In our age of unprecedented access to information, the handwritten records of the medieval era remain overwhelmingly dark – unread and unreadable – confining modern scholarship to a tiny fraction of their totality. Yet this constraint is fast disappearing as a range of new technologies transform our understanding of the dark archives and thus of the medieval, to an extent unseen since the invention of movable type and voyages of discovery in the fifteenth century delimited the medieval period itself. This select proceedings of the Dark Archives events of 2019-21 presents the first overview of the emergent field of Dark Archives studies, and its framing questions: just how large is the totality of medieval writing and its interrelations (or 'Graphosphere'), extant and destroyed, and what materials is it composed of? What digital technologies are emerging to scan, transcribe and order this totality, a task otherwise beyond tens of thousands of human scholarly lifetimes? More broadly: what of the physical record can, cannot, or can only be captured digitally? What worlds of scholarship and knowledge might we build upon a fully-mapped Graphosphere? Our pioneering contributors present the wealth of approaches now being marshalled in quest of answers, from manuscript statistics, the reconstruction of lost documents, fragmentology, optical character recognition, crowdsourcing and spectrography, to the metaphysics of knowledge and of the archive.

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Dark Archives Vol. I
Voyages into the Medieval Unread and Unreadable

Pink & Lappin, eds

DARK ARCHIVES

Vol. I

Voyages into the Medieval Unread & Unreadable, 2019-2021

Edited by
Stephen Pink &
Anthony John Lappin

MEDIUM ÆVUM MONOGRAPHS

DARK ARCHIVES
Volume I

Voyages into the Medieval Unread and Unreadable, 2019-2021

Edited By
STEPHEN PINK
&
ANTHONY JOHN LAPPIN

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'Nel suo profondo vidi che s'interna, legato con amore in un volume, cio che per 'l'universo si squaderna'

'In its depth I saw contained, bound with love in one volume, what is scattered as scraps through the universe'[1]

Dante, *Paradiso*, XXXIII.85-88

Stephen Pink & Anthony John Lappin

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[1] English translation indebted to many others, most recently Kirkpatrick 2007.

THE SPACE BETWEEN: JEWS, CHRISTIANS, AND MUSLIMS IN MEDIEVAL SPAIN. MOOCS, CITIZEN SCIENCE, AND DIGITAL MANUSCRIPT COLLECTIONS

Roger L. Martínez-Dávila

Introduction

The medieval cathedral archives of Spain, especially those in the royal Castilian city of Burgos and La Mancha's ancient intellectual center located in Toledo, remain Dark Archives to all but a few academicians who know the hidden doors that guard access to almost a millennium of interreligious history. There are fundamental cultural, institutional, specialist, and technological impediments that hinder our understanding of these Dark Archives collections. Within them are evidence of remarkable – typical – moments of inevitably interfaith cooperation. For example, in just three minor transactions recorded between 1397 and 1427, amounting to no more than one or two manuscript folios, we find evidence of the intimate economic and personal relations that bound Catholic archdeacons, Jewish noblemen and ladies, and Muslim craftsmen together. We learn that when Toledan church chapels required repairs as well as finer embellishments, the churchmen turned to well-known experts like Hamete Abelhat, a Muslim carpenter, to implement the work, and to trusted confidants such as Jewish Don Mayr de Levi and Lady

Jamila to finance the efforts. In Burgos, the same pattern of collaborative relations transpired when church administrators sought out their neighbor, Abraan Aben Seca, a Jewish nobleman, to lease church vineyards to generate revenues. Or, when the cathedral required the meticulous expertise of a master carpenter, canons explicitly named the Muslim Hamete de Cordova as the best tradesman for numerous projects. Year after year, these customary and well-worn norms stitched Jews, Christians, and Muslims together and they now lie dormant in dozens of cathedral archives that house thousands of bound volumes detailing a millennium of rich social history.

Deciphering this secret history – of the collaborative nature of interreligious of life in medieval Spain – is a significant, but resolvable, Dark Archives problem. This article explores how several constraints to working with cathedral manuscripts might be overcome via cost-efficient micro research initiatives that focus on global digital interconnectivity, free web-based education, and a whole-hearted commitment to democratising palaeographical expertise and research collaborations using a citizen-science approach. First, I discuss how scholars can engage the public by revealing the complicated nature of the history of the Middle Ages, subsequently I discuss how Massive Open Online Courses are used to facilitate learners' acquisition of palaeographic expertise and those learners' collaborative work transcribing manuscripts, and lastly, I outline the digital organisation, documentation, and publishing of manuscripts and transcriptions using the Dublin Core schema in the University of Colorado-Colorado Springs Digital Collections.[1] Via this endeavor, known as the *Deciphering Secrets* project, I present a citizen science

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model that offers a fruitful future for research efforts in academia and our globally interconnected world.

Massive Open Online Courses (MOOCs) and compelling medieval history

Capturing the attention of the public

One of the principal questions that often arises when seeking to advance citizen science is: How can scholars capture the attention of the public and convince them to participate in research initiatives? In my experience, the answer is in seeding the deep intellectual and cultural curiosity of the university-educated public. Humans are naturally cooperative, collaborative, and curious. We care about the humanities – history, the arts, philosophy, and language – because they embody the noblest goals of our globalised culture and our yearning to serve the higher purpose of making positive democratic, egalitarian, and socially beneficial contributions to our world. Yet, as technological change and internet-connectivity have advanced, we recognize that the essence of our humanity is being swallowed whole as our lives become less focused on people and more on technological devices like the Apple iPhone. A short trip on the Metro Madrid, lunching in a cafeteria, or even sitting in our own flats, reveals the pervasiveness of this phenomenon where humans stare intently into little video screens and do not acknowledge or talk to each other. Who is serving whom in this world – do we serve technology, or does it serve us?

The key to drawing the digitally connected public to citizen science projects is a fundamental recognition that humanity is in desperate search for individual meaning and purpose, as well as opportunities to share their personal realisations through social connection. Meaning, purpose, and sociality cannot be satisfied through the canned whimsies of devices. Today's global world, at least prior to the COVID-19 pandemic, is a panorama of human cultures in dialogue with one another. Naturally, cultural differences and

distinctiveness evoke powerful emotional responses that range from love, amity, indifference, confusion, and hostility. Through the lens of medieval Iberian history, the public can explore and engage with each other and scholars via the safety of the temporal distance of the Middle Ages. This far-away place provides a safe intellectual and emotional arena for the public to evaluate and reflect on contemporary intercultural issues through the medium of medieval Spanish Jewish, Christian, and Muslim relations. In effect, our 2020-selves inhabit the history of medieval Spain so that we can contemplate the best and worst of human relations.

The *Deciphering Secrets* (DS) project, which I created in 2014 and this article discusses, examines issues of medieval interreligious history and promotes civic engagement in the research process. The central focus of DS, and by extension its MOOCs, is 'scholars and the public collaborating to better understand Jewish, Christian, and Muslim coexistence during the Spanish Middle Ages (500-1500 CE)'. Since summer 2014, DS have delivered MOOCs to share the interreligious history of Spain (also known as Islamic al-Andalus and Jewish Sefarad). DS works alongside of museums like the Museo Sefardí (Toledo). the Museo de Santa Cruz (Toledo), the Museo de Burgos, and the New Mexico History Museum to present compelling cultural knowledge. Further, this research effort energizes current and former MOOC learners to assist with transcribing and investigating medieval manuscripts pertaining to medieval Jewish, Christian, and Muslim interrelations. We teach introductory, intermediate, and advanced Spanish palaeography (or, reading old handwriting) to our learners so that they can 'decipher secrets' from medieval manuscripts. Through our collaborations with Spanish cathedral, municipal, and national archives, DS is making new collections available for investigation. Presently, our research is focused on interreligious affairs in the cities of Plasencia, Burgos, Toledo, and Granada, and their broader connections to the Iberian Peninsula.

What DS has learned is that the public wants to contribute to scholarship. When queried about their perspective on the value of 'crowdsourced research', learners in our DS Massive Open Online Courses (MOOCs) and transcription project resoundingly supported it.[2] DS believes this is largely due to the fact that our learners' intellectual and emotional attachment to the issues of intercultural cooperation and conflict. Specifically, 82.5% of our learners believe it is *very important* for academic researchers to incorporate the public into scholarly investigations. A full 100% believe these scholarly-public collaborations are *very or somewhat important*. When asked if they wanted to participate in other types of research:

- 85% indicated they wanted to contribute to additional palaeography transcription projects,
- 65% stated they wanted to assist with editing and creating final versions of transcribed manuscripts, and
- 75% wanted to help index the contents of manuscripts that have not been abstracted.

After completing one course, 77.5% of our learners stated they were *very likely* to return and take additional DS MOOCs that follow the trajectory of intercultural life in medieval Spain. The public desires to participate, therefore, the question is: how do we engage our audiences so as to motivate them to dedicate their limited time to scholarly pursuits? We must offer them compelling histories that relate to the challenges of our contemporary world.

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[2] This student survey data collected during the summer 2016 edition of the *Deciphering Secrets: Unlocking the Manuscripts of Medieval Burgos* MOOC on edX.org at https://www.edx.org/course/deciphering-secrets-unlocking-the-manuscripts-of-3. The current version of the MOOC on coursera.org is accessible at https://www.coursera.org/learn/burgos-deciphering-secrets-medieval-spain.

How Jews, Christians, and Muslims came to live alongside each other in medieval Spain

Perhaps the best manner to explain how scholars can excite the imagination and efforts of the public is via the central storyline of the DS project and its MOOCs – specifically, how Jews, Christians, and Muslims came to live amongst each other in medieval Spain. By retelling this history of 800 years of interreligious life, we can note the hallmarks of storytelling that connect the public to its quest for personal meaning, purpose, and social connection.

   Like our diverse societies of 2020, medieval Spain was the child of many cultures, civilisations and peoples.[3] First populated by Celtic and Iberian peoples before the ninth century BCE, the Iberian Peninsula assumed a greater Mediterranean character with the arrival of the Phoenicians around 800 BCE (Phillips and Phillips 2016: 14-15). The Carthaginians from North Africa, standard bearers of the Phoenician empire, later conquered and claimed Iberia in 236 BCE, which set off a civilisational conflict with the Romans until the end of the third century BCE. The Latinisation of the peninsula transpired over six centuries and right up until the end of the fourth century of the common era. The Jewish population, which had accompanied Phoenician traders prior to the common era, grew substantially in Iberia after the year 70, the year the Romans destroyed the Second Temple in Jerusalem and Jews were forced to resettle across the Mediterranean world (Gerber 1994: 2). Therefore, immediately through this window into one millennium of history, our MOOC learners perceive the brevity of a human lifetime, the

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[3] In terms of historical periodisation, late medieval Spain might be best captured as the time period between the seminal Spanish Christian military victory over the Islamic Almohads at *Las Navas de Tolosa* (1212 c.e.) and the Catholic Monarchs' (Isabel and Ferdinand) political consolidation of Spain after the capture of Granada, the expulsion of the Jews, and the encounter with the Americas (1492 c.e.).

frailty of what we perceive as 'civilisation', and the dangers of religious intolerance and the pain felt by diasporic communities.

Continuing, we encounter the early medieval character of Iberia as when it came into focus from the fifth through eighth centuries, when the Roman empire was overrun by the Vandals and later, the Visigoths. The latter established their capitol in the ancient city of Toledo (415-711). According to mythic tradition, the city is where Hercules slept before his eleventh labor. The Visigoths refused to acculturate with the Romanised Iberian-Celtic peoples and not until 585, with King Roderick's conversion from Christian Arianism to Catholicism, did both the political elite and the native populations share the same faith (Phillips and Phillips 2016, 34, 37, 74). In 711, Islamic Umayyad and North African Berber calvary forces led by Tariq Abu Zara invaded the Iberian Peninsula at the Straits of Gibraltar and began their rapid elimination of the Visigothic monarchy that was plagued by internal dissension and dynastic claims (Collins 1994: 17–18, 28, 45). In a conquest that lasted no more than ten years, Iberia would become Islamic *al-Andalus,* a mixed religious community with almost unimaginable cultural splendor, in the central and southern portions of the land mass, and ragtag Christian kingdoms, militantly preserving their varied cultural and linguistic traditions in the northwestern coastal regions and Pyrenees Mountains. For our learners, mythic history is invoked through these references to Hercules, the Celts, and Romans, and the span of the known human story is brought to the attention of learners as they begin to appreciate the privileged place of the Iberian Peninsula. Moreover, political intrigue, a sense of abrupt religious and political transformation, and the tradition of the contest of civilisations are invoked. Therefore, learners are brought into dialogue with consequential issues.

Similarly, appealing to distinct learning communities is also critical to engaging the public's participation. Among the most motivated members of the public are distinct cultural and religious

communities, and in the case of Iberia and my own research expertise, I concentrate on retelling the mixed heritage of Hispanic communities and the noble story of Sephardic Jews. Thus, these MOOC learners appreciate the structure of medieval Spanish history and that it was predicated on the dynamic interaction, both positive and negative elements of co-existence (*convivencia*), of Jews, Christians, and Muslims (Hillgarth 1985, 33). And as one of the remaining refuges for the European Jewry (England expelled Jews in 1290 and France in 1306), Spain prior to the late fourteenth century offered one of the few regions in western Europe where Jewish communities could live and prosper (Phillips and Phillips 2016, 83, 97).

Lastly, this early medieval history retold to learners is complemented with noteworthy leaders that awaken notions of grand periods that shaped our memory of the past. Great war captains, knights, kings, caliphs, and religious leaders pepper Spain's history, including Tariq Abu Zara (early eighth century), the famous Berber warrior at the vanguard of the Umayyad conquest of Iberia; Pelayo (r. 718-737), the semi-mythical founding champion of the Spanish Christian *Reconquista*; Frankish Charles Martel (r. 718-741), the Mayor of the Palace, and the victor of the Battle of Poitiers (732); Islamic Caliph Abd al-Rahman III (r. 912-929) and his magnificent Caliphate of Cordoba (929-1031); Moses Maimonides (b. 1135 – d. 1204), the Jewish polymath and author of the *Guide for the Perplexed*; and Castilian King Alfonso X 'The Wise' (r. 1252-1284) who promoted himself as the monarch of three religions. Born from this environment of constant political and cultural tension was a European world unlike any other on the continent.

The fourteenth & fifteenth centuries: from crisis to consolidation

What drives the thrust of DS MOOCs and its manuscript studies is a period in Spanish history that remains consequential and relevant to learners in the twenty-first century. The research derived from our Deciphering Secrets manuscript collection, which will be addressed subsequently, presents a fourteenth- and fifteenth-century Spain in deep conflict with itself as it wrestled with a global pandemic, political disintegration, and most notably, tremendous religious violence inflicted on the Sephardic Jewish community. The seeds of change began with the sudden and unexpected death of King Alfonso XI in 1350 from the Black Plague. Between 1347 and 1350, the plague claimed the lives of approximately 25 million in Europe, or 25 percent of the population (Olea and Christakos 2005, 291). In fact, the pandemic returned twice more to Castile, in 1374 and 1384. The COVID-19 pandemic of 2019 and 2020 makes this medieval history very present in our time: we understand how precariously human life teeters from the joy of good health to unexpected death. Over the course of the fourteenth century, the Iberian population withered from an estimated 5.5 million to 4.5 million (Pamuk 2007, 294). Across Europe, Jewish communities were scapegoated as the cause of the illness. Samuel M. Cohn Jr. writes that 'Jews were accused of poisoning food, wells and streams, tortured into confessions, rounded up in city squares or their synagogues, and exterminated en masse' (Cohn 2007: 4, 8). In Germany, southern France, and Spain, in particular, the 'burning of Jews' was carried out. It is through this miserable past that learners in our MOOCs acknowledge the frailty of human judgment and the power of fear and racial and religious hate.

In the midst of this turmoil, political control and rule of Iberia's most important kingdom of Castile and Leon came into question. The splintering of society feels profoundly contemporary – especially at the end of this second decade of the 2000s as right-wing, extremist, anti-immigrant, and nativist political parties and leaders feed the

hunger of disaffected Europeans and Americans. Learners in DS
MOOCs perceive the past as returning to influence the future.

For example, the *Crónica de los reyes de Castilla* relates that on
March 26, 1350, the Castilian monarch was cut down by the plague:

> [While laying siege to Gibraltar and] after the battles and
> conquests by the noble prince Lord King Alfonso of Castile and
> León . . . it was at the village and the noble, notable, very strong
> castle of Gibraltar, the plague entered among the Muslims and
> Christians. . . . By the will of God this pestilence of the greatest
> mortality returned and fell upon our most noble Lord King
> Alfonso (Cronicas de los Reyes de Castilla: 390).

Upon Alfonso XI's death civil war broke out, with the king's
legitimate son Pedro I 'The Cruel' battling his half-brother Prince
Enrique II of Trastámara for the kingdom and crown.[4] Neither of the
competing claimants could secure the kingdom. Pedro I was only
fifteen years old, and many leaders considered him too young to rule,
whereas his older half-brother was the son of the deceased king's
mistress, Leonor de Guzmán (Hillgarth 1985, 374-76). Hostilities
between the half-brothers commenced as early as 1353, when Enrique
fielded 600 knights and 1,500 Asturian men-at-arms in the village of
Cigales to meet Pedro I's military companies coming from the nearby
city of Valladolid (Cronicas de los Reyes de Castilla, 431). By 1360,
after he had three of his half-brothers executed and signed a peace
accord with the Kingdom of Aragon, Pedro I seemed to be in a strong
position to gain the upper hand (Ruiz 2011, 80). The remaining
impediment to his consolidation of control of Castile was his brother,
Enrique II. Among the many complaints raised by Enrique II was that
his half-brother was far too sympathetic to religious minorities and

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[4] In his valuable work, Clavero 1974 argued that prior to the civil war there
were old noble clans and after its conclusion came a new generation of noble
houses known as the new nobility.

was overly dependent on Jewish advisers and Muslim men-at-arms (Hillgarth 1985, 372, 385). On several occasions during the civil war, Enrique II besieged Jewish communities in Toledo and Burgos (Singer and Adler 1901). It was ironic that Enrique II, in his eventual victory over Pedro I, would turn to elite Jewish converts to Christianity as he rebuilt his devastated prize, the Kingdom of Castile and León. Thus, this uncomfortable story begins to introduce a fresh and unexpected narrative to *Deciphering Secrets*' learners: How did Jews and their descendants come to survive these calamities, and in some cases, rise in an anti-Jewish Castile?

The royal contest was also a pan-European conflict as several Spanish Christian kingdoms, England, and France politically and militarily wrestled with each other on the continent during the opening of the Hundred Years' War (Hillgarth 1978, 375, 380). England and France both courted Castile as a strategic ally in their continental war, which in 1362 pulled Pedro I into an alliance with King Edward III's England and in 1363 prompted France to recognize Enrique II as the legitimate heir to the crown of Castile. Not until 1369 was the internationalised conflict for the crown resolved, when Enrique II and Pedro I fought the fateful Battle of Montiel (Cronicas de los Reyes de Castilla: 589–592).

The war reached its apex in a breathtaking moment of fratricide. At Montiel, Pedro I was defeated and took refuge in his castle. When Enrique II sent his emissary, Mosén Beltrán, to his half-brother to negotiate, Pedro sought Beltrán's assistance to betray Enrique II, making him a generous offer. As the chronicler Pedro López de Ayala detailed, 'Pedro…said if he [Mosén] will liberate him from here, safely and securely…he would give to him, and those who succeeded him, the villages of Soria, Almazán, Atienza, Montagudo, Deza, and Serón…as well as two hundred thousand Castilian *doblas*.' Beltrán agreed to the treachery but informed Enrique II of the plan and led him to Pedro's refuge. There the two met face to face. According to Pedro López, the bitter war had inflicted damage on both men's

memory, and Enrique II did not recognize his half-brother. In the presence of Pedro I, one of Beltrán's knights said to Enrique II, 'This man is your enemy', and to this statement Pedro I replied, 'I am. I am.' With a dagger, Enrique II struck his half sibling in the face; 'the two fell to the ground . . . and there died King Pedro on the twenty-third day of March of the said year.' For *Deciphering Secrets*' learners, the tale is matched with Jean Froissart's artistic depiction in *Chroniques* penned just four years after the event. (See Figure 1.) With Pedro's death in 1369, Enrique II became the fountainhead of the Trastámaran dynasty, culminating in the unification of Spain under Isabel of Castile and Fernando II of Aragon in 1469 (Phillips and Phillips 2016, 83).

Figure 1

Pedro slays Enrique II as depicted in Chroniques de Froissart
(KB 72 A 25).

DS' learners are subsequently confronted with an arresting image of cultural and religious revolution, that raises the questions: how did the twin stresses of political dissolution and disease facilitate a redirection of Spanish history predicated on Jewish and Christian blending? The Castilian nobility was exhausted by almost two decades of civil war and its ranks were rebuilt with a 'New Nobility' composed of elite Jewish families who converted to Christianity, or Jews who converted to Christianity (Martínez-Dávila 2018, 35). Unfortunately, there was a serious constraint – Enrique II had the power to grant noble titles but lacked financial resources. Enrique II and his three heirs thus devised an ingenious method to regenerate the noble class. Their approach and calculation were simple: in return for political loyalty and financial assistance to entice these families, Enrique II promoted lower-class noble Christian families and elite New Christian (or converso) clans to become his new nobility. The social experiment was wildly successful, even if it came at the expense of the traditional Old Nobility and ran counter to anti-Jewish polemics during the civil war and thus angered Christian commoners. At the heart of rebuilding the nobility was the rapid integration of elite conversos into royal and church institutions. Among the greatest contributors to these institutions were the Santa María and Carvajal families of Burgos and Plasencia, Spain, who hailed from the ha-Levi rabbinic family and the Old Christian Carvajal family of lower noble knights.[5] Thus, late fourteenth- and fifteenth-century manuscripts in

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[5] In *Creating Conversos: the Carvajal-Santa María Family in Early Modern Spain* (Martínez-Dávila 2018), I unravel the complex story of Jews who converted to Catholicism in Spain between the fourteenth and sixteenth centuries, migrated to colonial Mexico and Bolivia during the conquest of the Americas, and assumed prominent church and government positions. Rather than acting as alienated and marginalized subjects, the conversos were able to craft new identities and strategies not just for survival but for prospering in the most adverse circumstances. The text offers an extensive,

cathedral archives in Burgos, Plasencia, Toledo, and Granada are particularly ripe for investigating late medieval religious identity-shifting and interreligious relations.

The counterpoint to the new opportunities for elite conversos in Spain were the disastrous anti-Jewish pogroms of the 1390s and Disputation of Tortosa (1413–1414). During the pogroms of the 1390s it is estimated that as many as 100,000 Jews were killed, 100,000 converted to Christianity, and another 100,000 fled to Muslim territories or went into hiding (Gerber 1994: 113; Roth 2002: 33). For example, Benzion Netanyahu summarizes the era as follows:

The losses of Spain's Jews in 1391 far surpassed those the Jews had borne elsewhere [in Europe]…Within two or three years from 1391, Spain's Jewish community, the largest in the world, was reduced by nearly one third—in both geographic and numerical terms, the greatest catastrophe that had hitherto befallen European Jewry (Netanyahu 2002: 127).

Unfortunately, these claims minimize the complexity of interreligious relations during this era in Spanish history. Addition-

elaborately detailed case study of the Carvajal–Santa María clan from its beginnings in late fourteenth-century Castile. By tracing the family ties and intermarriages of the Jewish rabbinic ha-Levi lineage of Burgos, Spain (which became the converso Santa María clan) with the Old Christian Carvajal line of Plasencia, Spain, the monograph demonstrates the family's changing identity, and how the monolithic notions of ethnic and religious disposition were broken down by the group and negotiated anew as they transformed themselves from marginal into mainstream characters at the center of the economies of power in the world they inhabited. They succeeded in rising to the pinnacles of power within the church hierarchy in Spain, even to the point of contesting the succession to the papacy and overseeing the Inquisitorial investigation and execution of extended family members, including Luis de Carvajal 'The Younger' and most of his immediate family during the 1590s in Mexico City.

ally, the impact of the Disputation of Tortosa cannot be underestimated in terms of the chilling effect it had on European Jews. Although previous efforts, like one in Paris (1240) and another in Barcelona (1263), had established a precedent for forcing Jewish religious leaders to debate the validity of their religion, the coerced debate in the Aragonese city of Tortosa was exceptionally effective (Maccoby 1998, 23). The effectiveness of this campaign was tangible: over the course of the year many elite Jewish leaders and thinkers converted to Christianity, including the poet Solomon de Peira, Vidal Joseph (of the Benveniste and Cavallería families), and Fernando de la Cavallería (Roth 2002, 55-58).

A closer inspection of interreligious affairs during this era, made possible via DS MOOCs' selection and targeting of municipal and cathedral manuscripts, presents a more complete perspective on the complicated societal arena in fifteenth-century Spain. Were conversos traitors to their former coreligionists? Some historians have charged the elite converso Pablo de Santa María, a rabbi turned Catholic bishop, and his lineage as treacherous defectors. The historian José Amador de los Ríos castigates Pablo by connecting him to the Dominican Vincent Ferrer, the intense proselytizer of Jewish communities. Jose Amador argues that Ferrer's mission to convert Jews closely corresponded with Castile's implementation of the anti-Jewish Ordinances of Valladolid, which Queen Mother Catalina and Prince Fernando de Antequera proposed in 1412 to regulate Jews (Amador De Los Rios 1876, 12, 42, 493-502, 618-26). Amador de los Ríos states that Pablo de Santa María developed these policies as a means to attack his former coreligionists; the ordinances focused primarily on limiting Jews' social and economic interaction with Christians and conversos, as well as moving Jews to separate neighborhoods. He proposes that both Pablo and his son, the Placentino bishop Gonzalo García de Santa María, were intent on 'squeezing and reducing to sterility' the Jewish community throughout Castile.

However, the historical record in fifteenth-century Castile demonstrates more complex facts on the ground. Yitzhak Baer, author of *History of the Jews,* states that Castilians implemented just two of the Ordinances' comprehensive provisions, 'namely, the removal of Jews to separate quarters, and their exclusion from tax farming and from the service of the State and the court' (Baer 1966: 169). Though draconian, at minimum, these provisions do not seem to have been uniformly enforced.

Inside of Castile, the Santa María clan appears far less ruthless than Amador de los Ríos articulates; this fact is revealed via a royal order collected at the Archivo Histórico Municipal de Burgos. The Santa María were also creators of new protections for Jewish communities. The majority of the violence against Jews concluded at the end of the fourteenth century after Enrique III of Castile repeatedly demanded that his subjects cease their harassment of both Jews and new converts to Christianity (Cronicas de los Reyes de Castilla, 177). In a July 30, 1392, royal decree sent from the city of Segovia to Burgos, the king mandated the following to all persons living in the kingdom: 'No person shall obligate Jews to become Christians by force, nor make them listen to a sermon against their will, nor mistreat them, because it is counter to Christian charity' (AHMB Legajo HI-2960, unfoliated).

As the king was still three years from the age of majority, his royal advisers and teachers seemingly had a weighty impact on the decision to call an end to the violence (Lea 1896, 216; Cantera Burgos 1952: 24-25). Among those advisers was Chief Justice Diego López de Estúñiga, one of the New Nobility and founder of the Counts of Béjar and Plasencia, and Bishop Pablo de Santa María. In other specific cases, Enrique sent communiqués that enhanced these basic religious protections. Not only would the youthful king refuse to tolerate further forced conversions, but he directed Alvar García de Santa María (the historian-bureaucrat) to enforce his decision to allow forced converts to return to Judaism. On this issue, the king's

pronouncement stated, 'Many [Jews] had converted and now wanted to return [to their faith]. . . . Not one person should harass them, and if some amount of them were to return [to Judaism], no one should seize them (AHMB Legajo HI-2960, unfoliated).

Although the monarch was concerned about the safety of the Jewish community, the call to protect Jews also explicitly acknowledged their vital role in the economy. For instance, the crown used a religious poll tax levied on Jews to pay for its wars against Islamic Granada, as well as to fund other royal initiatives (AHCB, vol. 48, fol. 250; AHCB, vol. 46, fol. 424; AHCB, vol. 5, fol. 51–51v.). In this way, the *juderías* in each community contributed to the royal coffers. For example, in the early 1400s, the Jewish community of Plasencia paid the king 10,250 *maravedís* annually in *cabeza de pecho* (poll tax) (AHNOB, Osuna, Caja 300, docs. 8 (6), 9 (5), no folio; AHNOB, Osuna, Caja 299, docs. 1 (4), 1 (6), 2 (1), no folio; AHNOB, Osuna, Caja 303, doc. 51, no folio; AHNOB, Osuna, Caja 303, doc. 42, no folio). Jewish subjects were valuable assets that necessitated royal protection on economic grounds.

Through this window of religious violence, conversion, and reforming of the Castile's noble families and institutions, *Deciphering Secrets* MOOCs explain why medieval cathedral and municipal manuscripts are the quintessential source for understanding inter-religious relations. The manuscripts expose the messiness of Jewish, Christian, and Muslim life during the later Middle Ages in Spain.

Integrating the public in novel manuscript research via MOOCs (2014-2020)

Overview of MOOCs

By assembling a compelling intercultural history with a corpus of our curated collection of cathedral and municipal manuscripts from archives in Burgos, Toledo, Plasencia, and Granada, we employ Massive Open Online Courses (MOOCs) to encourage and support

citizen scientists' efforts to create rough and diplomatic transcriptions. Our first MOOC integrating online education with crowdsourced transcription of manuscripts for research purposes took place in the summer of 2014. Since then DS has delivered several MOOCs via the coursera.org-University of Colorado System and the edX.org-Universidad Carlos III de Madrid collaborations. Table 1 displays the eight MOOC course editions we authored as well as learner enrollments, course completion rates, and the specific manuscript collections we investigated. It is worth noting that starting in spring 2018 each coursera.org MOOC enrolls a new cohort of learners every six weeks, or about eight-course sessions each calendar year. Between summer 2014 and early fall 2020, approximately 32,350 learners from over 140 nations have participated in the MOOCs. Even as the range of MOOC course offerings have proliferated over the past five years, for example as of April 2020 on coursera.org there are approximately 4,000 MOOCs, our enrollments have remained strong (Lohr 2020). From fall 2017 to fall 2020, we engaged 11,350 learners via our three MOOCs on coursera.org.

Similar to other MOOCs, student completion rates have diminished over time from a high of 19% for the very first MOOC in 2014, to present completion rates ranging from 1.1% to 2.9% in 2020. The lower completion rates in 2020 are reflective of a change in the MOOC business model; initially learners could complete a course for no fee (no cost) but since 2015 learners must purchase a course in order to complete the course. As our courses do not certify any formal credentials there is little incentive for learners to pay for course content. Therefore, DS has fewer course completers. Moreover, our newest courses, *Burgos: Deciphering Secrets of Medieval Spain and Toledo: Deciphering Secrets of Medieval Spain*, focus intensively on palaeographic studies and more difficult hands (scripts) from the early fifteenth century. The palaeographic difficulty of these courses is considerable and may lead to learner attrition.

Over six years, these citizen scholars transcribed most of the 600+ page *Libro I* of the *Actas Capitulares* of the cathedral chapter of Plasencia as well as dozens of manuscripts from the cathedral and municipal archives of Burgos and Toledo.[6]

Table 1

Deciphering Secrets MOOCs: editions, enrollments, completion rates, and manuscript collections

MOOC	Edition	Enrolled learners	Course Completion Rate	Manuscript Collections
Unlocking the Manuscripts of Medieval Spain **(Coursera)**	Summer 2014	10,600	19%	19th-century copy of the 600+ page *Book One (1399-1453) of the Capitulary Acts* of the Archivo de la Catedral de Plasencia (Spain)
Unlocking the Manuscripts of Medieval Spain **(Coursera)**	Spring 2016	6,000	8%	Same as prior MOOC.

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[6] Many of Deciphering Secrets' crowdsourced manuscript collections are routinely updated on the research section of our website. See https://grants.uccs.edu/deciphering-secrets/deciphering-secrets-medieval-spanish-manuscript-and-transcription-collection/.

Unlocking the Manuscripts of Medieval Burgos (**edX**)	Summer 2016	1,700	14%	13th-, 14th- and 15th-century manuscripts from the Archivo de la Catedral de Burgos (Spain) and the Archivo Municipal de Burgos (Spain).
Unlocking the Manuscripts of Medieval Burgos (**edX**)	Spring 2017	1,400	3%	Similar materials to the prior MOOC on Burgos.
Unlocking the Manuscripts of Medieval Toledo (**edX**)	Fall 2017	1,300	3%	13th, 14th and 18th/19th-century MSS from the Archivo y Biblioteca de la Catedral de Toledo (Spain), Archivo Municipal de Toledo (Spain), and the Archivo Historico de la Nobleza (Toledo, Spain)
Coexistence in Medieval Spain: Jews, Christians, and Muslims (**Coursera**)	Continuous enrollment since Fall 2017	7,800	2.9%	Introduces the history of medieval Spain and palaeography.
Burgos: Deciphering Secrets of Medieval Spain (**Coursera**)	Continuous enrollment since Spring 2018	1,500	1.1%	Similar materials to the prior MOOC on Burgos.

Toledo: Deciphering Secrets of Medieval Spain **(Coursera)**	Continuous enrollment since Summer 2018	2,050	1.9%	Similar materials to the prior MOOC on Toledo.
Total	Years 2014-2020	32,350	No avail.	N/A

In terms of curriculum and pedagogy, the MOOCs provide online history education and palaeographic instruction. In five- to eight-week courses, learners learn about the complex nature of Jewish, Christian, and Muslim relations through brief Spanish and English documentary-style videos with English and Spanish subtitling,[7] readings (including original sources), and participatory discussions via online forums and social media (e.g., Facebook's *Revealing Cooperation and Conflict Project* group-page). These activities challenge learners to examine the significance of medieval material culture and manuscripts: for example, how was a private eleventh-century mosque in the city of Toledo transformed into the thirteenth-century Capilla de Belén in the Convento de Santa Fe used by King Alfonso X 'The Wise'? (See Figure 2). Or, how should we understand an eleventh-century royal privilege that dedicated income generated from a mill and taxes collected from the Jewish community of Burgos

[7] For example, the following *Deciphering Secrets* videos that feature local museum directors (i.e., Museo de Burgos), archivists (i.e., Archivo Municipal de Burgos), cultural delegates (i.e., Centro Sefarad Israel, and Casa Arabe), and scholars (i.e., Consejo Superior de Investigaciones Científicas) hosted on Youtube.com. See: *Deciphering Secrets: Burgos - A tour of the medieval city of Burgos (Spain)* (https://youtu.be/SQDVIhhc8GY); *DS Burgos - Treasures of the Archive of the Cathedral of Burgos (Spain)* (https://youtu.be/ ZZQHu2WyvvI); *DS Burgos Muslim Artifacts Become Christian Museo de Burgos UC3M Standard* (https://youtu.be/3z5s7PuiZEY).

for the burial of Christian pilgrims traveling on the Camino de Santiago?[8] (Figure 3). By using engaging materials and raising intriguing questions, these MOOCs entice and encourage learners to take on the challenge of learning medieval Spanish palaeography and transcribing original manuscripts.[9]

Figure 2

Composite Image of the 13th-Century Capilla de Belen in the Convento de Santa Fe (*Museo de Santa Cruz, Toledo, Spain*).[10]

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[8] The privilege described is cataloged as Archivo Historico Municipal de Burgos SJ 1/1. In this 1091 royal donation, King Alfonso VI concedes valuable resources (a grazing reserve, a mill, a communal oven, and Jewish tax collections) to the Monastery of San Roberto de Casa Dei, located in the vicinity of the city of Burgos. See the *Deciphering Secrets* Youtube.com video *DS 6 - Burgos - AMP - Manuscript SJ-1-1* (https://youtu.be/watch?v=jV5A WmjBddg).

[9] The present Courersa.org-University of Colorado MOOC titled *Burgos: Deciphering Secrets of Medieval Spain* is accessible at Coursera (www.cour sera.org/learn/burgos-deciphering-secrets-medieval-spain).

[10] Photograph by the author, Roger L. Martinez-Davila. Video discussion of the chapel posted at *DS 1 Museo de Santa Cruz Islamic Art Architecture Part 3* (https://youtu.be/U5xrchhjaQM).

Figure 3

Archivo Municipal de Burgos, Mss. SJ 1/1 (1091 C.E.)
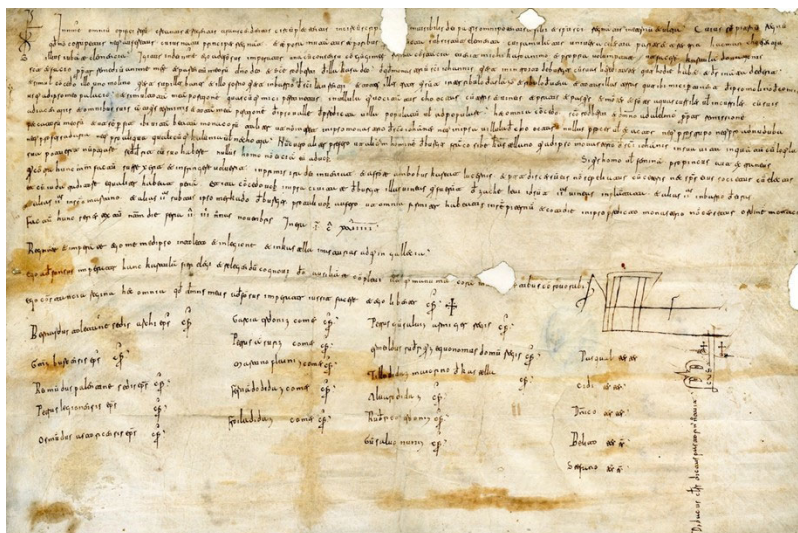
Toledo: Deciphering Secrets of Medieval Spain MOOC

Our eight-week MOOC, *Toledo: Deciphering Secrets of Medieval Spain*, utilizes our latest curriculum that delivers historical and cultural lectures and readings, intensive palaeography training and exercises, and collaborative transcription projects. What might be quite surprising to university educators is the intensity and rigor of our MOOC courses: learners pursue on average 45 hours of instruction over eight weeks. The primary learning objectives, which are linked to distinct video lectures, readings, and assessments, ensure our course content follows a well-defined pedagogy. Of the 18 learning objectives, six in particular are directly linked to palaeographical and transcription efforts:

- Recognize that palaeography is both the study and interpretation of older forms of handwriting.
- Interpret thirteenth-century letter-forms, numbers, and abbreviations.
- Interpret fifteenth-century letter-forms, numbers, and abbreviations.
- Interpret 18th-19th century letter-forms, numbers, and abbreviations.
- Apply the SILReST Palaeography Method to deciphering manuscripts.
- Evaluate a 15th-century manuscript using SILReST.

The first three weeks (or modules) of the course focus exclusively on historical and cultural studies that articulate why this interreligious history is valuable to those who are intellectually and emotionally concerned about Jewish, Christian, and Muslim interrelations. Week 1 begins with a course introduction and an abbreviated history of the ancient and medieval roots of the city of Toledo. This includes an introduction to medieval Europe, the Byzantine Empire, and the Islamic world. We also explore the Visigothic Kingdom that called the city of Toledo its capital. During Week 2, we study Jews, Christians, and Muslims in medieval Toledo until 1212. We witness the Islamic conquest of Visigothic Spain, the formation of Islamic al-Andalus, the birth of the Christian Reconquest, and Toledo under the Umayyads and successor kingdoms. We also virtually explore Islamic architecture at the Museo de Santa Cruz as well as other local sites. Week 3 evaluates medieval Toledo in relation to broader affairs on the Iberian Peninsula. We evaluate the rule of Castilian King X 'The Wise' and his legal codes, and the *Cantigas de Santa Maria*. We also virtually visit the Museo Sefardí and consider how 'cleanliness of blood' statutes impacted recent converts to Christianity (conversos).

Weeks 4, 5, and 6 transition learners to investigations of the cathedral and municipal archival collections, learning and practicing

palaeography, and studying our SILReST Palaeography Method. Over the course of sixteen hours of instruction during these three modules, we have determined our learners can master thirteenth-, eighteenth-, and eighteenth-/nineteenth-century palaeographic interpretation; we define 'mastery' as an average error rate of approximately 12%. Our prior published work on the SILReST Palaeography Method determined that our student transcriptions of fifteenth-century manuscripts revealed a 12.1% average error rate; learners correctly identified 87.9% of all the letter-forms, numbers, and abbreviations from fifteenth-century manuscripts (Martinez-Davila et. al. 2018, 27).

The key to the course is the SILReST Palaeographic Method. This method teaches palaeography to non-specialists in two to three weeks of instruction. SILReST is an initialism, each letter represents one of six strategies. Figure 4 presents method. SILReST is now integrated into each MOOC's toolkit of practice exercises, examinations, and transcription projects. These MOOCs often attract former learners to re-enroll and thus their palaeography proficiency undoubtedly improves with each course.[11]

The final modules of the course, weeks 7 and 8, are dedicated to individual and collaborative research projects using novel manuscripts that are matched to learners' respective skill levels: eighteenth-/nineteenth-century (introductory level), thirteenth-century (inter-mediate level), or fourteenth-/fifteenth-century (advanced level). Using our thematically curated digital library of manuscripts from the

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[11] A video overview of the SILReST method, which is presented to the learners, is viewable at *Deciphering Secrets: Burgos - SILReST: Six Essential Strategies for Advanced Paleography* (https://youtu.be/N4PgmILwaKw). A video tutorial demonstration of how to use SILReST with a fifteenth century Spanish manuscript is available at *DS Burgos - Learning a Castilian Spanish Script from the 15th Century - Part 1* (https://youtu.be/aI9nS98H1Is) and *DS Burgos - Learning a Script from the 15th Century - Part 2* (https://youtu.be/iy4w Da9oXX0).

Archivo y Biblioteca de la Catedral de Toledo (ABCT) and the Archivo Municipal de Toledo (AMT), learners are provided with initial abstracts of documents as well as specific guidance about what types of information can be garnered from the documents. For example, in the present edition of the course learners are presented with fourteen folios from the 'Obras y Fabricas' collection of the ABCT that detail cathedral transactions relating to the repair, rental, and use of church real property in the year 1379. Similarly, palaeographic 'cheat sheets' are offered to learners so as to give them a primer as they attempt to transcribe all of the folios presented. Figure 5 presents a sample abstract of a selection of manuscripts, Figure 6 a palaeographical primer, and Figure 7 a sample image of our method of blocking text for the purposes of recording transcriptions.

Figure 4

SILReST Palaeographic Method
- S. Strategy #1 - Scan the entire document before attempting to transcribe it. It is important for you to become familiar with how the scribe writes. Repeatedly scanning a document will accustom your eyes to the 'hand' of the scribe.
- I. Strategy #2 - Identify those letter-forms, abbreviations, and numbers that you can immediately recognize. This is very straightforward, but it is the beginning of finding your way into the document. Finding easy-to-recognize letter-forms will help you to appreciate how much you can already see and spur you along to uncover other letter-forms and words.
- L. Strategy #3 - Locate common words to (a) understand how the scribe connects their letter-forms together and (b) recognize other alphabetical letter-forms and numbers.

This strategy helps you identify letter-forms that are hard to recognize. If you are flexible in terms of how a common word might be spelled, then, you will be able to see many curious spellings of words you know. More importantly, you can find new letter-forms using this strategy.

- R. Strategy #4 - Recognize the abbreviations used in the document and if they vary within the document. Finding and marking abbreviations makes your task easier because it reminds you that some words on the page are not complete words at all. Rather, they are almost nonsensical connections of letter-forms. Find the abbreviations so that your eyes and mind do not attempt to create words that do not exist on the page.

- S. Strategy #5 - Search for English-Spanish cognates (those words that share similar meanings and spellings in English and Spanish) to identify more letter-forms and connections. Cognates are helpful because you can work 'backward' into reading letter-forms on the page. For example, if you know the word might be 'jurisdiction' in English and therefore is 'jurisdicción' in Spanish, then you can begin to identify hard to read letter-forms within the word on the page.

- T. Strategy #6 - Type or write your transcription and leave plenty of room to add edits. Creating a transcript will help you fill in the blanks as you work through those last, hard to read letter-forms and words.

Figure 5

Abstracting of Archivo y Biblioteca de la Catedral de Toledo Obras y Fabricas 929 ('Posesiones del Refitor').

Manuscript Overview - Archivo y Biblioteca de la Catedral de Toledo OF 929

- Manuscript Reference Numbers: Archivo de la Catedral de Toledo Obras y Fabricas 929 ('Posesiones del Refitor').
- Volume OF 929 is for the year 1379.
- The 'Obras y Fabricas' collection pertains to the Cathedral of Toledo and all aspects of its many properties. The specific sub-collection we are reviewing is under the heading of 'Posesiones del Refitor', or the cathedral organisation and churchmen responsible for the real property of the church. This section describes economic transactions (property rentals, sales, exchanges, etc), houses, businesses, communal ovens, mills, vineyards.
- There are 14 folios available and they are quite legible. Each image is a unique folio, or page, from one of the newly released manuscripts from the Archivo y Biblioteca de la Catedral de Toledo. Please choose at least one folio (page) for this assignment.
- We have selected this limited set of images because they are a hand-written index that details the location of houses, lands, and other real property owned by the Cathedral of Toledo in the year 1379. By collecting a solid transcription of this section we (1) learn more details about daily life in Toledo and (2) begin to creating a Geographic Information System (GIS) map showing where these historical events transpired in the city.

Guide to the Folios (What is on each page?):

- Individual Transactions. Each block of text is an individual transaction or event.

- Geographic Headings. On most pages, you will see headings with references to place names like Folio 13v, which describes 'del Santa...' and 'del la Juderia'.

Preliminary Findings:

- Folio 13 Verso - There appear to be three transactions relating to Jews in the juderia. Two Jewish nobles in the records: 'Dona Jamila' and 'Don Mayr de Levi'
- Folio 14 Recto - There is a reference to the aljama, or perhaps the Muslim quarter. There are two names here as well. One is Don Mose Abybadal.
- Folio 17 Recto - On 'Calle Fra...' there is a reference to 'Mose tundidor' or Mose the cloth shearer. There is also another person, perhaps, Mose Abadias.
- Folio 17 Verso - The prior record continues on about Mose Abadias.
- Folio 37 Verso - There is a reference to the collection of 'decimos' taxes and 'Judios'. Decimos were a form of tax on all produced goods, crops, and animals in the diocese.
- Folio 38 Verso - There is a reference to a 'molino', or a grain mill, and somehow it is connected to Mose and Jamylla (previously mentioned). Perhaps they are leasing it as 'tax farmers'?
- Folio 39 Recto - There are more molinos here.
- Folio 40 Recto - There is a reference to the place 'Alcala' and the person, 'Hamete Abelhat Moro'. This is a Muslim man.

Figure 6

Palaeographic
Primer for
Archivo y
Biblioteca de la
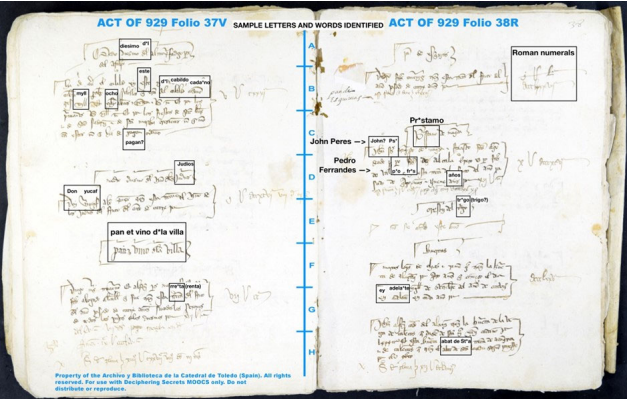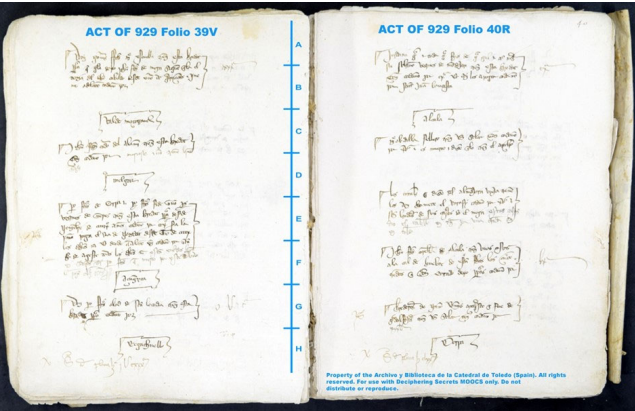Catedral de
Toledo Obras y
Fabricas 929,
Folios 37v-38r.

Figure 7

Blocking for
Mss. Archivo
de la Catedral
de Toledo
Obras y
Fabricas 929,
Folios 39v-40r.

To ensure that learners create manuscript transcriptions that are standardised, but not overly complicated to record, we employ a basic transcription approach.[12] Learners prepare individual transcriptions of selections of manuscripts, denoted as text blocks, and then share these in online discussion forums for peer-review. Therefore, learners can comment and assist one another in exploring the complicated nature of more illegible pen markings. The instructions we provide to learners are reported in Figure 8. In their transcription formatting, learners begin to encode the text, which is necessary for developing finished transcriptions.[13]

Figure 8

MOOC Transcription Guidelines

- Choose 4 Text Blocks. For your manuscript image, try to transcribe the text in four (4) of the blocked areas as best as you can. For example, areas A, B, C, and D. Or, for example, E, F, G, and H.
- Formatting your transcription:
  - First Line. The first line should indicate what text blocks you transcribed. For example: 'Blocks A, B, C, and D'
  - Use Line-Breaks. Type in your transcription as a line-by-line recording. In other words, use line-breaks.
  - Marginalia. You do not need to type in marginalia (the writing on either side of the main section of text). If you choose to record marginalia, include

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[12] For a discussion of various norms within Spanish transcription see López Villalba 1998, 285-306.

[13] For more on the importance of clear, simple guidelines for crowdsourcing projects see Duxfield 2018, 78.

    the word and a colon, 'Marginalia:', in front of
    the text.
- o Abbreviations. If you know the abbreviation,
  please type the abbreviation and then spell the
  entire word out. The spelled-out word should
  appear inside of (parentheses). For example: 'dho
  (dicho)' or 't* (testigo)'.
- o Missing Letter-forms and Words. If you cannot
  read a section of the manuscript text, then you
  should type one period ' . ' for a missing
  individual letter. If you cannot read more than
  one letter, or an entire word, then you should
  record three periods ' … '.
- • Post Your Transcription in the Forum.

Provide Feedback to Other Learners. Comment on the transcriptions of your fellow learners in that same forum. Please be kind and offer constructive criticism.

Scholarly-curated digital collections

The culmination of the *Deciphering Secrets* (DS) project's citizen-science efforts is manifested in the creation of a scholarly-curated digital collection within the UCCS Digital Collections. The DS Collection is composed of a repository, software platform, and metadata schema. The UCCS is a R2-designated public higher education institution with a modest research profile that offers a limited number of doctoral and masters programs, an enrollment of 12,000 students, and a faculty of approximately 800 persons. Unlike R1-designated public universities, such as the University of Colorado-Boulder, UCCS lacks the substantial funding and staffing that typically support large research programs. Rather, this humble institution is representative of many middle-ranked universities in the United States that equally balance teaching and research. The UCCS Digital Collections is a member of the Mountain Scholar regional

open access repository that offers a solid platform for our preservation, cataloguing, and distribution of medieval manuscripts and transcriptions:[14] this eight-member academic consortium provides access to digitised collections and other scholarly and creative works within the states of Colorado and Wyoming. Mountain Scholar utilizes the DSpace software platform.[15] Lastly, we use a customised Dublin Core metadata schema, which has a vocabulary of fifteen properties for use in resource description.[16]

Among the principal research contributions of the DS manuscript and transcription collection, available at doi.org/handle/ 10976/167140, is that it offers digital access to manuscripts that are otherwise inaccessible unless a researcher travels to view these physical ecclesiastical and municipal manuscripts on site in Spain. The DS collection also responds to the larger issue of the limitations of existing archival indices that were primarily created for administrative and not scholarly purposes such as the study of interreligious history. In this respect the DS collection is unusual as it assembles and describes church, municipal, and royal administrative records from the fourteenth through sixteenth centuries for the cities of Burgos, Toledo, Plasencia, and Granada. These particular dioceses and city centers were important communities where significant historical events were either directed or occurred. Burgos was the royal administrative center of the Kingdom of Castille and Leon, and a diocese led by elite conversos like the Santa María clan. Toledo held a long-standing position as an intellectual capital built upon Jewish, Islamic, and Christian shoulders and was the first locality that implemented 'blood purity statutes' in the 1450s that blocked the participation of conversos in municipal government. Plasencia generated the administrative and ecclesiastical leadership that

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[14] For more on Mountain Scholar, see https://mountainscholar.org.

[15] For more on DSpace, see https://duraspace.org/dspace/.

[16] For more on the Dublin Core schema, see https://dublincore.org/.

propelled medieval Spain into an imperial power during the early sixteenth century. This direction was specifically embodied in the converso personages of Cardinal Bernardino López de Carvajal (1456-1523) – who secured for Queen Isabel and King Fernando II the title of 'Catholic Monarchs' and the *Inter caetera* papal bull (May 4, 1493) granting them control over most of the Americas – and Lorenzo Galíndez de Carvajal (1472-1528), the historian of Queen Isabel and King Fernando II who cleansed royal and noble genealogies of Jewish ancestries and was first de facto royal governor of the Spanish dependencies in the Americas per his position of *Correo Mayor de Indias*. Granada, the last of the Islamic kingdoms ruled by the Nasrids (1230-1492) at the Alhambra, is where Isabel and Fernando rode triumphantly into the city on 2 January 1492, and completed the eight-hundred-year Spanish Christian reconquest of Iberia from Islamic civilisation. Moreover, on 31 March 1492, at the Alhambra the Catholic Monarchs issued the Edict of Expulsion that decreed all Jews leave Spain within four months, and by 1502, a similar order was issued pertaining to the remaining Muslims (a majority of the city's population) who did not convert to Christianity. Thus, by assembling disparate secular and ecclesiastical archive collections from these four cities into a new one, centering on those manuscripts pertaining to interfaith life in late medieval Spain, a new digital archive can be realised and shared globally. Although it is presently a small collection, it will grow substantially over the next five years.

    The raw DS collection of manuscripts consists of approximately 5,750 digital, high-resolution photographs of folios from the four cities' cathedral and municipal archives, as well as the national archive holding the familial archives of the nobility. The photographs, often captured under normal research conditions and without specialised lighting, were recorded on a Sony a7 rII digital camera (designed for low light conditions) at a 42.4-megapixel resolution. See Table 2.

Table 2

Deciphering Secrets collection: raw count of folios by source.

Locality	Archive (manuscript collection)	Raw count (fols)
Burgos	Archivo de la Catedral de Burgos (Libros, Registros)	750
	Archivo Historico Muncipal de Burgos (Sección Histórica)	500
Toledo	Archivo y Biblioteca de la Catedral de Toledo (Obras y Fabricas)	250
	Archivo Municipal de Toledo (Archivo Secreto)	500
	Archivo Historico de la Nobleza-Toledo (Baena, Bornos, Covera, Frias, Griegos, Luque, Osuna, Polop, Priego, Torrelaguna)	350
Plasencia	Archivo de la Catedral de Plasencia (Actas Capitulares)	2,300
	Archivo Municipal de Plasencia (Libros de Actas Capitulares)	600
Granada	Archivo Municipal de Granada (Actas del Cabildo)	500
Total	---	5,750

During 2019, the first preliminary efforts began to create metadata standards to organize and describe the DS collection, as well as to publish manuscript images prepared as PDF-As (an archival form of the popular file format that is used for long-term preservation) and transcriptions. During spring and summer 2020, the twenty-eight folios and crowdsourced transcriptions were abstracted using our

custom metadata descriptors and published in Mountain Scholar. For example, these metadata extensions center around medieval European themes, ecclesiastical organisational and content factors, and highly specific issues of interreligious relations. Table 3 presents the collections' metadata descriptors as well as sample metadata elements for one of the collection's folios.

Table 3

Deciphering Secrets Collection Dublin Core Metadata Descriptors and Sample Data for the manuscript, Archivo de la Catedral Burgos, Registro 10, folio 156 verso.

Dublin Core metadata element[17]	Metadata definition (collection specific notes)	Sample data
dc. contributor. author	Individual(s) responsible for making significant contributions to the item. (Spanish archives proper name.)	Cabildo de la Catedral de Burgos (Espana)
dc.coverage. temporal	Temporal topic may be a named period, date, or date range. (Time periods – century, descriptive terms. Gregorian calendar.)	1400s, fourteenth century, Medieval, Middle Ages
dc.date	A single date or inclusive dates indicating when the item was created. (Gregorian calendar.)	1447-29-12

[17] Within Mountain Scholar, several elements are repeatable so that extended data can be collected. For the *Deciphering Secrets* Collection the following elements are repeated to capture nuanced data: dc.description, dc.rights, and dc.subject.

dc. description	A brief free-text note or descriptive statement that characterizes more fully than the title does the scope or content of the item. (Abstract provided by the local archive in modern Spanish.)	Manda dar al maestre Brahem, moro carpintero, dos cargas de trigo para que vaya junto con el reparador del cabildo a comprar la madera necesaria para reparar sus posesiones. Y una carga de trigo para el yesero. Ordena al arcediano de Burgos Juan Ruiz, que haga relación de las edificaciones necesarias en la casa de Quintanaortuño. (Note: Original Spanish-language abstract provided by Archivo Historico de la Catedral de Burgos, translation by UCCS staff.)
dc. description	New English abstract prepared by the University of Colorado that focuses on interreligious issues.	Document describes a business transaction between the Catholic Church and a Muslim Carpenter. It also provides insight into Church leadership in Quintanaortuno.
dc. description. abstract	A summary of the item. (English translation of abstract prepared by provided by the local archive.)	Order issued to master Brahem, Muslim carpenter, two loads of wheat to go to the council

		repair man to purchase the wood and a load of wheat for the plasterer to repair buildings. The order was issued by Archdeacon of Burgos, Juan Ruiz, who is responsible for the necessary buildings in the house of Quintanaortuno.
dc. description	Length in pages notes, blocks transcribed.	One page, folio 156 Verso.
dc. identifier. citation	Bibliographic citation for the item. Recommended practice is to include sufficient bibliographic detail to identify the resource as unambiguously as possible. (Citation used by the archive that includes include folio or page number.)	Registro 10, Folio 156 Verso
dc. identifier. uri	DSpace generated,unique bookmarkable handle; generated at point of submission/approval. The unique identifier of the item. (Permanent stable url for the item.)	https://hdl.handle.net/10976/167151
dc. language	Language of the item. (Use 'Romance Language' for early Spanish language family.)	Romance Languages
dc. publisher	Name of hosting entity. (Publisher of digital format.)	University of Colorado Colorado Springs, Kraemer Family Library

dc. publisher. original	The entity responsible for making the item available. (Entity presently in possession of the item.)	Diocese de Burgos (Espana)
dc. relation. ispartof	A related resource in which the described resource is physically or logically included. (Citation used by archives for collection or volume including the transaction.)	Registro 10
dc.rights	Information about rights held in and over the item. Typically, rights information includes a statement about various property rights associated with the item, including intellectual property rights; it can also include a license. (Education and research declaration use only.)	UCCS-CS The University of Colorado Colorado Springs is providing access to image files of the *manuscripts* for educational and research purposes only. Some of the material contained in these images may be protected by U.S. and International Copyright Law.
dc.rights	(Declaration of rights of the entity presently in possession of the item.)	Original document held by Archivo Historico de la Catedral de Burgos. UCCS-CS The University of Colorado Colorado Springs is providing access to image files of the _manuscripts_ for educational and research purposes only. Some of the material contained in

		these images may be protected by U.S. and International Copyright Law.
dc.rights	(Declaration regarding reproduction and crediting of source.)	Use of this image is restricted to non-commercial, public access and does not include the right to reproduce. Any materials used, for academic research or otherwise, should be fully credited with the source.
dc.source	A related item from which the described item is derived. The described item may be derived from the related item in whole or in part. Recommended best practice is to identify the related item by means of a string conforming to a formal identification system. (Identity of holder of item and collection or volume including transaction.)	Archivo Historico de la Catedral de Burgos, Registro 10
dc.subject	The topic of the item represented using keywords and/or key phrases. (Keywords and descriptive terms in English.)	Muslim, carpenter, barter, exchange, construction, Quintanaortuno
dc.subject	(Keywords and descriptive terms in Spanish.)	Moro, carpintero, trigo, cambio, permuta, construccion

dc.subject	(Proper names used in documents.)	Juan Ruiz, Brahem
dc.title	A name given to the item. (English title assigned to the item.)	[Repair/Construction agreement with Muslim Carpenter]
dc.title.alternative	An alternative name for the item. (First line of the item in English.)	Order issued to the master Brahem, carpenter, two loads of wheat to go to the council repair man
dc.type	The nature or genre of the item. (Physical description of item.)	Manuscript

Among the innovations of this new digital archive are the fundamental framing of collection descriptors (metadata) through the lens of Spanish Jewish, Christian, and Muslim economic, social, religious, and political relationships during the Middle Ages. The collection's contents uniquely focus on manuscripts that record interfaith economic transactions detailing property leases, sales, individual and communal agreements, and other routine dealings documenting payment for services or religious poll taxes. At this time, there is no other collection like DS that specifically examines this interreligious dynamic. We employ several metadata elements to categorize manuscripts and transcriptions along these lines, namely, dc.description, dc.subject, and dc.title. These elements, which are presented in English and Spanish, describe the items according to religious identities and proper names of the reported individuals. An important characteristic of medieval Spanish manuscripts is that when an individual who is not a Christian is reported in a document, the recording notary will almost universally notate their religious status (Jew/judío, Muslim/moro, Muslim convert/morisco, Jewish convert/converso) and their Hebrew and Arabic given and surnames using a Latin-alphabet phonetic spelling. While these religious details

exist in the original manuscripts, they are routinely omitted from abstracts and indices prepared by the institutions because these data were not important or relevant for the institutions' purposes.

While Mountain Scholar will display the full range of our metadata, only a limited set is harvested by portals such as Europeana (www.europeana. eu/en) and the Digital Public Library of America (https://dp.la/). In addition, the collection's content is now searchable on Google Scholar as that search engine continuously 'crawls' our institutional collections. For example, a search for 'moro Burgos' on Google Scholar will locate and link to the sample manuscript described in Table 3. Therefore, our efforts have realised a crucial foundational goal of making our scholarly-curated collection searchable using universally accessible search tools (Google Scholar) and accessible via an open-source digital repository (Mountain Scholar).

As transcriptions are harvested from the citizen-science efforts in our MOOCS as well as from student efforts in our traditional university courses, they are converted into semi-diplomatic 'rough' and diplomatic 'final' transcribed folios. Presently there is a backlog for organising and finalising transcriptions for a substantial number of folios from Plasencia in particular (approximately 500 folios), and to a lesser extent, from Burgos and Toledo (several dozen). As this effort moves forward, each calendar year it is anticipated that two hundred manuscript image folios and transcriptions with comprehensive metadata will be integrated into DS collection.

Concluding thoughts

There no longer need be Dark Archives accessible to just a few privileged academicians with substantive palaeographic training and knowledge of unique collections. Nor do the impediments of limited financial resources and time need to obstruct the investigation of exclusive archival collections. By building collaborative partnerships with cathedral and municipal archives, employing free MOOCs to

attract and engage interested learners, and maximising the connectivity of minor research university digital repositories, we can advance the accessibility and study of medieval manuscripts. Moreover, it is a replicable research model for modest research initiatives. Certainly there are limitations to this approach, namely, the creation of 'silos' (separate fragmentary collections), incompatible description methods, difficulty in finding small collections, and the challenges of integrating citizen science into the research production process. However, if our goals are to generate new findings from medieval manuscripts, employ new digital methods of collaboration, and implement new forms of publication and dissemination, then there is no rationale to delay any longer. Let us light the way into these Dark Archives.