

# Paper, Finance and Semiotics. The Symbolic Economy of Knowledge in the Early Modern Mediterranean

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## I

“Value”, Karl Marx claimed in his *Critique of Political Economy*, “converts every product into a social hieroglyphic”. This proposition by one of the most influential political economists of the last couple of centuries stresses the socio-semiotic dimension of something as volatile and immaterial as value, which elsewhere he describes as a “mysterious” thing “abounding in metaphysical subtleties and theological niceties”. Other than metaphysics, theology, and moral philosophy (Marxist or otherwise) the former statement also invites an examination of value through the lens of pragmatics, the discipline that studies *how to do things with words*.<sup>1</sup> According to Marx, economic and material relations of production make up the fabric of history, a principle which can be coupled with the axiom that all human communities are based on linguistic exchanges. The latter is indeed a well-established idea with a long intellectual tradition behind it, from Aristotle, Cicero and Quintilian in Classical Antiquity, on to Lorenzo Valla and Juan Luis Vives in the European Renaissance, Emanuel Kant during the Enlightenment, and Jürgen Habermas in the twentieth century, to name

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<sup>1</sup> Karl Marx, *Capital*, Delhi, 1948, chapter I, “Commodities”, section 4, “The Fetishism of Commodities and the Secret Thereof”, pp. 71-83, pp. 71, 72, 74, *et passim*. *How to do Things with Words* was the title of the foundational essay of pragmatics, published several decades ago by J.L. Austin, Oxford, 1962.

just a few.<sup>2</sup> Well beyond the production and exchange of commodities, labour and value, and beyond natural language too, civilization and knowledge in general are sustained by the production and exchange of symbolic forms: early in the twentieth century the Neo-Kantian philosopher Ernst Cassirer elevated symbols to the status of functional units within the epistemological fabric of knowledge whose true nature is far from being a mere “reflection of a given existence”. “The fundamental concepts of each science, the instruments with which it propounds its questions and formulates its solutions”, he claimed, “are regarded no longer as passive images of something given but as *symbols* created by the intellect itself”. Cassirer then adds that the first scientists who became aware of the symbolic character of their epistemological tools were mathematicians and physicists.<sup>3</sup> There is a hint at both the symbolic dimension of knowledge and the importance of mathematics and geometry as the disciplines that occupy themselves with quantification and measurement in Galileo’s famous claim that true philosophy (i.e. knowledge) is inscribed in the book of the universe with the language of mathematics, whose signifiers are triangles, circles and other geometrical figures.<sup>4</sup> The fact that another of the founders of early modern science, the mathematician and astronomer Nicolaus Copernicus, was

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<sup>2</sup> Aristotle already discusses the notion of currency (*noumisma*) as both a signifier and a unit of measurement which works as an equalizer of sorts – in all the different significations of the noun *equalizer*. This turns it into a consensual social force whose circulation brings about association: “Currency, then, acts like a measure, making things commensurable and so equalizing them; for there would be no association without exchange, no exchange without equality, and no equality without commensurability. Strictly speaking, of course, it is impossible that things so different in kind should become commensurable, but in relation to people’s needs a sufficient degree of commensurability can be achieved. There must then be some single element involved in all cases, and this must be something laid down by agreement – which is why it is called ‘currency’ [*noumisma*]” (Aristotle, *Nicomachean Ethics*, V.6.1133b.17-24, S. Broadie ed., C. Rowe ed. and trans., Oxford, 2002, p. 167).

<sup>3</sup> Ernst Cassirer, “The Concept of Symbolic Form and the System of Symbolic Forms”, in *The Philosophy of Symbolic Forms* (trans. R. Manheim, New Haven & London, 1955, vol. 1), pp. 73-85, p. 75, italics in the original.

<sup>4</sup> Galileo Galilei, *Il Saggiatore*, (1623), Milano, 2020, p. 38.

also the author of treatises on monetary issues is just one of the several cases that demonstrate the interconnectedness among these different disciplines of knowledge and the practices associated with them.<sup>5</sup> That currency, as the representational materialization of value, has not just social, scientific, and symbolic dimensions, but also aesthetic and emotional ones, is suggested by another famous dictum, this time penned by the American poet Wallace Stevens, who in his *Adagia* claimed that “money is a kind of poetry.”<sup>6</sup>

These are ideas whose complexity and ramifications there is neither time nor space to discuss at this point, but they deserve to be briefly enlisted in the introduction that presents the essays of this special issue of *The Journal of European Economic History* because they constitute some of the coordinates that frame its contents. The overall chronological scope covered by our essays runs from the onset of the commercial revolution of the thirteenth century to the financial revolution led by countries like England and the Netherlands during the late seventeenth century – with a few incursions into the periods that preceded and came after these boundaries. All of them, in different degrees and fashions, approach some aspects related to the methods and the media, the symbolic systems and the documentary practices, used to generate value and manage the exchange of goods and information in geographical areas that go from the North of Europe to the Levant and the North of Africa.

Our special issue demonstrates that mercantile and financial practices relied on documentary genres, protocols and media like paper – the latter of which reached Europe at around the same time as the Hindu-Arabic numerical system. Many of them also demon-

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<sup>5</sup> Nicolaus Copernicus, *De estimatione monete* (ca. 1519), *De monetarum cudendarum ratione* (1526).

<sup>6</sup> Wallace Stevens, *Collected Poetry and Prose*, ed. F. Kermode and J. Richardson, New York, 1997, p. 907. In his *Poetry & Money: A Speculation* (Liverpool, 2020, pp. 25-26) Peter Robinson explores Wallace Stevens’ statement and uses the presence of monetary metaphors in poetry to discuss the concept of money itself as a metaphor. This is a question which takes us to the relation between finance and fiction, which we do not have space to discuss here, but which is addressed in the essay by Pérez Fernández, and in some more detail in Elvira Vilches’ article too.

strate that these eminently pragmatic methods and their handbooks were part of a larger intellectual context which occupied itself with the analogies that existed between language and finance, between signification and value. As mentioned above, this is a topic which has been approached from several different angles in a long tradition that goes from Aristotle to Marx, and which has more recently been addressed by twentieth-century French philosophers such as Jean-Joseph Goux, Jean Braudillard and François Lyotard.<sup>7</sup> In Anglo-American academia Marc Shell recounted the parallel historical development of economics, linguistic theory, and semantics as they progressed on a path which led them away from nominal modes of signification on to the gradual independence of signs.<sup>8</sup> The common thread that runs with variations throughout this scholarship views financial and economic systems as discourse – as opposed to economics as an exact science based on the application of abstract mathematical formulas upon empirical data provided by statistics. This has facilitated, for example, an interpretation of the intersection of the language and vocabulary that constitute these systems and their associated practices with those of disciplines like theology, political philosophy, literary history, and more recently cultural and translation studies. As some of our essays will prove, important forerunners of this overlap were also formulated in the middle ages and during early modernity. As mentioned above, Marx would eventually rehearse them in the opening chapters of his *Capital*.

The notion of value as discussed in a philosophical text like Aristotle's *Nicomachean Ethics* was applied in combination with practical skills in measurement and numeration as the commercial revolution of the thirteenth century took off alongside an equally emergent financial system. This was made possible thanks to a bureaucratic in-

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<sup>7</sup> Jean-Joseph Goux, *Symbolic Economies: After Marx and Freud*, trans. Jennifer Curtiss Gage (Paris, 1973), Ithaca, NY, 1990; Jean Braudillard, *For a Critique of the Political Economy of the Sign* (Paris, 1972), New York, 1981; Jean-François Lyotard, *Libidinal Economy* (Paris, 1974), Bloomington, 1993.

<sup>8</sup> Marc Shell, *Money, Language and Thought: Literary and Philosophical Economies from the Medieval to the Modern Era*, Berkeley, CA, 1982.

frastructure generated by networks of merchants and their administrators, whose activities were in turn gradually legitimised by the authority of the early modern state, its legal framework, and its public officers. The lifeblood of these networks and their institutions was the flow of information that circulated throughout them, and which required archival, semiotic, and linguistic protocols for the elaboration of the paper-based documents that materialized all these exchanges. The methods and the instruments involved in finance and trade were inseparable from the general principles of semiotics and communication – and ultimately also regarded the epistemological symbolic systems suggested by Cassirer. This explains why value and its signifiers also affected other walks of individual and social life as they were examined and regulated by different disciplines of knowledge: the social unease that their metaphysical and mysterious nature provoked was thematised in prose fiction and in drama; poets used them as tropes; they cropped up in the visual arts and even became entangled within episodes of intellectual history like the scientific revolution.

## II

Few among the phenomena involved in historical shifts in communication and information management exemplify the overlap between science and the symbolic nature of financial operations and its documents like the Hindu-Arabic numerical system, which is the subject of the first essay in our collection. This essay by Erik Aerts, an experienced economic historian with excellent knowledge of archives in places as diverse as Italy and the Low Countries during our period, demonstrates that in certain parts of Europe the adoption of the Hindu-Arabic numerical system took some time to fully materialize, among other reasons due to the persistence of long-established habits and the combined weight of the tradition and the authority of Roman numerals, as opposed to what was perceived as a new-fangled working system used only by merchants, and not fit

for documents of great momentum generated by public institutions. The current ubiquity of the Hindu-Arabic numerical system does in fact bear an interesting comparison with the medium of paper: their universal use for a long period of time – centuries, in fact – once they had become firmly established, led to their perception as two inextricably linked entities and consequently the relevance of the shift from one medium and one symbolic system to another went largely unnoticed.

In spite of this, both paper as medium and the symbolic nature of the Hindu-Arabic numerical system frequently crop up in many different sorts of cultural expressions. Let me briefly add two relevant samples to those discussed in our special issue. Shakespeare used paper as both a trope and as one of the material agents that drove the plot in *King Lear*.<sup>9</sup> His *Henry V*, on the other hand, opens with a series of images in which Shakespeare uses the representational potential of cyphers to convey the idea of actors that can also present heroic deeds upon a modest stage in the same way in which numbers and accounts can stand for enormous sums in a little space:

O pardon, since a crookèd figure may  
 Attest in little place a million  
 And let us, ciphers to this great account,  
 On your imaginary forces work.<sup>10</sup>

The ambiguity in Shakespeare's use of the noun *account* as both the plot of the play and the symbolic representation of the financial state of a particular business demonstrates the extent to which algebra and accounting practices had pervaded early modern English culture.

Natalie Roxburgh's article approaches in detail social perceptions of credit and money markets in England through a comparison of Shakespeare and Daniel Defoe. She uses some of their works to

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<sup>9</sup> See José María Pérez Fernández, *How to do things with paper in King Lear*, originally published online as part of the PIMo Visual Reflection series (April 30<sup>th</sup> 2020); also available at <http://hdl.handle.net/10481/61735> (accessed on 02/05/2023).

<sup>10</sup> *Henry V*, Prologue, lines 16-19.

illustrate different stages in the development of financial instruments and practices alongside the social and cultural forces they unleashed. Thus she brings to the attention of her readers how in Shakespeare's *The Merchant of Venice* the resolution of the case against the moneylender Shylock is dictated by the fact that the text recorded on the contract does mention the famous pound of flesh, but says nothing about blood. This confirms the constitutive role of linguistic and documentary protocols within the contractual culture that both materialised and lent legitimacy to lending practices. Roxburgh also addresses the dimensions of credit as trust, i.e. as an eminently social immaterial good, a question of opinion and the judgment of character. She traces the path that goes from the moral economy of the merchant classes and the banking sector in the age of Shakespeare, when England was going through an early phase of financial capitalism, to the cultural and economic practices that constitute the background to Daniel Defoe's work, when practices that had previously shocked and alarmed Elizabethan audiences were now thematised in Defoe's prose fiction and essays in versions which were not just far more sophisticated, but had already become socially acceptable.

Elvira Vilches' approach to doctrinal literature on accountancy and double entry bookkeeping in Early Modern Spain includes an examination of the nature and functions of the documentary genres involved. Her article proves that the language of credit and commerce was incorporated into general expressions of obligation and intimacy in Spanish Golden Age literature. For example, the logic and the methods of certain trade practices played an important role in the plot of one of the most relevant and influential novels in the Spanish picaresque canon, Mateo Alemán's *Guzmán de Alfarache*. Vilches stresses the fact that, other than the author of works of prose fiction, Alemán was "a businessman, a judge in audit cases, and a head accountant for the Exchequer" whose work puts to the test the validity of double entry bookkeeping as an index of trust and creditworthiness. For example, *Guzmán de Alfarache* weaves into its different episodes cases that put forth the deceptions of fictitious

exchange. The illusional and imaginary dimension of certain practices and documentary genres involved in financial exchange is also explored in Pérez Fernández's article through the work of Gerard Malynes, who declared that within the conventions and the circles among which credit circulates "things which be indeed, and things which are not indeed, but taken to be indeed, may produce all one effect."<sup>11</sup> This was a complex working principle of bills of exchange which left a certain margin for fraud – as Alemán denounced in his picaresque novel. This potential for deception in documents that registered value and contractual obligations for its exchange stemmed from the constitutive function of the semiotic protocols that materialized them. These were based in turn upon the "forma dat esse rei" principle, which had its origins in Roman law and foregrounded the formats and the linguistic formulae which bestowed upon these documents the legal power to generate and exchange value, well over and above the actual wealth that would guarantee it as collateral.<sup>12</sup> Pérez Fernández in fact uses the expression "the semiotic alchemy of credit and double entry bookkeeping", to describe the operations that turned linguistic protocols inscribed upon small pieces of paper into abstract value which could then be exchanged for hard cash or for material goods. Elvira Vilches also addresses similar ideas through the work of the calligrapher Pedro de Madariaga, who held that "those who cannot work with numbers and do paperwork will see their money dissolved into sand" whereas those "who are prudent and keep their books will transform everything into gold".

Pérez Fernández's essay analyses the distance between Luca Pacioli's *Summa de arithmetica, geometria, proportioni et proportionalitá* in

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<sup>11</sup> *Consuetudo, vel lex mercatoria, or The ancient law-merchant. Diuided into three parts: according to the essentiall parts of trafficke. Necessary for all statesmen, iudges, magistrates, temporall and ciuile lawyers, mint-men, merchants, marriners, and all others negotiatin in all places of the world*, London, 1622, p. 99.

<sup>12</sup> This can be viewed as a case of Cassirer's symbols as inseparable components of the semiotic currency they materialized and of the value which they generated, and not just as mirror-like signifiers of their signifieds, which thus stood as distinct and separate entities in a dual relation with each other.

late fifteenth-century Italy, on the one hand and, Gerard Malynes' *Lex Mercatoria* in early seventeenth-century England on the other; Roxburgh traces the perception of credit in England between the seventeenth and the eighteenth centuries through Shakespeare and Defoe; and as we have just seen, Vilches focuses on seventeenth century Spanish literature. When read together, these three essays demonstrate that the semiotics of value, the language of accounting and of financial practices, were all part of a more comprehensive continuum that pervaded other realms, disciplines and genres such as natural philosophy, theology, prose fiction, drama, and even lyrical poetry. They did so over the course of several periods and also in different linguistic traditions, from the late fifteenth to the eighteenth centuries and in places as diverse as Italy, Spain, and England.

The importance of these semiotic protocols for the administration of trade and credit is manifest in the handbooks which proliferated all over Europe during the early phase of our period (usually called *quaderni* or *libri di mercatura* in Italian). Alongside basic practical skills in measurement and quantification, in geometry and algebra, these booklets also taught their readers about the materials and the tools required to record information, from paper and ink to scissors and pens. In his essay Erik Aerts stresses the importance of these modest but ever-present chapbooks when it came to the gradual adoption of the Hindu-Arabic numerical system in the Low Countries. It is also significant that many of the authors of these practical handbooks for accounting and mercantile skills were also calligraphers and authors of practical books for letter writing. They were, in short, conversant with all the materials, the instruments, and the methods employed for the proper registration, administration and communication of data and information, its algebraic and rhetorical protocols.<sup>13</sup> They circulated first as manuscript *quaderni*

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<sup>13</sup> For a representative case see José María Pérez Fernández, "Notes for a Communicative History of Early Modern Paper: Giovanni Antonio Tagliente's Handbooks", in Livia Faggioni, Mauro Mussolin (eds.), *La Carta e il Mediterraneo: Produzione, Commercio, Comunicazione*, Fabriano, 2022, pp. 147-167.

mostly for personal use, penned by merchants as they went about their business and annotated all the relevant information of the different places they passed through – including local taxes and measures, as well as routes, by land and by sea, *inter alia*. They also recorded instructions on the skills required for the administration and practice of trade for other members of the company and/or those of the next generation. When they transitioned on to print they became somewhat more sophisticated affairs published in small inexpensive formats which were meant to train young officers and clerks in the making. They stand on one extreme of a wider continuum on whose other end we can find ponderous folios with treatises on the arts of cosmography, astronomy, and algebra: between the covers of Luca Pacioli's *Summa* the reader could find texts on Euclidean geometry and algebra alongside practical advice for merchants not just on how they should efficiently keep their accounts, but also on how to organize the information recorded in their papers.

Other than the semiotic protocols of administrative papers, some essays within our special issue approach their hybrid nature. Their main function may have been to record commercial and financial information and perform operations in these areas, but they could also work as highly mobile bits of information for early modern news networks. The essay by Pérez, Ayaso and Marcheschi deals with cases of interlinguistic exchange not just of financial data, but also of other sort of information across the Mediterranean during the late fourteenth century. The Italian and Hebrew documents they survey are part of the Datini archive in Prato and constitute exceptional testimonies for the historical memory of the anti-Semitic pogroms that destroyed Hebrew communities, forced them to convert and change their identities, or in some cases displaced Jewish merchants away from the Iberian Peninsula. They illustrate the important role played by Catalan Jewish artisans and merchants in the stationery business, and also in the production and export of books across the Mediterranean. Even more relevant is the fact that they also bear witness to the emotional ordeals they had to undergo as they were forced into

conversion or exile.<sup>14</sup> Some of these documents also prove that agents of the Datini company abroad regularly informed their bosses in Italy of current events that could affect their activities or provide new business opportunities in the regions where they were located – in this case Barcelona during the pogroms. It is not a coincidence that value and credit as immaterial and highly mobile goods evolved simultaneously with news and information as intangible assets that could also be considered as commodities. In general terms, and beyond these particular cases, news and information were not just the lifeblood of financial capitalism, but also vital for early modern states and their imperial projects – although traditionally not enough attention has been paid to this phenomenon before the age of Anglo-Dutch economic hegemony, two countries also closely related to the late seventeenth-century scientific and financial revolutions and usually considered as the first models of modern global economies.<sup>15</sup>

Cátia Antunes addresses a large corpus of notarial documents from archives in Amsterdam that date from this long period of Anglo-Dutch development and hegemony – in her own words, “a total of 17,654 contracts for the period between 1580 and 1776”. Both Aerts and Antunes’ articles illustrate relevant aspects of the shift in terms of financial clout and economic hegemony from the south to the north of Europe, which involved changes in symbolic systems,

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<sup>14</sup> These Hebrew documents were first made available to the academic community and the general public through a hybrid exhibition organized by the PIMo Paper in Motion work group, see José María Pérez Fernández, Giovanni Tarantino and Matteo Calcagni, *Paper in Motion: Information and the Economy of Knowledge in the Early Modern Mediterranean*, Viterbo, 2021, also available online at <https://www.paperinmotion.org/>, accessed on 26/04/2023). The documents in question are the following: <https://www.paperinmotion.org/paper/acknowledgement-of-debt-in-hebrew/>; <https://www.paperinmotion.org/paper/receipt-for-books-in-hebrew/>; <https://www.paperinmotion.org/paper/letter-in-hebrew/> (accessed on 01/05/2023).

<sup>15</sup> In contrast with traditional accounts such as Larry Neal’s *Rise of Financial Capitalism: International Capital Markets in the Age of Reason*, Cambridge, 1991, more recent scholarship has foregrounded important precedents in the Hispanic and Portuguese empires: see for example María Portuondo, *Secret Science: Spanish Cosmography and the New World*, Chicago, 2009, and Bern Bredecke, *The Empirical Empire: Spanish Colonial Rule and the Politics of Knowledge*, Berlin, 2016.

documentary genres and archival practices. Antunes stresses the importance of a proper understanding of how these protocols worked as a preliminary step to use the statistics that her corpus yields for the collection of relevant information and further research. Well beyond the documents in her corpus she proposes the typological classification that emerges from it as a blueprint for all notarial contracts in general. Her article is a good example of a phenomenon stressed by Renzo Sabbatini in his article, to wit, the new instrumental function that administrative documents gain once these papers cease to circulate and become permanent part of an archive: they are transformed into the diegetic building blocks of historiography. As Antunes' statistics prove the use of bills of exchange grew more than any other sort of documentary genre during the chronological period covered by her database. This bears an interesting comparison with Gerard Malynes' *Lex Mercatoria*, a treatise that elevated the bill of exchange to the pinnacle of financial instruments and presented it as the spirit of trafficke in a bold metaphor that set its ontological status on a par with similar abstract concepts in well-established disciplines like natural philosophy and theology.

Pietro Delcorno's essay is the result of his experience as a researcher in several archives created by Italian *Monti di Pietà*. As it is well known, these financial institutions were created as a response to lending practices that were perceived as contrary to the Christian doctrine, and Delcorno also addresses what he calls the "paper ecosystem" that sustained them. To put it in Aristotelian terms, many of these documents could be described as the *noumisma* that equalized the value of the modest objects pawned by its customers with the hard cash that they obtained in exchange: what we would call microcredit today thus flowed from these banks thanks to the exchange of material commodities for currency. This was an exchange whose equivalence was registered in the documents that made it possible to reverse the operation whenever the borrower could redeem the valuable objects he or she had deposited in the bank in exchange for cash. Significantly these operations came under the symbolic supervision of religious images, ostentatiously

drawn on ledgers whose contents were thus legitimised with this iconic stamp of spiritual authority that other financial institutions lacked.

Matteo Calcagni's essay brings to the attention of his readers the Adami-Lami archive, which had lain absconded in a palazzo at the heart of Florence until fairly recently. This valuable repository of information – which Calcagni himself discovered and is currently in the process of classifying and cataloguing – documents important aspects of the economic history of Tuscany in the long seventeenth century which are leading to its reinterpretation. He traces the intense exchange of financial and commercial information across the Mediterranean, and the flow of paper that circulated around places as distant from each other as the economic hubs of London and the Low Countries, on the one hand, and trading centres in the Levant and the North of Africa, on the other. These papers also constitute further evidence of the hybrid and multifunctional nature of originally economic records, which also collected information of a rather diverse nature. They were the private and manuscript forerunners of the public newsletters published in print that would be set in circulation around the seventeenth century.

Michael McKeon's article also examines the circulation of information between the new centres of political, economic and cultural hegemony in England and the Low Countries and other locations in the larger Mediterranean. His essay exemplifies how commercial networks frequently contributed to generate news networks as they also overlapped with the so-called International Republic of Letters or even with the web of correspondents that became the communicative infrastructure for the scientific revolution. Beyond these, McKeon also examines their entanglement with millenarian movements. The picture that emerges is therefore that of a complex and diverse system woven by agents involved in different practices and trades, working in different linguistic, cultural, and religious backgrounds, and who were consequently members of heterogeneous interest groups. Like Calcagni's article, the documents that McKeon addresses also illustrate the coexistence and the transition from pri-

vate manuscript correspondence to public networks of printed pamphlets.<sup>16</sup>

Nelly Hanna's article gives us a brief glimpse into the documents on the African shores of the Mediterranean. Egyptian archives flaunt a considerable amount of cultural, religious and linguistic diversity and they document not just its exceptionally rich and long history, but also the media in which they are recorded, for they help trace the transition from papyrus on to paper around the ninth and tenth centuries. Hanna's essay, in short, is exceptional within the framework of our special issue because it frames our survey within a profound historical perspective, as it also widens the scope of the long intellectual history of accounting, financial, and archival practices from the Mediterranean Levant in the ninth and tenth century, on one extreme, to Britain and the Netherlands in the seventeenth centuries. Her essay opens many windows onto different phenomena and invites the readers to look into areas such as correspondence written by women, or the continuity in scriptural practices between late antiquity and the early Islamic world, which as mentioned above involves not just the switch from papyrus to paper, but also from the use of Demotic Greek to Arab, besides other languages like Aramaic, Coptic or Judeo-Arabic. She also puts forth a very early case of contractual documentary practices through the papers of an eighth-century village scribe in Upper Egypt, who composed contracts and fiscal deeds for the illiterate peasants and suggests that the abundant use of paper in Egypt even in rural areas by modest families of merchants during the eleventh century brings to the fore-

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<sup>16</sup> Some of the documents displayed in our online exhibition exemplify this exchange of news on recent and current events alongside commercial and financial information dated in different periods. See for example these cases: <https://www.paperinmotion.org/paper/letter-from-rosso-di-strozza-strozzi-to-luca-del-sera/>; <https://www.paperinmotion.org/paper/news-about-the-victory-in-lepanto/>; <https://www.paperinmotion.org/paper/news-on-an-encounter-with-the-turkish-navy-in-calabria/>; <https://www.paperinmotion.org/paper/a-letter-with-news-from-lisbon/>; <https://www.paperinmotion.org/paper/letter-with-news-from-rouen/> (accessed on 01/05/2023).

ground the somewhat understudied use of paper and administrative methods in the Arab world.<sup>17</sup>

Our special issue closes with what could be described as both a back-to-basics approach to the cultural history of paper and a firm proposal for fresh paths of research. Paper is the ubiquitous medium present in all the case studies addressed by our articles, and Renzo Sabbatini, arguably the most important authority in the history of paper in early modern Italy, suggests a series of methodological principles and thoughts for the future development of the discipline which involve micro-history, world and global history, as well as connected histories of paper. Sabbatini in fact invites us to turn the *Paper in Motion* work group and the research it has generated into a stepping-stone to take up new research into the history of paper. This is in fact the main aim of our special issue, in particular as regards the semiotic dimension of paper within media history, its role in the history of communication, in combination with financial and economic history. Furthermore, Sabbatini's article includes a call for new approaches to the human, subjective and emotional components in the history of paper, as he also takes stock of important secondary literature published so far, all of which provides the perfect framework for those wanting to make further progress in these fields.

### III

The electronic revolution in communication brought about by inventions like the telegraph and the telephone, with the accompanying dematerialization of the global financial economy that they contributed to accelerate, has been exacerbated more recently by its digitalization thanks to the incorporation of ever faster microprocessors to all sorts of electronic devices large and small. This is a de-

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<sup>17</sup> On this topic see Marina Rustow, *The Lost Archive: Traces of a Caliphate in a Cairo Synagogue*, Princeton, NJ, 2020.

velopment which is still underway, and which runs parallel to the displacement of paper as the medium that has prevailed in administration and communication for around seven hundred years – when it started to contribute, as a light and ubiquitous medium to the first wave of dematerialization of the economy and to speed up the pace of the global circulation of information and the spread of knowledge. The analogies and the contrasts between these two different media, and the way in which they contribute to define the periods during which they first emerged and eventually prevailed, are too many and too complex to be discussed here in detail. Unsurprisingly, however, as our special issue demonstrates, current concerns about the arcane practices of digital finance are not too different from the unease provoked by financial documents and the semiotic alchemy of paper credit developed from the early thirteenth century onwards.

There is an object that illustrates very well the transition from paper-based data storage and processing on to electronic media. Although no longer used, the computer punch card was for some time the material vehicle not just for the inscription of data and information, but also the cardboard interface between these codified contents and the electronic machine whose task was to process them. The combination of material design based on a combination of presences and absences on the cardboard – i.e. the holes punched and meaningfully arranged on it – were illegible for a human eye, as are the potentially infinite combinations of noughts and ones in digital archives. The microprocessor is now totally out of sight: it operates from behind digital screens in mysterious ways that evoke the metaphysical nature of value as Marx conceived it. Microprocessors, and lately, artificial intelligence, all lend themselves to the creation of poetic tropes as they also inspire not just wonder, but above all distrust and fear given their arcane electronic alchemy and the speed with which they operate: they have become the stuff of utopian dreams and dystopian nightmares that circulate in all sorts of fiction and have placed themselves at the centre of the political and cultural controversies. They are all part of the long history of communication,

of finance, and of the media they used. The fascination and the unease that they provoke on those of us who fail to grasp the nature and intent of their semiotic operations are not so different from the sixteenth-century complaints that the wealth of nations had all been reduced to gold and silver currency and, worst of all, to paper documents.<sup>18</sup> Our special issue proposes a modest contribution to some episodes within this long history.

#### IV

The essays collected here also invite a reinterpretation of aspects and episodes of economic history during the middle ages and early modernity that can stand in contrast with certain traditional accounts. Frequently univocal, focused on a narrow range of primary sources, and formulated within the framework of very rigid paradigms, economic historiography has traditionally contemplated the study of economic *culture* as a mere supplement generated from the margins of the discipline. It was viewed as a quaint narrative composed by experts in the humanities, certainly part of the discipline, but not at the core of its most important concerns and methods. It was therefore contemplated as unable to provide rigorous analysis and verifiable facts from empirical data based on the internal logic and the economic mechanisms of the industrial world. This was so because the main standpoints for this sort of historiography have long been built on methodological patterns that emanated from the ideologies of material, scientific and political progress during *canonical* periods like the nineteenth century, when economics began to emerge as an autonomous science. Within this framework the in-

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<sup>18</sup> "Wealth has circulated, and still circulates, up in the air, in papers and contracts, registers, and letters of exchange, in currency, silver, and gold, not in more deserving material goods that do bear fruit and by attracting foreign wealth support domestic affluence" (Martín González de Celorigo, *Memorial de la política necesaria y útil restauración a la República de España* [Valladolid, 1600], quoted in Elvira Vilches, *New World Gold: Cultural Anxiety and Monetary Disorder in Early Modern Spain*, Chicago, 2010, p. 45).

dustrialization process of eighteenth-century England was conceived not as one of the alternative paths towards modernity leading on to a globalization of the economy that followed the Eurocentric capitalist model, but as the only possible path for progress in what we could describe as a quasi-deterministic and decisively Whig view of economic history. This turned Anglo-American industrial and financial capitalism not just into the hegemonic model for economic progress and the infrastructure for human development, but also as the epistemological blueprint that could be applied to the historiography of any other periods and locations. It thus became the normative model against which to measure and evaluate the degree of progress on the path to modernity that other regions around the world may have achieved. By narrowly focusing on some parameters and phenomena, this historiography established facile judgemental dichotomies between development and under-development, modernity and backwardness, progress and immobilism, dynamism and stasis.

The rejection of this interpretation of economic development calls for a re-evaluation of the material and conceptual tools of the economy of knowledge during the middle ages and early modernity which, instead of being endemically condemned to provide a narrow teleological picture, can reveal instead a diverse and dynamic series of phenomena and developments free from pre-established interpretative patterns. Consequently, the study of the forms of the economy in this period needs a revision that can take into consideration regional and chronological differences, assuming and evaluating parameters, sectors and fields of study which have been traditionally ignored. Breaking these rigid patterns for historical interpretation requires bringing to the foreground the underlying economic, cultural and social diversity, and the acknowledgement of the existence of a plurality of alternative paths and approaches. Only then can the discipline articulate a historical narrative that can do justice to such diversity – in terms of both its subject of study and its heuristic patterns – which can eventually render a more complex picture of an inherently interconnected world: not as a single river

inexorably flowing from its spring on to the ocean, as it were, but a complex fluvial system instead that can delineate a cultural map of global economies of knowledge.

As far as economic history is concerned, the essays in our special issue use methods that fully exploit the diversity and specificity of the object of study, pursuing the ultimate goal of restoring an image of the productive, commercial and financial activities of the medieval and modern age which are more relevant to historical reality. The main objective is, therefore, to observe the history of the symbolic economy of knowledge through the conceptual categories that are proper to it, without distorting them, without bending their genealogy to force it into the pre-established point of arrival but appreciating the matter in its concrete unfolding – in its becoming, as it were.

It is necessary to make some clarifications in this regard. The first, and perhaps most important, is the need to leave behind the artificial separation of economics from the rest of knowledge, a split that appears even more artificial when applied to periods such as the middle ages and early modernity, when current boundaries among different disciplines of knowledge had not been clearly established, but overlapped and closely interacted with each other. Among these forms of knowledge, the economic science of the ancien régime, far from the epistemological autonomy that it would obtain only in the nineteenth century, was inextricably entangled with disciplines such as mathematics, law, theology and moral philosophy. Taken as a whole, they amounted to a complex and heterogeneous but nevertheless comprehensive world view – in other words, to *culture* in the most genuine sense of that term. It is therefore necessary to reverse the relation between economic theory and history as two aspects of the same discipline: the former must not inform the reconstruction of events, but rather historiographical research must provide the case studies and the heuristic patterns that can contribute to explain the emergence and development of abstract theoretical models.

By casting aside patterns based on Anglo-American ideas of

progress and the emergence of nineteenth-century capitalism, a historical account of economic knowledge, its agents, and its practices, will cease to be tied to a general framework articulated upon the values of mobility and immobility, and emerge instead as a complex universe, within which multiple growth factors germinate between the thirteenth and the eighteenth centuries, some of which turned into bearers of a variety of economic modernity that was much more diverse and much richer than originally thought. The experimentation of economic and commercial practices is, moreover, one of the themes that emerges with greater importance from the analysis of the economic culture of this period, bringing out a primacy of practice over theory, of concrete experience over ideology. In the various fields of economic action and thinking, the practical resolution of everyday and concrete problems seems in fact to be the precondition for the formulation of systems of ideas, not its consequence. When theory emerges it does so as the consequence of direct experience, as part of a world in which know-how precedes and therefore paves the way for theoretical systems.

## Acknowledgments

This special issue emerges out of a seminar held in Prato on January 27 and 28, 2022 which also marked the inauguration of a hybrid exhibition, held on site at the Archivio di Stato of this Tuscan city and also online (<https://www.paperinmotion.org/>). This is one among several other events that the work group *Paper in Motion* has organized since its onset in 2019. These academic encounters have in turn generated a series of publications that have addressed different aspects of paper as a medium and its ramifications in realms as diverse as migratory movements, exile, the history of communication, alongside the history of commerce and finance.<sup>19</sup> The current special

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<sup>19</sup> The activities organized and the research conducted by members of the *Paper in Motion* work group have resulted in a series of publications which include the following: Livia

issue is therefore another step within a series of both joint and individual, short and long term, research projects that look into these topics.

We want to thank the members of the *Paper in Motion* work group, for providing with their generosity and enthusiasm an extremely fertile context conducive to innovative research. Thanks in particular to each and every one of the authors involved in this special issue for their willingness to pool their expertise into this joint effort, which would not have been made possible without them. We must also express our gratitude to the anonymous readers who have reviewed our essays, and have thus improved the quality of our results by steering them in the right direction.

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