whereas, previously one landowner would manage the cultivation of over 1000 feddans of land, the prevailing trend towards absentee ownership left the same amount of land in the hands of hundreds of individual farmers each renting a small plot and left to manage their own affairs. Responsible for all the details of cultivation and marketing the crop, a farmer would not make the effort to implement any sort of improvement advised by the Khedivial Agricultural Society or the Agricultural Department if he could not foresee a sufficient gain to be had for the time and attention. However, a sufficiently high price would cause him to actively seek out the advice and adopt the methods of scientific agriculture as

³⁷⁵ *Official Report: Egypt and the Anglo-Egyptian Sudan 1912*, 36-38.

³⁷⁶ *Ibid.*, 32-24.

³⁷⁷ *Ibid.*, 28-32.

quickly as possible. In the world-wide industry envisioned by the Federation, it was ultimately up to the consumer – i.e., the spinners and manufacturers – to offer producers the higher price that would lead them to enroll in the calculative arrangements of scientific agriculture. If the delegates wanted evidence of this, Abaza Bey pointed out that they had to look no further than the origin of cotton's prominence in Egypt: the high prices resulting in 1862 due to the American Civil War that led to the rapid extension of cotton cultivation throughout the Egyptian countryside and saved the mills of Lancashire from ruin during the cotton famine.³⁷⁸

The discussion that ensued between Abaza Bey and several members of the delegation took up the entirety of the evening allotted for considering all the papers and events from the previous two weeks. The delegates unanimously rejected the notion not on the terms that farmers should not receive a “fair price” for their cotton – quite the opposite as the Federation's president Sir Charles Macara stressed – but that the members of the Federation had no control over prices. Prices were a matter determined by the need of the world's population for cheap cotton goods, a product of the natural laws of supply and demand. Instead of accepting the price of cotton as a matter of concern opened to discussion, the delegates multiplied controversies down the supply chain. If the price was not good enough to cover the expenses of cultivation, then the Egyptian government and other interested parties should look for sites of inefficiency and wastage: the improper mixing of cotton bales, the gambling of the speculator on the exchange, the loss attributable to the cheating of cultivators by merchants in the interior, the work of usurer, the excessive moisture content of cotton bales or the unreliable standard of certain varieties of Egyptian cotton. In any case, as one of the delegates suggested, a higher price would only

³⁷⁸ Ibid., 39-48.

increase the rent and therefore be detrimental to the farmer in the long run. Abaza Bey highlighted the slippage in the arguments – at some points price was a figure determined elsewhere and at others dependent on the delegates’ preferences for “good” quality cotton. The delegates, he accused, were actively obfuscating the fact that they were involved in fixing the price of cotton. At the very least, spinners and manufacturers could meet producers halfway at a moderate price. His accusation – however, rhetorical – was met with the suggestion by one of the Lancashire manufacturers that if farmers did not deem the current prices sufficient then they should switch to growing corn and wheat instead.³⁷⁹

Abaza Bey’s comments were not a random or partisan jab – nationalist or otherwise – but grounded in ongoing struggles to imagine and organize collective life in Egypt around exactly what the Federation and its delegation to Egypt took to be a settled matter – the question of price and its calculation. The calculative arrangements of efficiency integral to scientific agriculture advocated by the Federation – or scientific management, more generally – depended on the accumulation of interest in specific matters of concern: the breeding of pure seed lines, the creation of hybrid cotton varieties, the movement of the water table, the optimum staple length of cotton fibers and the precise measurement of moisture content in a bale of cotton. As Abaza Bey indicated, the translation of these concerns from experimental and demonstration farms to the entire countryside was not as straightforward as the dissemination of pamphlets and manuals. Coordinating the actions of some two millions agricultural workers (tenant farmers, small proprietors, laborers, etc.) over five million acres of land presented an entirely different set of obstacles than that of industrial production in Europe. Even the analogous modes of agricultural

³⁷⁹ Ibid., 48-54.

production prevalent in Egypt's recent past that would have perhaps allowed for such coordination had since largely disappeared with the dissolution of the Khedivial Estates and the previously mentioned migration of large landowners to Cairo and Alexandria. Where similar conditions still did exist – the State Domains and the land development companies – the practice of scientific agriculture was first-rate not just rivalling but surpassing its adoption by cultivators in the United States and South America as the delegates had seen with their own eyes in Saqqara and al-Mamoura as Abaza Bey pointed out.³⁸⁰ In lieu of the mobilization of labor through coercion (waged or non-waged) or the disciplinary gaze of the large landowner, Egyptian officials and administrators had turned at the beginning of the twentieth century to the emerging discipline of neoclassical economics. There they found a new way to imagine and reorganize collective life around the question of price and its calculation.

The Science of Attachments

Beginning in 1907, government officials and men of commerce began promoting and participating in initiatives to further the use of statistics, commercial knowledge and economics in public life. Whereas earlier initiatives had been centered on the reorganization of the government ministries – in particular, the Ministry of Finance and the establishment of its Statistical Service –, the new wave was premised on the usefulness of both practical and theoretical knowledge to all involved in the commercial of the country whether in government, finance or business. In the wake of the crises at the Egyptian stock exchange and the failure of a number of large land development companies, such knowledge was to provide solid ground for the reorganization of commercial life.

³⁸⁰ Ibid., 41.

The most prominent of these initiatives was the founding in 1909 of the Khedivial Society for Political Economy, Statistics and Legislation under the auspices of Prince Ahmed Fu`ad, the later King Fu`ad I who also sat as president of the Egyptian Geographical Society and rector of the newly founded Egyptian University (est. 1908); Boghos Nubar , the son of Nubar Pasha who held numerous ministerial positions during the entire last half of the nineteenth century including Prime Minister; and M. E. Miriel, the managing director of the largest mortgage bank in Egypt, Crédit Foncier égyptien. The Society's monthly committee meetings and its journal *L'Égypte Contemporaine* were an intellectual meeting point for foreign and native administrators in the government ministries, managers of financial institutions and the individuals who came to fill the several professorships established contemporaneously in economics and political economy at the Egyptian University, the French School of Law and Khedivial School of Law— figures such as Pierre Arminjon, John A. Todd, F. Legrand, G. Blanchard, Paul Reboud and Germain Martin.

The predominant thread tying together the work of these economists was a shared framework – neoclassical economics – for conceptualizing the attachment between people and things and the means of mobilizing those attachments through market organization. At the center of this framework is the subjective theory of value. Within the history of economic thought, neoclassical economics represents a break from nineteenth century “classical” political economy and its corresponding labor theory of value. Classical political economy conceived value as an objective property of any given commodity — the resulting product of the labor required to produce or obtain it. Neoclassical economics innovation was the proposition that value was determined not by the amount of work put into a particular good but by the importance placed on it by an individual relative to other goods. However, though marking an important shift, this

simple history largely misplaces the emphasis on the individual by confusing neoclassical economics' earlier theorizations of market equilibrium and price formation with the later market idealism of neoliberalism. This confusion has underwritten a double exclusion. First, it has written off neoclassical economics as a (bad) description of the real functioning of markets and behavior of economic actors thus ignoring the performative work of economists and economic theory.³⁸¹ Second, it has excluded the deep entanglement of neoclassical economics with the questions of organization, market and otherwise, that allowed it to bridge what would become the ideological divides of the twentieth century between capitalism and socialism in both the developed and the developing world.³⁸²

Rather than a description of the world, the subjective theory of value and market equilibrium presented new means of accumulating interest in the calculative arrangement of its principle object – market organization – and a series of technologies of calculation, the embedding of which in collective life brought its functioning closer to the mathematical function in economic theory of market equilibrium. In this sense, only because economies were subjective – or more precisely, inter-subjective – did they become quantifiable and calculable.³⁸³ The work

³⁸¹ Callon, "An essay on framing and overflowing: economic externalities revisited by sociology."

³⁸² Bockman, *Markets in the Name of Socialism: The Left-Wing Origins of Neoliberalism*. This has been accomplished partly by a reluctance to engage the history of economics in other countries, particularly France. Bockman's own 'alternative' history of neoclassical economics highlights perhaps unintentionally this fact: rather than starting with one of the typical members of the 'Marginalist revolution,' her history takes as its starting point Léon Walras in Switzerland who was influential to the development of neoclassical economics in France (19-25). The marginalization of the influence of Antoine Augustin Cournot's work on Alfred Marshall is another case in point though the latter is attributed with introducing the thought of the former to Cambridge.

³⁸³ Bruno Latour and Vincent Lepinay, *The Science of Passionate Interests: An Introduction to Gabriel Tarde's Economic Anthropology* (Chicago: Prickly Paradigm Press, 2009).

produced by the Society and its members – though now largely relegated to the footnotes of Egypt’s economic history over the past century³⁸⁴ – were integral to this imagination of collective life in Egypt through the problematic of subjective value and the calculative arrangement of market organizations.

It was this performative aspect of economic knowledge that allowed it to translate across the seemingly incommensurable divide between market organization in industrial and agricultural countries. In the preface to his textbook *Political Economy: A Handbook of Economics and Public Finance for Egyptian Students*, John A. Todd stresses the need for a text “embodying the modern system of European economics, in a form suited to [Egyptian students’] training and modified to suit the peculiar conditions of Egypt.” Written in February 1910 three years after taking up a position as lecturer at the Khedivial School of Law, Todd’s text itself is an acknowledged amalgamation of several other works with some sections taken verbatim and others in abbreviated form: Marshall’s *Principles of Economics* (1890) and *Economics of Industry* (1879); Joseph Nicholson’s *Principles of Political Economy* (1902); Charles Gide’s *Principe d’économie politique* (1883); Charles Bastable’s *Public Finance* (1892); and additional material drawn from over a dozen other texts on more specialized topics. As a primer for students entering government service in the Ministry of Finance – L. G. Roussin, the Secretary of Finance supported the work in some capacity – or the Mixed Courts, Todd intended the text to highlight the industrial system of Europe not only because the linkages between Europe and Egypt made the former’s economic system impossible to dismiss as an external factor to the political economy of Egypt but also because, in the end, “the same system must apply, because

³⁸⁴ For exceptions, see Koptiuch, *A Poetics of Political Economy in Egypt*; Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*.

no other is possible.” Elaborating in a later chapter, Todd continues by explaining that though conditions in Egypt may differ from those so easily observable in industrial countries, those differences would be found on the surface only and easily modifiable so that “the laws which are the foundation of the economics of industry are equally true when applied to the economic conditions of an agricultural country.”³⁸⁵

For Todd and many of the French and British economists who came to teach in Egypt, the gap between the economic conditions of industrial countries and that of agricultural ones merely obfuscated the operation of deeper mechanisms. Part of the process of making “equally true” the laws of industrial societies was to ground economic science in the particulars of an agricultural country like Egypt. In July 1909, Prince Ahmed Fu`ad acting as president of the Egyptian University requested that the French Council of Higher Education designate a second professor of political economy from one of the faculties of law in France to come to Egypt for a period of 6 months to give a series of 40 lectures. The popularity of a first series given by Paul Reboud in the spring of 1909 had highlighted the need not just to continue the lecture series but to ground such scholarly endeavors in a permanent institutional base. This second designee would therefore in addition to his lectures assist in the establishment of the Khedivial Society for Political Economy, Statistics and Legislation and its journal *L'Égypte Contemporaine* dedicated to the study of political economy in Egypt.

The second designated professor was Germain Martin, a professor of political economy in the Faculty of Law in Dijon as well as a colleague of Paul Reboud. The course of lectures entitled *L'Evolution économique des grandes nations au XX siècle: methods et résultats* was

³⁸⁵ Todd, *Political Economy: A Handbook of Economics and Public Finance for Egyptian Students*, iii, 11-2.

meant to give auditors “an exact vision of the economic mechanisms of modern society.” The course was popular – the auditors increased in number as the semester progressed from the 40 who had registered at the beginning to 140 mid-semester – and was later published as a course book by the Egyptian University along with the other work produced by Martin during his Egyptian sojourn. While many of the auditors were already well acquainted with the subject as bank employees, judges, magistrates or administrators many, Martin reports, attended having not even the faintest knowledge of the basic elements of economic science.³⁸⁶

To deal with this, Martin added an introduction to the course when it was published as a textbook. The introduction provided a *précis* on the method of economic science. Economic science, Martin explained, rested on two principles: the economic interdependence of individuals and state of equilibrium. Economic interdependence, while partially founded on a moral concept of “solidarity with our fellow man and subsequent generations,” was primarily grounded in the “exact comprehension of contemporary economic life.” Economic science necessitated awareness and knowledge of the interconnections between individuals: that one’s own well-being was the result of one’s own efforts as well as the voluntary or involuntary concurrence (or competition) with the efforts of others. It was the individual as a constituent part of the social whole upon which economic science must be grounded. In such terms, the hedonistic figure of utility calculus that was willing to act as if the rest of the world did not exist became “a monster, a being incapable of comprehending his times.”³⁸⁷

³⁸⁶ Martin, *Conférences sur l'évolution économique des grandes nations au XX siècle*, vi.

³⁸⁷ *Ibid.*, v.

Martin's economic science thus began not from the individual qua individual but as an element in a social whole organized by the specific knowledge of his interdependence with others. The cultivator tending his land at a great distance from Cairo contributes to the well-being and the fortune of the city resident: his daily work is the basis of transactions in the city. A trail of interactions leads from the farmer, to the blacksmith, to the businessman, to the owner of property. The property owner is in turn able to place his capital in industry which then produces goods at cheaper rates benefitting the whole of society all the way back to the farmer. These principles of economic interdependence and market equilibrium introduced a radical injunction to know. The individual must be aware of his interdependence with others in order to act.³⁸⁸

Cooling Passionate Interests

Martin's economics was not just a descriptive science of attachments but one of organizations grounded in the radical interdependencies of collective life: markets, firms, industries, governments and even species (*homo economicus*). The establishment of the discipline in Egypt at the beginning of the twentieth century cannot be understood without integrating it into contemporaneous struggles to imagine and reorganize collective life. The central problematic for Martin's work and that of the other economists in Egypt that gathered around the Society was how to coordinate the actions of two million cultivators spread across five million acres of land.

In July 1910, Martin and I. G. Levi, a student of the Italian statistician Luigi Bodio and the sub-director of the Statistical Service,³⁸⁹ published an article in the Society's journal

³⁸⁸ Ibid., viii-xii.

³⁸⁹ Ibid., 15.

L'Égypte Contemporaine. The article combined a description written by Martin of the market organization of agricultural commodity production in the interior with a detailed survey compiled by Levi of the wholesale and retail prices of food found in the principal consumer markets in Cairo.³⁹⁰ Martin begins the article by laying out a contrast between the abstract image of the market found in the theory of general equilibrium and the reality of the market found in Egypt. For the latter, “a market consists of the fixity of prices, at a given moment, for a quantity of products of the same type and of the same quantity” and yet the state of affairs found in Egypt was such that “prices vary in relation to certain commodities from place to place, beyond the costs of movement and transportation, especially in the villages.”³⁹¹

The deviation between these two images, Martin argued in his discussion of rural economy, though not “immediately of interest to the men of affairs that trade in stocks,” was gravely important for the general prosperity of the country upon which the value of their stocks depended. At the end of the day, it was the sums received by the agricultural producers in the countryside that enabled that very prosperity. The sums allowed the producer to make a living and make regular payments to all of his creditors. This linkage between the men of affairs and the peasant cultivator was equally problematic. This need to make regular payments to creditors created a situation in which the price paid to producers for the harvest was not dependent on the quantity of the harvest throughout the country as it should be in accordance with the elementary laws of supply and demand. Instead the price was dependent on the cultivator’s immediate need for cash to discharge those debts. The result was that producers sold their entire harvest under

³⁹⁰ I. G. Levi and Germain Martin, “Le marché égyptien et l'utilité de la publication des mercuriales,” *L'Égypte contemporaine* 1, no. 3 (1910).

³⁹¹ *Ibid.*, 441.

duress accepting low prices and leaving aside no seeds for sowing the next season. They would then be forced to buy the same seed they had just sold at a heavy discount for such a high price that the only way they could afford to do so was to contract more loans through local moneylenders.³⁹²

As Martin elaborated, the central problem for rural economy was that the Egyptian market was “an illustration of the formation of price in a market where there are few competing groups.” The closed and isolated nature of the village produced a single, constant “psychological phenomena:”

[The] peasant Ibrahim, imprudent when selling his harvest, does not keep a reserve [of seeds] for sowing, realizes one morning that he has no clover seed to sow his field; he goes to his neighbor’s house and asks him for the seed. The neighbor has none. In the village, the inhabitants are persuaded that there is no seed in all of Egypt! Hence the fantastic price, which reaches in group A, 237 piastres, and in a neighboring village that we label B, a distance of 10 kilometers from A, the seed is being sold at 150 piastres.

The difference in price, Martin reiterates, to be not a product of the physical distance between the two villages but rather that in village B there was simply a farmer who had enough seed and offered to share it with his neighbor.³⁹³

For Martin, these psychological phenomenon “developed in conditions very analogous to sound or liquid waves.” Just as a piece of chalk thrown into a glass of water produces a concentric wave, the news of an event in a town spreads mouth to mouth extending its zone of influence. The psychological phenomena of the market were no different. The isolated event – the apprehension of the peasant Ibrahim that there is no seed in the entirety of Egypt – extends its area of influence through the village without encountering any obstacles. However, Martin

³⁹² Ibid., 441-46.

³⁹³ Ibid., 451-52.

argued, if one were speaking of an “open” market within a larger market system on the level of several provinces rather than the village, the psychological phenomena of a single desire such as Ibrahim’s for clover seed produces “multiple, hatched psychological phenomenon” in the form of responses: one has plenty of seed, another not enough and some just enough. The ripples from one isolated event reflect and counteract those originated elsewhere. The interplay of these multiple, contrary phenomenon would in such case produce uniformity of prices for seed across the entire market. The result being that “the market price in the permeable economic milieu corresponds roughly to the ensemble of needs and demands,” the price point of general equilibrium in neoclassical economics.³⁹⁴

However, the available theories of marginal utility offered a way of highlighting this event only in the case of a small group: two sellers and two buyers in a market with a single commodity. The modern market on the other hand presented demand and supply “en masses” as two entirely separate functions of supply and demand. These functions could be juxtaposed thanks to their centralization by the industrial, commercial and agricultural entrepreneurs who buy up the goods and services of producers and sell to those same individuals now transformed into the consumers of agricultural and manufactured products. Martin laid out three characteristics of this ideal state of affairs:

- 1) There is on the market only a single price for all the products of a category;
- 2) The price is such that the quantities supplied and demanded coincide exactly; and
- 3) The price is such that it allows the greatest number of possible sellers to cover all the costs of production and leaves to them a margin which they can commit to continue the labor of production and allows to the greatest number of buyers to obtain all the merchandise, by making a sacrifice of money corresponding to the value of the object, being given all the quantities of a specific object supplied and demanded.

³⁹⁴ Ibid., 452-53.

The Egyptian Sugar and Refining Company provided an example of this in miniature with a single commodity – sugar – illustrating how one firm centralized all of the supply and demand in such a way that it could, with the statistical knowledge available regarding the acreage of sugarcane, the cost of production and transport, fix a price which met the demands of equilibrium across an system of bounded markets. What was needed was a means of manifesting the calculative properties centralized in such a firm at the level of the individual participant in market exchange.³⁹⁵

In order to translate the work of organization accomplished by the Egyptian Sugar and Refining Company to the market organization of other agricultural commodities, Martin and Levi had to also translate the subjective theory of value into an inter-subjective theory of price. In doing so, they drew upon contemporary critiques of marginal utility theory by other neoclassical economist: Charles Gide, Léon Walras, Irving Fisher and Alfred Marshal. The problem was that value was defined as a quality measurable only in relative terms. In economics through even the last quarter of the nineteenth century, value could only be defined in terms of the relative amounts of labor required to produce a set of good or the relative type and duration of pleasure (or pain) achieved by the different courses of action chosen by the respective individual. Even William Stanley Jevons writing as late as 1871 still quoted Jeremey Bentham's definition of utility given in the latter's *Introduction to the Principles of Morals and Legislations*: "that property in an object, whereby it tends to produce benefit, advantage,

³⁹⁵ Ibid., 454-55.

pleasure, good, or happiness, or to prevent the happening of mischief, pain, evil, or happiness to the party whose interest is considered.”³⁹⁶

Economics, in naturalizing the concept of value from moral philosophy, equated that quality to the commodity, expressed in terms of values such as exchange value (i.e., the ratio of exchange between two commodities). That there was a relation between value and price was not a new idea however that relation was never one of a simple equality. Rather it was mediated by certain ideal assumptions such as the existence of perfect markets wherein the price expressed the comparative satisfaction derived from the commodity granted the condition that the desire for that commodity was equal to and thus a direct expression of the satisfaction that would be received from it.³⁹⁷ Value was thus dependent in these conceptions not just on desire but also – and more fundamentally – on the cause of desire: pleasure, pain, satisfaction, duty, fear, etc. It

³⁹⁶ William Stanley Jevons, *The Theory of Political Economy*, 3rd ed. (London and New York: Macmillan and Co., 1871), 46.

³⁹⁷ Henry Sidgwick, *Principles of Political Economy* 2nd ed. (London: MacMillan and Co., 1883), 49-67. Arthur C. Pigou, *The Economics of Welfare* (Macmillan and Co., 1932), Part I, Chapter II, Paragraph 1. Important here is the assumption of complete knowledge by those involved in the exchange. Jevons most closely approximates the position of Fisher claiming that the “numerical data for estimating pleasures and pains in Political Economy” resides in “the private-account books, the great ledgers of merchants and bankers and public offices, the share lists, price lists, bank returns, monetary intelligence, Custom-house and other Government returns” (Chapter 1, Section 16) but maintains that while these are definitely “the quantitative effects of [pleasures and pains]” they as effects are merely a means for estimating “the feelings of the human heart.” (Chapter 1, Section 17).

There is also the issue of French political economy and economics which is said to anticipate much of this transformation, especially the work of Antoine Augustin Cournot, a teacher of Leon Walras’s father, but even his inquiry into prices and value is shaped by a distinction between “*relatives de valeur*” and “*absolus de valeur*”, the changes in the former being merely a phenomenal manifestation determined by the changes in the latter. (Antoine-Augustin Cournot, *Revue sommaire des doctrines économiques* (Paris: Hachette, 1877), 105.)

was deeply entangled with the subjective experience of goods and commodities by desiring individuals and remained intricately tied to moral philosophy.

Rather than fixing the notion of value on the subjective experience of pleasure and pain, neoclassicists such as Marshall and Walras worked to define it as a positive or objective relation between different commodities. The solution was to tie the notion of value directly to price not just for the ideal of perfect markets. By assuming desire to be fundamental to choices regardless of the underlying motivations for such desires. It was enough that, as Fisher put it, “*Each individual acts as he desires.*”³⁹⁸ With this simple postulate, individuals were cancelled out, mathematically. It was no longer necessary to consider the issue of value from the perspective of the specific act of exchange where the individual functioned as a nexus for the comparison of different commodities. Instead, it was possible to elaborate a function in which the interconnections between the realms of production and consumption could be visualized in terms of the relations between prices to one another over time. Rather than dealing strictly in ideal mathematical notation which sought to express the subjective experience of individuals, economists could now actually plug in real world prices and explore the relations between different commodities and the different spheres of economic life.

In tying value to what Fisher described as “the positive or objective commodity relations” or as Marshall referred to as its “outward phenomena,”³⁹⁹ price could serve as a matrix for representing the relative value of different commodities and the interconnections between the

³⁹⁸ Irving Fisher, *Mathematical Investigations in the Theory of Value and Prices* (New Haven: Yale University Press, 1926), 1.

³⁹⁹ Marshall. Alfred, *Principles of Political Economy*, 8th ed. (London: MacMillan and Co., 1920), Chapter III.

realms of production and consumption. One could even examine such as economic system in miniature as the relation between the levels of water in a series of interconnected cisterns as the teaching apparatus Fisher constructed for his lectures at Yale demonstrated. In the latter case, price literally became the medium for translating the subjective experiences – what Martin had described as “psychological phenomenon” – between the different points in the system represented by the individual cisterns.⁴⁰⁰

By moving from the complex question of value to the more manageable one of price, Martin and Levi transformed the “economic milieu” into a matrix of prices through which could be mediated the individual “psychological phenomenon” of desiring subjects. In such a matrix, the difference between the information available to an organization like the Egyptian Sugar and Refining Company – acreage of sugar planted, cost of production and transport, the demand for goods, etc. – and that available to the simple cultivator could be by and large ignored because both were contained by the figure of price.⁴⁰¹ However, this did not treat the other key difference between the Company and the cultivator. The latter was able to centralize the process of calculation among its directors and managers at its office and from there coordinate the various parts of its organization, assigning specific roles and courses of action to each of its divisions. It was this ability to act at a distance which marked the large-scale organizations that had come to

⁴⁰⁰ Fisher, *Mathematical Investigations in the Theory of Value and Prices*, 24-31.. The description of this mechanism can be found in Fisher’s doctoral dissertation. It was constructed two times, both times as a device for use by Fisher in the classroom. For an in depth analysis of Fisher’s apparatus in terms of its economics, see William C. Brainard and Herbert E. Scarf, “How to Compute Equilibrium Prices in 1891,” Cowles Foundation Discussion Paper, no. 1272. For other similar apparatuses in the history of economics such as the Newlyn-Phillips machine, see Morgan, *The World in the Model*.

⁴⁰¹ Marshall, *Principles of Economics*, 1.. His theory of the firm can be understood as doing much the same work though without making the actual move from firms to a collective of individuals.

dominate the landscape at the end of the nineteenth century. Martin and Levi therefore had to find a way to similarly act but by means of price. While newspapers already published the prices of certain commodities such as cotton and cereals, their inaccessibility due to poor circulation in the provinces and low literacy rates among peasant cultivators made them largely ineffective even if a peasant had the inclination to follow the movement of prices.⁴⁰² What was needed was a simple device whose construction and preparation could be centralized and then made readily available to cultivators. The solution suggested by both Martin and Levi was to construct “price barometers.”⁴⁰³

The price barometer would consist of a single sheet of paper deposited in a wooden box containing a table where farmers could look up the average price of an agricultural good during the preceding week in the surrounding district and provincial markets. The table provided to each village would take into consideration the particular situation of the corresponding districts and provinces: while cultivators in one district need to know the going price for eight different kinds of wheat in Cairo, cultivators in another district might need to know the going rate for a particular variety of cotton and cottonseed on the Alexandria cotton market and others still need to know how much certain kinds of vegetables will fetch in the nearest provincial town. The prices of the table allocated to cultivators a simple arithmetic for determine an optimum course

⁴⁰² There were already a number of different serials and periodicals providing price information but all of it was directly targeted towards merchants and particularly merchants in the main agricultural commodities of cotton and wheat. These included the various periodicals published by the individual chambers of commerce representing different nationalities, the dailies and weeklies put out for circulation among bankers and traders in Cairo and Alexandria, and the annual serials put out by the Statistics Department of the Finance Ministry.

⁴⁰³ Mitchell, *Rule of Experts: Egypt, Techno-politics, Modernity*, 117-8.. Mitchell examines the price barometer – or *mercuriales* – and its role in the formatting of social relations by expert knowledge to conform more closely to the practice of theory.

of action without need for the detailed information collected by large-scale organizations such as the Egyptian Sugar and Refining Company or otherwise inaccessible information concerning distant markets.

In order to construct the table, Martin and Levi planned to centralize the construction and handling of these price tables around existing institutions of provincial administration. The *mudīr* or district administrator would assist in ameliorating the information to be provided with what was actually needed in his immediate district and the surrounding area by cultivators. The information, after being gathered, would be collated into a table by a commission composed of agriculturists placed under the supervision of the agricultural inspectorate in the Interior Ministry. Once collated, these barometers could be distributed to the villages. The local moneylender – an interested party by Martin and Levi’s assessment because he depended on the ability of those to whom he loaned money to pay him back – could be entrusted with depositing the pages of the price barometer in the designated wooden box fixed in each village.⁴⁰⁴

The result, Martin and Levi hoped, would be to transform the “commercial anarchy” of the countryside into a market organization that though much simpler would allow cultivators to function analogously to the complex, calculative arrangements of the Egyptian Sugar and Refining Company. The price barometers provided, in Martin’s terms, a means of transforming the closed life of the village into an open receptor for psychological phenomenon submerged in

⁴⁰⁴ Levi and Martin, "Le marché égyptien et l'utilité de la publication des mercuriales," 455-6. A similar process would occur for recording and transmitting the grain prices but with the leaves of the barometer being distributed to the *umda* or village headman, rather than the moneylender, though both would participate in the recording and reporting of the average cereal prices in the district to the Interior Ministry.

“the permeable economic milieu.” By embedding this technology of calculation into a village, that village could be folded into the calculative arrangements of the market.

From Price Barometers to Sales Rings

Beginning in 1912, the Egyptian government began instituting a system of cotton sales rings (*halaqāt al-qutn*) in the primary cotton growing regions of Lower Egypt and the Nile Delta.⁴⁰⁵ By year’s end, ninety-two such markets had been constructed with 185,000 cultivators participating and 593,000 *qantar* – roughly 26,000 tons – of cotton delivered representing a majority of the cotton produced in the region which had not been previously sold on contract before the beginning of the season. Though only focused on one agricultural commodity – cotton – and its many varieties and by-products, these sales rings actualized the abstract space of exchange found in the theories of partial and general equilibrium by embedding at their center the calculative devices suggested by Martin and Levi for organizing agricultural markets two years prior – the price barometer. By linking price barometers to the physical site of these new cotton sales rings, the price barometer was transformed from a flimsy wooden box to a durable fact of economic practice that could enroll the interests of hundreds of thousands of cultivators and merchants into the calculative arrangement of the cotton market in Mina’ al-Basal, Alexandria.

By the close of the nineteenth century, the cotton market no longer referred to the open spaces along major rivers or roads that had developed during the cotton boom in the 1860s where exporters could purchase bales of cotton from inland merchants. Rather, it had come to denote one of a handful of fixed sites where it was possible to acquire and trade cotton contracts –

⁴⁰⁵ Egypt. No. 1 (1913).

Liverpool, New Orleans, New York and Alexandria being the most prominent – and by extension to the persons and firms involved in the trading of cotton and the forms of expertise that came along with it.⁴⁰⁶ The enclosure and professionalization of the markets was one pole of the process by which it now became possible to buy and sell cotton not as a physical good but as an abstract claim on the annual harvest of the entire country.⁴⁰⁷ The other pole, the abstraction of cotton from human and non-human labor, was accomplished not by severing cotton from its material reality but by a deeper entanglement with the physical properties of its very fibers through the grading, classification and mixing of cotton bales. Between them, the cotton market at Mina` al-Basal and the Alexandria Cotton Exchange adjudicated the spatial and temporal boundary between cotton as physical good and cotton as commodity that enabled new forms of calculation and capitalization.

However, the crises which led to the International Cotton Federation’s visit to Egypt in 1912 – the disastrous harvests of 1908 and 1909 – and the effects of it on the already heavily indebted cultivators, unsettled the always uneasy boundary between these two aspects of cotton. After several large cotton merchants went bankrupt due to their inability to make good on their contracts to European manufacturers, hundreds of small roaming cotton traders took up the vacancy left by the merchants’ agents in the interior. The government administration was inundated with complaints from cotton cultivators of fraudulent practices: the manipulation of weights, misleading cultivators as to the prevailing price of cotton, and charging them excessive

⁴⁰⁶ Jevons, *The Theory of Political Economy*, 84. Jevon’s equivocation in the definition of “the market” between a site, its environs and those who participate in the trade is a perfect example of this moment.

⁴⁰⁷ Cronon, *Nature's Metropolis: Chicago and the Great West*, 84. Cronon’s history of the grain market in Chicago is analogous.

amounts for services related to the transport and marketing of cotton such as brokering trade deals, grading the cotton and buying sacks needed to transport it.

The cotton sales rings were to reconstitute the cotton market on radically new grounds opened by neoclassical economics' and the calculative arrangements provided by market organization for ordering and coordinating the numerous passionate interests that tied humans to things. The cotton sales ring provided a fixed location for buyers and sellers to meet and carry out transactions in a more regular and orderly manner. Each was set-up along a similar pattern. A space roughly an acre in size was enclosed in a suitable location where local cultivators could easily bring their cotton crop for sale to agents of the large merchant houses based out of Alexandria, Cairo or one of the other provincial towns. They were paid for and operated by the local provincial and municipal councils and their operations were overseen by British inspectors from the Interior Ministry. To enter the market, a cultivator had to pay 5 milieme per *qantar* of cotton he brought in which helped cover some of the cost of maintaining the market and the salaries for the employees who operated it – the manager, the official weigher, a door-man and two guards – which was otherwise covered by the local councils. Along the edge of the ring were placed storerooms that could be rented by cultivators to store their cotton, the manager's office and also a savings bank where they could deposit any money received from the sale of their cotton.⁴⁰⁸

⁴⁰⁸ It is unclear if this savings bank functioned as a loan provider or whether it operated along the same lines as the Egyptian Postal Savings Bank which like similar institutions in the rest of the world did not also provide loan services. In the latter case, it seems unlikely that it was connected with any other financial institutions such as the Agricultural Bank of Egypt discussed in Chapter 2 or the National Bank of Egypt of which it was a subsidiary.

The focal point of each market was a large weighing machine erected in the center of the ring and a notice board where the market price of cotton was displayed. The weighing machine was operated by the official weigher and was periodically inspected by an inspector from the Interior Ministry's Department of Weight and Measures. Any cultivator could make free use of the scales after paying the entrance fee of 5 milieme per qantar and have its weight determined by the official weigher rather than by the prospective purchaser.⁴⁰⁹



Figure 8 – A government established cotton circle in the Egyptian countryside. The image is taken from outside the cotton circle. (International Federation of Cotton Spinners and Manufacturers Association, *Official Report on Egypt and the Anglo-Egyptian Sudan*, 182)

⁴⁰⁹ This guarantee was meant as a counter to what the government claimed to be a common complaint against the small roaming cotton merchants who often functioned as intermediaries between cultivators and the buying agents of the large merchant houses that they manipulated weights and measures to exact a higher profit margin from cultivators. This in turn led cultivators to militate against such losses by adding bricks to the middle of the cotton bale, dampening it or devising other methods by which to increase the weight of each bale.

However, the notice board was the principal component of the cotton sales ring and connected it to the calculative arrangements of the cotton market. It was placed in a prominent position in each market so that the market price of cotton could be marked in large figures visible from any spot within the enclosed area. The figure posted was the opening price for ginned cotton that was to be telegraphed from the floor of the Alexandria cotton market at Mina' al-Bassal each morning. This price would be updated during the morning hours — the time in which the majority of trades were conducted on the exchange — if the price increased by at least 5 piastres. The market price rather than stipulating the price of sale in the sales ring itself was as a device for calculating margins and negotiating the actual sale price that would be paid for each qantar of cotton.⁴¹⁰

While these technologies of calculation allowed calculation through access to a distant site — a chain of referents connecting the market price in the cotton circle with that of the state of the trading floor in Alexandria —, it also allocated a specific course of action to individuals in the cotton sales rings. By their participation in the calculative arrangements of the sales ring, cultivators took on the role of an individualized calculative agent — a seller — whose arithmetic algorithm led him to seek maximum profit by minimizing the difference between the price at which he sold his cotton and the given market price. Conversely, a cotton merchant was cast as a buyer who sought to maximize the difference between the price he paid for cotton and the given market price.

⁴¹⁰ In addition, a circular published by the National Bank of Egypt at Alexandria containing the latest prices for each of the dozen or so varieties and different grades of cotton and cotton seed were publicly posted for everyone's reference in each market.

Conclusion

By the delegations visit in 1912, the cotton market had become something else through the work of economists and their allies like Abaza Bey: on the one hand, so large as to overflow national borders and, on the other, small enough to be packaged and framed on sheets of paper and travel along telegraph lines. This transformation was not a mere linguistic extension of the market to encompass different levels of economic phenomenon – an application of ‘market logic’ to the macroscopic and the microscopic – or the disembedding of the market from society.⁴¹¹ Rather, it was an effect of a project to enroll cultivators and merchants in the calculative arrangements of the market by embedding new technologies of calculation into collective life – the cotton sales ring and the price barometer.⁴¹² The accumulative translation of the interest of these buyers and sellers in the market price transformed the cotton market at Mina’ al-Basal into a center of calculation capable of coordinating the many contradictory and competing passions of the market.

⁴¹¹ Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time*. The disjuncture between ‘embeddedness’ and ‘disembeddedness’ is rather a relative difference of how, to where and through what the flows of ‘passionate interests’ are diverted, i.e., the long detours by which one must pass in order to subsist.

⁴¹² The history of cotton circles is discussed briefly in Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development*, 218.. Çalışkan discusses the contemporary place of the “cotton sales rings” in Egypt at several points. See {Caliskan, 2010 #169@122-123,177-185}.

Conclusion

In July 1912 Xenophon S. Xenos, a Greek resident of Cairo, sent two letters to Lord Kitchener, the British Agent and Consul-General in Egypt. The letters called for the establishment of a permanent audit commission to be housed within and under the supervision of the Interior Ministry. The commission's purpose was to act as a check on transactions undertaken by those dealing directly with small cotton cultivators in the countryside. While previous government policies promoting the capitalization of agriculture had led to an "agricultural crisis," current policy, Xenophon argued, had done little to alleviate the resulting "social crisis" of rural indebtedness and dispossession of the cultivators of their land and livelihood. Even the Five Feddan Law then under discussion would only prohibit cultivators owning five feddans or less from contracting further debt on the security of their land. There was no mechanism for ascertaining the extent of the crisis or for providing a solution for it. All unregistered credit instruments such as those secured on the prospect of future harvests or even small unsecured loans would be left unregulated.

Xenos's proposed commission would consist of individuals intimately familiar with current commercial practices in the countryside. It would be tasked with enumerating the debts of the cultivators held by intermediaries in the cotton trade — cotton merchants, the rural agents of the Alexandria cotton houses and large landowners — and establishing a systematic surveillance of their activities. This would be accomplished by the periodic audit of their accounts and investigation into all cases of expropriation. In order to do this, the commission

would rely on several dozen local offices spread throughout the principle towns of the provinces. These offices would not only surveil the marketing of the cotton crop but furnish statistics on the harvest in each individual village to a central bureau in Cairo. The work of this central bureau would, in turn, come to constitute a “bureau of information on the moral and financial situation of each, individual, indigenous and foreign” upon which could be constructed a “perfect order” balancing the spirit of enterprise with the demands of equity and justice between creditors and debtors.⁴¹³

In short, what Xenophon proposed was a clearing house, a mechanism to regulate the use of credit instruments by reimagining the relations between small cultivators and cotton dealers as a market. He modeled the audit commission on the rules legislated for the operation of the Egyptian stock and commodity exchanges following the financial crisis of 1907. Only enacted in 1910 after three years of negotiation between the government, brokers and the capitulatory powers, these rules stipulated requirements for companies listed on the exchanges including adequate reporting mechanisms. In both the stock and commodity exchanges, the new rules made legally valid the use of derivative contracts, i.e., futures, to insure forward contracts (stipulating the future delivery of goods at a specified time) against price fluctuations. These regulations detailed everything from the physical layout of the exchange, the days on which the exchange was to remain closed as well as the hours at which certain operations could be conducted so as to allow coordination with operations in the Paris and London exchanges.⁴¹⁴

What Xenos drew on for his proposal was the cornerstone of this regulation — the futures clearing house. From the viewpoint of the government at least, the financial crisis of

⁴¹³ TNA 30/57: Xenos Xenophon to Lord Kitchener, 20 July 1912, no. KK/18-20.

⁴¹⁴ For a brief description, see Egypt. No. 1 (1911), 25. For the text of the regulations of the Cairo Bourse, see Law no. 108 (1910) published in *Journal officiel* (August 29, 1910).

1907 culminated not so much from the speculation that preceded it as from the effect of that speculation on the ability of brokers whether speculative or not to liquidate their positions. The replacement of “the confidence in the future of Egyptian enterprise which had prevailed in Egypt and abroad only a few months previously... by a general feeling of alarm and mistrust” was signified by the inability of traders to either renew existing credit or acquire further advances needed to liquidate. If no credit was forthcoming, as was the case for the brokers associated with the Cassa di Sconto e di Risparmio, the resulting drain on the balance sheets of the backing financial institution would force it to close its doors.⁴¹⁵ Pushed to its natural conclusion, Xenophon argued, the government should take up the sole responsibility of financing - through the facilities of the National Bank of Egypt - and marketing the entire cotton harvest.⁴¹⁶

As explained in the introduction, Xenos confounds some of our basic conceptions about the nature of the market and finance: markets deal with physical goods and finance with the

⁴¹⁵ Egypt. No. 1 (1908), 5

⁴¹⁶ TNA 30/57: Xenos Xenophon to Lord Kitchener, 20 July 1912, no. KK/20. Xenos proposals were not taken up by the government (at least not in whole). In December 1912, a Khedivial decree was issued for the Interior Ministry to form local commissions in every administrative district of the country to carry out a census of agricultural debt. Rather than focusing on intermediaries in the cotton trade, the census aimed to enumerate the liabilities held by small cultivators. Constituted by two local notables chosen by the Ministry and the headman of the village which served as the respective commission’s seat, each commission was tasked with drawing up a register of all small cultivators owning five feddans or less of cultivatable land. With this list in hand, they were to inquire into the state of all liabilities held by these cultivators whether those privileged mortgages or unsecured loans. If cultivators were unwilling to furnish information, the commissions were granted the right to summon them before the commission and, if necessary, sentence those who refused to testify as to their liabilities or provided false testimony to prison. The differences between the audit commission proposed by Xenophon and the census of agricultural debt carried out by the government should not be understated but neither should the similarities. Both plans posited as coterminous the inquiry into the state of rural indebtedness with proper governance. As Kitchener described it in his annual report to parliament, the census would put “the whole question of the indebtedness of the fellah on the sound basis of existing facts.” See Law no. 29 (1912) published in *Journal officiel* (2 December 1912) and Egypt. No. 1 (1912), 5.

abstract claims on those goods. However, this is a fairly recent conception of the divide between finance and the market. In the first two decades of the twentieth century, technologies and ways of thinking about stock and commodity exchanges were beginning to be applied to the trade of physical commodities — things like sugar, grain, steel and, of course, cotton. Xenos's proposal participated in this moment taking the mechanism of the futures clearing house and applying it to the cotton trade in Egypt.

This dissertation has attempted to understand the history of this shift and its significance for how we think about the relations between finance and the market. Whether or not it has achieved that is another question. At a minimum, what the dissertation has laid out is the mundane and material practices that came to constitute finance and the new configuration of the market that emerged in Egypt in the first two decades of the twentieth century: cadastral maps, land registers, tax receipts, loan registers, post office savings accounts, cotton grading practices, futures contracts, price barometers and village cotton markets.⁴¹⁷ In embedding these calculative devices into sites of collective life, it became possible to speak of finance and the market as an abstract entities.

That abstraction was largely experienced as distance: for example, cultivators in the field could not go to the Alexandria Cotton Bourse and ask traders about their projections for the upcoming harvest. Instead, they were dependent on the price posted in the village cotton market or, if they had access, the prices quoted in the newspaper. One's orientation to the market was experienced as a lack of knowledge — fundamentally, a *disorientation* — for those who

⁴¹⁷ Annelise Riles has argued that, by rendering global financial regulation in a more technical and more political form, it makes it more democratic. I'd like to argue much the same in this case. See Riles, *Collateral Knowledge: Legal Reasoning in the Global Financial Markets*, 223.

wanted to understand, participate in and govern it. The market unfolded through collective efforts to observe, analyze and materially define it.

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