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► **To cite this version:**

Sébastien Barret. Digital Research on Archivalia in France : Personal Impressions. Archives and Archival Research in the Digital Environment, Žarko Vujošević; Nebojša Porčić, Sep 2019, Belgrade, Serbia. pp.87-112. halshs-04317989

HAL Id: halshs-04317989

<https://shs.hal.science/halshs-04317989>

Submitted on 1 Dec 2023

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Digital Research on *Archivalia* in France: Personal Impressions

Abstract

The present paper aims at giving a personal impression of the current state of digital research on archival documents in France, from the subjective point of view of someone who is primarily a researcher of medieval manuscripts. In France, the field is vibrant and alive; it goes from the dissemination of primary documents and research tools to elaborate strategies of exploration based on complex, digital-assisted and digital-based methods. As it seems, digital methods have now pervaded the various fields and subfields of archival research and research on *archivalia*. While the different actors in archives, universities and research entities, and the like, have had to adapt to the new situation created by digital technologies, and globally succeeded in doing so, it must be recognized that some infrastructure is still lacking to ensure the durability and sustainability of the results of these activities.

Keywords: France, archives, universities, research, history, digitisation, digital humanities, text edition, databases, internet.

Introduction

In the following paper, I intend to give a very personal, and certainly most subjective impression of digital research concerning archival documents in France – for which it is important to remember that I am a researcher specializing in medieval documents from today's Europe¹. As it stands, the current situation is a lively, thrilling, but complicated one. It

¹ The paper does not aim at any exhaustivity, and especially not at doing any justice to the wealth of research and projects that currently exist and have existed; moreover, it will necessarily follow the lines of my own experience. In consequence, the concrete cases that will be cited are to be understood as mere examples, and not as representing a more or less complete state of the art. – All websites have been accessed on September 29th, 2020.

is deeply influenced by the specific structures of France's archival and scholarly system, which will be first outlined.

The backbone of the French archival system is constituted by its network of local archives, especially of *archives départementales*. A “département”² is a territorial division that forms an administrative district of the central state as well as an area of local governance – the latter having been reinforced in the last decades as part of a policy of decentralisation of France's traditionally centralised structures. They were born, as well as today's French archival system, in the wake of the Revolution of 1789. Today, there are 96 of them in the ‘mainland’, and thirteen départements, territories and communities (five of them being départements) in the so-called “Outre-Mer”, mainly inherited from France's colonial past. Eleven of them have archival institutions.³ As a rough indication, the median surface of a département is somewhat less than 6000 km², and its average population around 500 000 inhabitants, with great variations in both cases. There are several départements in all of France's administrative regions – the number of which has been reduced from 27 to 18 in 2016, often blurring their links to historical regions⁴. The archives of the départements are complemented, at the central level, by the National Archives in Pierrefitte-sur-Seine and Paris⁵, and at other local levels by communal or regional archives, as well as public archives of other types (for various institutions, ministries...)⁶; but they certainly represent the most common actor in the archival experience of average French citizens and organisations, closely followed, on the local level, by the city archives (*archives municipales*). They were first conceived as local organs of the central government and directly put under the authority of its representatives in the *départements*; they are now part of the local governing bodies (the so-called ‘*conseils départementaux*’, formerly ‘*conseils généraux*’). Independently from their administrative status, they have a long tradition of being actors in local cultural life, for instance through the work of learned societies they participate in or collaborate with.

As it is to be expected in a country with a long centralistic tradition, the National Archives also have a major role in the French landscape, being the repository of abundant and

² See the corresponding Wikipedia articles for details and maps: “Départements français”, *Wikipédia*, 23 September 2020, [online] https://fr.wikipedia.org/wiki/Département_français or “Departments of France”, *Wikipedia*, 11 September 2020 [online] https://en.wikipedia.org/wiki/Departments_of_France.

³ See France's national archival portal: “Annuaire des départements”, *FranceArchives*, [online] <https://francearchives.fr/fr/annuaire/departements>.

⁴ “Région française”, *Wikipédia*, 24 September 2020, [online] https://fr.wikipedia.org/wiki/Région_française and “Regions of France”, *Wikipedia*, 25 September 2020, [online] https://en.wikipedia.org/wiki/Regions_of_France.

⁵ *Archives nationales*, [online] <http://www.archives-nationales.culture.gouv.fr/>.

⁶ They are listed in: *Annuaire des services*, *FranceArchives*, [online] <https://francearchives.fr/fr/services>.

important collections stemming from the various historical forms of the central government and administration. It should be noted that this role does not extend to the normative level: the creation of archival norms is the work of yet another institution, the “*Service interministériel des Archives de France*”, itself a part of the central instances for the preservation of France’s cultural heritage⁷ – and logically host of the FranceArchives online-portal, that acts as a central place for information and orientation on French archives and their digital components (it will be cited more than once in this paper)⁸. On a side note, the public library sector has a similar structure, centred on a dichotomy city libraries / national library, to which the network of university libraries must be added.

The French higher education system is roughly based on a much-discussed twofold structure, with universities on the one hand, and selective “*grandes écoles*”⁹ on the other, especially for the more ‘general’ branches of knowledge; there are also institutes (colleges) of technology for more ‘vocational’ higher learning¹⁰. Research is, of course, one of the basic activities in universities, as well as in some “*grandes écoles*” (depending on their orientations and disciplinary sectors); a third actor in that regard is the *Centre national de la recherche scientifique*¹¹, which is an independent body with own researchers – but in most cases does closely works with universities in joint research units. Professional archivists are trained in different places of the higher education structures: as well in “*grandes écoles*” (the *Institut national du patrimoine*¹², often preceded by the obtention of a “*archiviste paléographe*” diploma at the *École nationale des chartes*¹³), as in universities, some of which offer special, professional master’s degrees in archival science¹⁴; both paths lead to different career opportunities, with some intersections between them.

Apart from these institutions, two further actors must be taken into account for our subject: the general public and the political echelons. The former has always been an addressee for archival institutions, but the last decades have seen its importance grow, especially (but of course not only) at the level of *Archives départementales*; some feel that this happened at the

⁷ Le service interministériel des Archives de France (SIAF), *FranceArchives*, 6 June 2020, [online] <https://francearchives.fr/article/26287441>.

⁸ It also has a Twitter handle: <https://twitter.com/FranceArchives>.

⁹ Grande école, *Wikipedia*, 28 September 2020, [online] https://en.wikipedia.org/wiki/Grande_école.

¹⁰ Institut universitaire de technologie, *Wikipédia*, 29 June 2020, [online] https://fr.wikipedia.org/wiki/Institut_universitaire_de_technologie.

¹¹ *Centre national de la recherche scientifique* [online] <http://www.cnrs.fr>.

¹² *Institut national du Patrimoine*, [online] <http://www.inp.fr>.

¹³ *École nationale des chartes*, [online] <http://www.chartes.psl.eu/>.

¹⁴ Liste des formations universitaires en archivistique, *FranceArchives*, 17 June 2020, [online] <https://francearchives.fr/article/38055>.

cost of a partial, if not complete, reduction of the archivists' own research activities and of the relative side-lining of the professional researchers' interests in the hierarchy of the needs archives attend to¹⁵. In that regard, the political sphere tends to exert a growing influence, which is certainly linked to the institutional evolution alluded to above, as local government structures have the upper hand on most of the finances of the *archives départementales*; and quite naturally, they tend to favour the greater public in their shaping of general policies. This has led to archives of all 'levels' to open to this public and develop active reach-out activities.

This is the general background on which digital research on archives and archival documents takes place. Its heterogeneity explains one of the main characteristics of the field: it is lively and abundant, and not always very coordinated or organised – what could be seen as paradoxical in centralistic France. The level of communication between these various actors is very changing . While interdisciplinarity and cooperation are held in as high a regard as anywhere else, it could be argued that French institutions as such tend to stay in their own lanes, and that effective cooperative work still often depends on individual will. Of course, institutions will follow the orientations given by their authorities and funding bodies, and accordingly seek to develop projects with other institutions, as that is now standard policy; but still, it does seem that the personal level is decisive as far as concrete research is concerned. In the following, I will roughly group research projects and activities in four categories, which should be understood as a way to present them more than as a typology: the barriers between those are somewhat artificial and by no means as clear-cut as the following could seem to imply. This is also valid for the institutional and personal actors implicated in those activities: while the present article could give the impression of a strict separation between archival institutions and research structures in their involvement in different types of projects, the reality on the ground is more balanced.

1. Electronic dissemination

The first step of research with digital means can be seen in the provision of online resources for all kinds of public – while this paper has its focus on archival material, digitisation is omnipresent in today's French cultural heritage and has been a major activity in all its

¹⁵ A very lively expression of this was given some years ago by A. GUERREAU, *L'avenir d'un passé incertain*, Paris 2001, 91–108. This is actually a long-term debate, a still-relevant presentation of which was given for instance by B. GALLAND, La participation de l'archiviste à la recherche historique: un rôle à redéfinir?, *Gazette des archives* 204 (2006), 211–232, [online] https://www.persee.fr/doc/gazar_0016-5522_2006_num_204_4_3837.

professional sectors; archives are only a part of this heritage and of the relevant organisations, as reflected in the extant catalogue of digitised collections maintained by the French Ministry of Culture and Communication¹⁶. At any rate, this is not only the first logical step; it has also been in many instances chronologically the first one to be taken. *Archives départementales* have understood very early the potential of digital technologies for providing access to their collections, which often began with simple versions of their inventories on a dedicated homepage. As technology progressed and made the use of digital pictures easier, ever-growing selections of documents could be put online¹⁷. This did not happen in a vacuum, nor did it represent a breach of earlier policies, as it was driven by roughly the same public needs. The best example for this is represented by birth registers. As amateur genealogical researchers constitute an important bulk of any *archives départementales*' readers, such registers are very intensely and extensively used; this led to their being massively microfilmed in operations which were often financed or co-financed by the American Mormons of the Genealogical Society of Utah. Accordingly, these registers were very often the first, or among the first, to be digitised and put online, and they always figure in eminent position on the archives' website, together with cadastral maps. Historical photographs are also a preferred type of online collection. The rashness of this evolution is mirrored in the annual reports published by the Archives de France and made available on the "FranceArchives" portal¹⁸. In 2010, not all archives départementales had a homepage or online research tools, although most had and a real digital momentum could be sensed¹⁹; they had digitised some 260 million pages and images, archives municipales 10 million. In 2018, homepages were not particularly mentioned, as being something actually self-evident. In that year, the Archives nationales had digitised a total of 16,5 million pages and images (70 % of which are online), Archives départementales 500 million (78 % online) and archives municipales 38 million (81 % online)²⁰.

As each archives départementales is an independent body (or, better said, is part of an independent body of institutions at the département level), each one may choose or develop

¹⁶ *Patrimoine numérique: catalogue des collections numérisées*, [online] www.numerique.culture.fr/

¹⁷ A general overview of available online-documentation is available on the "FranceArchives" homepage: "Panorama des documents d'archives en ligne", *FranceArchives*, 27 avril 2017, [online] <https://francearchives.fr/fr/section/44263> – it is from 2017, but still gives a good idea of the general situation.

¹⁸ *Rapports annuels du reseau des archives*, *FranceArchives*, 26 November 2019, [online] <https://francearchives.fr/article/37979>.

¹⁹ *Des archives en France, l'activité des services d'archives 2010*, 52, 54, 55-59 [online at the address given in FN 18].

²⁰ *Des archives en France, l'activité des services d'archives 2018*, 22 [online at the address given in FN 18].

own solutions within the frame of the technical rules and recommendations of the central services, at the technical as well as at the scholarly level. The corresponding homepages reflect this variety. Depending on local uses, they are sometimes independent internet presences and sometimes merely a part of the Conseil départemental's page. The scope of the inventories and documentation they offer can differ from case to case, depending on local policies and resources; although the gaps that could exist a few years ago are obviously closing. The national archives have also created their own internet structure for the dissemination of handbooks, inventories and documents, giving access, in their own words, to 24 000 online inventories and 8 million digitised pictures; its backbone is the so-called "Salle des inventaires virtuelle"²¹, that offers access along the systematic classification as well as thematic accesses and a search engine. This is basically what every such page offers; as a response to the needs of the public, all online archival content offers have come to use "informational pathways" along thematic stands.

The structuration of the information on such platforms represents indeed a challenging problem. The traditional classification in French archives for documents anterior to 1940 is based on a systematic division of the collections in series designed by a letter, inside which the addition of numbers provides subdivisions and, ultimately, shelfmarks. For instance, in departmental archives, the H series belongs to the "ancient" series (documents older than 1790) and is labelled "regular clergy"; at the Archives départementales de Haute-Marne, 1 H is the subdivision for the Auberive Abbey; shelf marks inside this go from 1 H 1 to 1 H 138; 1 H 43 contains charters concerning Châtoillenot, dating 1244-1625²² – in such cases, individual charters may not have individual signatures, but often bear an individual number (which would lead to "1 H 43, n° 1", for instance). While all archives départementales use the same basic structure, differences do exist in its application (e.g. some will not use numbers before a letter and make simple subdivisions with numbers following the letter). The national archives have their own classification structure based on the same principles²³. Documents dating after 1940 and collected after 1970 are in both cases classified into one unique series,

²¹ Salle des inventaires virtuelle, *Archives nationales*, 19 September 2020, [online] <https://www.siv.archives-nationales.culture.gouv.fr/siv/> – the name stems from the traditional room where catalogues and inventories could be consulted.

²² See the online catalogue: *Inventaire sommaire du fonds de l'abbaye d'Auberive*, ed. S. CHAUDOT (data entry) and F. PÉTRAZOLLER (dir.) Chaumont 2007 (export 5 July 2018), [online] http://archives.haute-marne.fr/document/FRAD052_00000001H.

²³ See e.g. for ancient documents: Les fonds d'archives: cadre de classement, *Archives nationales*, [online] https://www.siv.archives-nationales.culture.gouv.fr/siv/rechercheconsultation/consultation/pog/consultationPog.action?pogId=FRAN_POG_02

in which subdivisions are numeral and based on respecting the integrity of fonds and the provenience principles²⁴. In some cases, and especially at the National Archives, the discrepancy between the theoretical model and the reality of irregular collections and acquisitions led to ancient archivists having to adapt this seemingly simple system, sometimes leading to complicated shelf marks making use of various diacritics – which led to serious complications when the management and communication of archival documents had to be converted to computer-compatible forms²⁵.

The first internet contents tended to follow this basic structuration, and offer their digitised inventories and documents along the traditional, systematic classification when applicable. Little by little, layers and other structures were added, as the standard classification could well pass as being quite unattractive for a lay audience. Direct accesses were created, among others towards the highly sought-after birth registers and cadastral maps, as well as transversal thematic accesses to inventories and digital documents – for instance at the archives départementales des Yvelines, accesses by town and communities, iconography, local press, etc²⁶; or thematic guides, like on the homepage of the Archives nationales: Art and Architecture, Religions, War and armed conflicts, etc,²⁷ to which research engines in various forms can be added. Such tools often also give access to the archives' own library OPAC. Depending on the ergonomics of the platforms, the various structures cohabit more or less harmoniously. While largely successful in giving access to digitised documents, these also reflect the difficulties that arise when having to combine a pyramidal and hierarchical access to information with a flatter one, and make reference systems created for the paper area fit into digitally-treated ones.

2. Reach-out and exchanges with the public

²⁴ This is the “série W”, for instance once again in Haute-Marne: Liste des inventaires en ligne, contenu, Archives contemporaines (postérieures à 1940), *Haute-Marne, le département ; Archives départementales*, [online] <http://archives.haute-marne.fr/archives/classification-scheme#tt1-9>.

²⁵ The Archives nationales had to establish a directory of shelf marks giving the traditional form and the form to be used with computers and/or Internet, which is still in use: ARCHIVES NATIONALES, *Dictionnaire des cotes*, Paris-Pierrefitte-Fontainebleau [s.d.], [online]: <https://www.siv.archives-nationales.culture.gouv.fr/reprorec/Dicocotes.pdf>.

²⁶ Archives en ligne, *Yvelines, le département : Archives départementales et patrimoine*, [online] <https://archives.yvelines.fr/article.php?larub=19&titre=archives-en-ligne>.

²⁷ Salle des inventaires virtuelle, aide à la recherche thématique, *Archives nationales*, [online] <https://www.siv.archives-nationales.culture.gouv.fr/siv/>.

A second type of research can be found in projects that are based on archival material, linked with topics of general interest and directed towards the wider public – and often explicitly ask for its cooperation. They are commonly rooted in local memory and culture, as well as in commemorative events. They use digital technologies not only to disseminate, but also to enrich their collections and reach out to the population. Of course, in these cases, there is a direct relationship to political spheres, which is not necessarily a bad thing in itself and is bound to happen as soon as history and memory get on a public, larger stage. These are also, of course, great opportunities to establish or to reinforce a large social involvement in archival matters.

The best example in that regard is certainly to be found in the wealth of archival activities that arose as a part of the commemorations of the Great War of 1914-1918. The latter is in itself a major element of France’s historical memory; as such, it was only fitting that it would be a central topic for many archives to work with, often centring on the “Poilus”, a popular designation for (common) soldiers of the First World War in France²⁸. A central point is also the fact that the war has had a direct impact on the history of almost any French family having ancestors on the territory of today’s France and of its former colonies, meaning that many have stories of the First World War in their familial memories and possibly documents relating to it. This made it possible, on the one hand, to organise exhibitions, both *in situ* and online, that could easily reach the public; and on the other hand, to collect information and documentation from this same public, and this for several media: written texts, images, but also sound documents. The Archives départementales du Loiret have put readings of letters or diaries online²⁹, as well as a whole wealth of related iconographic documentation³⁰. At the national level, a “grande collecte” was organised, a coordinated effort at all levels to attract donations of archival goods to all kinds of archives³¹.

There are, of course, other ways of implicating the public in digital operations. For instance, the archives départementales des Yvelines have appealed to the public to complete their digitised collections of ancient newspapers³². At the time of writing of this article, several archives have launched an operation called “lockdown memories”, inviting members

²⁸ This means “hairy” and was popularised during the war as an allusion to the fact that French soldiers at the front could not find the time to shave – and as a euphemism for the sanitary conditions in the trenches.

²⁹ Paroles de poilus, *Archives-Loiret.fr*, [online] <https://www.archives-loiret.fr/paroles-de-poilus>.

³⁰ 14-18 en images, *Archives-Loiret.fr*, [online] <https://www.archives-loiret.fr/centenaire-14-18/14-18-en-images>.

³¹ La grande collecte, *FranceArchives*, 19 June 2020, [online] <https://francearchives.fr/fr/article/26287559>.

³² À la recherche de la presse perdue, *Yvelines, le département : Archives départementales et patrimoine*, [online] <https://archives.yvelines.fr/article.php?laref=3205&titre=a-la-recherche-de-la-presse-perdue>.

of the public to share any relevant document for their personal experience of the lockdown due to the Covid-19 pandemic of 2020, some of them in digital form³³. Collaborative transcription, annotation or indexation of documents has become an important part of many such projects – the National archives even have a dedicated page to their various undertakings in that field, from civil engineering in the nineteenth century to judicial documents of the Ancien regime or notarial contracts³⁴. This has also been massively used for Great War projects³⁵, as well as by archives départementales and archives municipales for the treatment of birth registers or army registers³⁶. This has consequently led to the creation of relevant vademecums to help and guide the public. In France, like in many other countries, digital technologies are not only used as a mean for an easier reach-out, but also as a tool of empowerment, albeit a limited one, through which the interested segment of the population can actively shape the use of the archives – and sometimes even the archives themselves.

3. Scholarly research and cooperation

A third sector can be found in projects of a more fundamentally technical or scholarly nature, often associating several archival and/or scholarly institutions. This is also typically the kind of projects that will attract international cooperation. Though they are conceived primarily as specialised undertaking, they may also include directly or indirectly segments of the larger public; and while they are not as directly influenced by the day-to-day memorial politics, they often do have explicit relationships to national or regional identities and histories. Such projects cover a wide range of documentary treatment, ranging from digitisation and dissemination to text editions. As they originate in very diverse institutions, they are themselves highly diverse, not even being unified by a common direction, as is often the case with works that have been mentioned above.

This is yet another aspect of the complex French situation: different projects will use different technical solutions and find hosting in different places, sometimes linked to the

³³ A brief presentation of these initiatives on the “FranceArchives” portal: Mémoires de confinement, *FranceArchives*, 11 September 2020, [online] <https://francearchives.fr/fr/actualite/224765841>.

³⁴ See the dedicated research blog: *Archives nationales participatives*, 2 July 2020, [online] <https://archivnat.hypotheses.org/>.

³⁵ Among others, a WikiSource project: Wikisource: carnets de guerre, *Wikisource*, 4 avril 2020, [online] https://fr.wikisource.org/wiki/Wikisource:Carnets_de_guerre.

³⁶ For instance in Loiret: Annotation collaborative, *Archives-Loire.fr*, [online] <https://consultation.archives-loiret.fr/fr/108/annotation-collaborative/>. A list of all such projects can be found in: Pratiques collaboratives: les internautes acteurs aux côtés des services d’archives, *FranceArchives*, 10 June 2020, [online] <https://francearchives.fr/fr/article/26288084>, listing 42 archives départementales and 11 archives municipales.

original institutions or partners, sometimes not. In the course of many debates, opinions have shifted between the goal of a more or less unique standard, which would allow for better interoperability and integration possibilities between the different bases and publications, on the one hand; and on the other hand, the use of home-grown solutions by different institutions, which allows for a better cooperation between the different actors on the “scholarly” and the “technical” side. And of course, there has also been a certain amount of personal and institutional competition for a kind of leadership in such solutions. At the same time, structures of funding and local realities can make it important for a project to develop its own technical tools or hosting platforms. The result is, in that regard, a complex situation, where each case can be different from the other one, depending on financial means, institutional facilities and personal relationships. On the pure technical level, one of the problems to master comes from the availability of personnel and funds to develop tools and solutions, and to maintain them. The basic assumption in French public research tends to be that most of the work in a given project should ideally be made by the public sector, at least everything that goes beyond a relatively short mission – which sometimes leads to serious problems for the long-time management of a project’s final products, as the personnel that is supposed to take care of it has very often been directed to new tasks by this time. Another important factor lies in the fact that more often than not, such research projects are funded by agencies like the ANR (Agence nationale de la recherche, the French National research agency) or the ERC, meaning that there is the need not only to present results, but also to develop some kind of representation – which makes it tempting to have own platforms and own channels for this.

This situation leads to a somewhat anarchic, but very positive flowering of digital-based research projects. As medieval history has always heavily relied on the publication of manuscript documentation, it is only to be expected that medieval charters would form the core of several projects, especially since there were earlier endeavours that could be used to build on. The now defunct “Atelier de recherche sur les textes médiévaux” in Nancy had been working on a database of original charters dated before 1121 since the 1970s; the database has been adapted in order to be put online, and gets as regularly updated as possible³⁷. This intersected with similar projects that led to another online database: *Chartae Galliae*³⁸, which offers the texts of ca. 40 000 charters up to the thirteenth century and aims at being a platform for the publication of all such texts – the documents were, in that case, chosen because of their

³⁷ *Chartes originales antérieures à 1121 conservées en France*, ed. C. GIRAUD, J.-B. RENAULT, and B.-M. TOCK, Orléans 2012→[online] <http://www.cn-telma.fr//originaux/index/>.

³⁸ *Chartae Galliae*, dir. B.-M. TOCK, Orléans 2014→ [online] <http://www.cn-telma.fr//chartae-galliae/index/>.

availability and came from various sources. These corpora were published on the “Telma” platform³⁹. Another project is worth mentioning here is “Actepi”⁴⁰, that aims at the edition of episcopal charters from various regions of the North of France, from the eleventh to the thirteenth century – which has been made possible by the earlier edition of the charters of the bishops of Évreux by the project’s principal investigator, Grégory Combalbert⁴¹. This goes with the development of an ad-hoc technical environment for the easy encoding of charters in XML-TEI and the preparation of both electronic and paper publications at the University of Caen, named “e-cartae”⁴². This edition framework seems to enjoy some popularity, as it was also chosen for other projects, such as “Rotulus”, that has set itself the task of editing cartularies in roll form⁴³.

The École nationale des chartes has been a very early player in the field of such projects, and still is, especially for digital publications and editions⁴⁴ – not only for medieval,⁴⁵ but also for modern or contemporary history⁴⁶; while many of these publications are centred on texts, some do also address other media, sound for instance⁴⁷. The Great War commemorations also found their way there, as shown by the edition of soldiers’ wills⁴⁸. A specific practice of the ENC is to also put texts online which have not (yet) reached the stadium of a critical edition in the modern sense⁴⁹, being actually reprocessed ancient works; as well as online tools and schemata for the encoding of documents, some of which are relevant for archival pieces⁵⁰. The interest of integrating documentation, tools and presentation of scientific results is also

³⁹ *Telma: traitement électronique des manuscrits et des archives*, dir. P. BERTRAND and C. MASSET, 2012, [online] <http://www.cn-telma.fr/>.

⁴⁰ See the corresponding research blog: *Les actes épiscopaux français du Moyen Âge – édition multimodale et exploitation*, dir. G. COMBALBERT, [online] <https://actepi.hypotheses.org/>.

⁴¹ *Actes des évêques d’Évreux (XI^e siècle-1223)*, ed. G. COMBALBERT, Caen 2019, [online] <https://www.unicaen.fr/puc/sources/ecartae/evreux/>.

⁴² E-cartae, *Pôle document numérique [university of Caen]*, Caen 2020, [online] http://www.unicaen.fr/recherche/mrsh/document_numerique/projets/e-cartae.

⁴³ Research blog: *Rotulus: mettre l’écrit en rouleau dans l’occident medieval*, dir. J.-B. RENAULT, 24 June 2020, [online] <https://rotulus.hypotheses.org/>.

⁴⁴ On the dedicated platform: *Éditions en ligne de l’École des chartes*, Paris [s.d.] [online] <http://elec.enc.sorbonne.fr/>.

⁴⁵ *L’année 1437 dans la pratique de Pierre Christofle, notaire du Châtelet d’Orléans*, ed. K. FIANU, Paris 2015, [online] <http://elec.enc.sorbonne.fr/christofle/>.

⁴⁶ *Procès-Verbaux de la Commission des Monuments historiques de 1848 à 1950*, ed. J.-D. PARISET, Paris [s.d.], [online] <http://elec.enc.sorbonne.fr/monumentshistoriques/>.

⁴⁷ *Mai 68 et les intellectuels: questions à l’histoire orale*, ed. Agnès CALLU, Paris [2007], [online] <http://el.enc.sorbonne.fr/mai68/>.

⁴⁸ *Testaments de guerre de Poilus parisiens (1914-1918): une édition critique*, ed. Ch. NOUGARET and F. CLAVAUD, Paris 2017, [online] <http://elec.enc.sorbonne.fr/testaments-de-poilus/>.

⁴⁹ *Corpus [de l’École des chartes]*, [online] <http://corpus.enc.sorbonne.fr/>.

⁵⁰ *Développements, outils et réflexions logicielles de l’École des chartes*, Paris [s.d.] [online] <http://developpements.enc.sorbonne.fr/>.

very well illustrated by a long-time project of the Centre d'Études supérieures de la Renaissance in Tours, centred around Renaissance notarial documents: the so-called REnumAR⁵¹, that builds on a database of more than 18 000 items, primarily issued by notaries in Tours, with various additions from Chartres, Loches or Amboise, in the Loire region of France, including accounts and administrative documents; it implies several levels of institutional cooperation between research centres and archives⁵².

Another example of lively research is given by the edition of correspondence, often derived from other editorial activities that are not in the scope of the present paper. French writers, scholars and philosophers from the 16th century onwards are good providers for this kind of activities, for instance Pierre Bayle⁵³, René Descartes⁵⁴ or Michel de Montaigne⁵⁵. In those cases, the properly archival documents are often only a part of larger activities centred on the relevant person. It is, by the way, interesting to note that the specialists of these fields have often first developed their digital methods for more specific editorial activities, like the genetic editing of literary texts, for instance at the Institut des textes et manuscrits modernes (ITEM)⁵⁶. This is also an area in which the notion of 'archives' may differ from the more technical conceptions of archival science⁵⁷ and of the administrative framework given by institutions depositing their documents according to their legal obligations. Other collections, above all private ones, that are also of a more or less archival nature, may be deposited in diverse institutions and thus in libraries – examples among many others can be the Centre des

⁵¹ *Ressources numériques pour l'édition des archives de la Renaissance*, Tours 2020, [online]: <http://renumar.univ-tours.fr/>. The homepage gives access to the database, but also to online publications and tools.

⁵² It is based on a partnership between the university of Tours and its Centre d'études Supérieures de la Renaissance (Tours), the Maison des Sciences de l'Homme Val-de-Loire (Tours), the Institut de recherche et d'histoire des textes (Orléans-Aubervilliers), the programme "Intelligence des patrimoines", the Conseil régional de la région Centre-Val-de-loire, the Archives départementales du Cher (Bourges) and de l'Indre-et-Loire (Tours), and the municipal archives of Tours and Amboise.

⁵³ *Correspondance de Pierre Bayle*, ed. A. MCKENNA, F. VIAL-BONACCI, Saint-Étienne [s.d.], [online] <http://bayle-correspondance.univ-st-etienne.fr/>.

⁵⁴ *Corpus Descartes, édition en ligne des œuvres et de la correspondance de Descartes*, ed. V. CARRAUD, Caen [s.d.], [online] <http://www.unicaen.fr/puc/sources/prodescartes/accueil>.

⁵⁵ *Lettres de Montaigne, privées et officielles*, ed. A. LEGROS, Tours 2013-2017 [online] <https://montaigne.univ-tours.fr/category/documents/lettres/>. This a part of a much bigger project on Montaigne and its works, named "Montaigne à l'œuvre" at the Centre d'études Supérieures de la Renaissance in Tours: <https://montaigne.univ-tours.fr/>.

⁵⁶ "Humanités numériques: plate-forme d'édition e-Man", *Institut des textes et manuscrits modernes*, [online] <http://www.item.ens.fr/e-man/>.

⁵⁷ The topic of documents and collections bequeathed by authors is a complex matter in traditions that separate (theoretically) neatly between libraries and archives, as shown for instance by J. PINÇON, *Les archives des écrivains, leur place en bibliothèque*, dissertation of the École nationale supérieure des sciences de l'information et des bibliothèques, Lyon 2017, [online] <https://www.enssib.fr/bibliotheque-numerique/documents/67311-les-archives-des-ecrivains-leur-lace-en-bibliotheque.pdf>.

archives du féminisme at the university Library of Angers⁵⁸, that also has a (still modest) digital activity⁵⁹, the Conservatoire des archives et des mémoires LGBTQI⁶⁰, or the reputed Institut Mémoires de l'édition contemporaine⁶¹. More generally, it should be noted at this point that while archives and libraries are theoretically well separated from each other in their goals and in the collections they are to curate, their complex history has led more than often to *archivalia* being kept in libraries – the example I know best is that of the Cluniac charters, a great number of which was forcefully taken from their local repository to be ‘acquired’ by the Bibliothèque nationale [de France] at the end of the 19th century⁶²; but there were also more ‘organic’ processes leading to such situations, such as the same Bibliothèque nationale being the inheritor of scholars’ papers from the 17th and 18th century as the successor of royal institutions⁶³. Roger-François de Gaignières has bequeathed us a collection that is now to be found in several departments at the BNF, as well as in parts at the Bodleian Library in Oxford – the project *Collecta* having its goal in reuniting it virtually⁶⁴.

This is a sector where international relationships may find their best expression, as well as their best chances of European financial aid. Such is case, for instance, of the project *Archivum Rhenanum*, that brings together German and French archives for the establishment of a common digital portal for their relevant documentation, under the auspices of an Interreg project⁶⁵. On a somewhat more modest scale, the project *Transcript* has united a group of researchers around the French Lorraine region and Luxemburg to study and publish administrative documentation of the “common region” to approach questions of governance in the 13th-15th centuries⁶⁶; Acronavarre works on the royal charters of Navarre between 1484

⁵⁸ “Le centre des archives du féminisme”, *Archives du féminisme*, [online] <https://www.archivesdufeminisme.fr/lassociation/partenaires/le-centre-des-archives-angers/> – this is the result of a collaboration between the association “Archives du féminisme” and the library.

⁵⁹ Fonds numérisés, *Archives du féminisme*, [online] <https://www.archivesdufeminisme.fr/ressources/sources-historiques/>.

⁶⁰ See *Conservatoire des archives et mémoires LGBTQI*, 2020, [online] <http://www.archiveshomo.info/>; that is still an initiative of an essentially private nature, in the process of finding ways of cooperation with the public sector.

⁶¹ *Institut Mémoire de l'édition contemporaine*, [online] <https://www.imec-archives.com/>.

⁶² See I. VERNUS, *Les monumenta clunisiens: le sort des archives de Cluny au XIX^e siècle*, in *Cluny après Cluny: constructions, reconstructions et commémorations, 1790-2010*, ed. D. MÉHU, Rennes 2013, 169–195, [online] <https://books.openedition.org/pur/117735>.

⁶³ It should be noted, however, that this ‘organic’ process still implied a revolution.

⁶⁴ See the project’s research blog: *Collecta*, dir. A. RITZ-GUILBERT, [online] <https://collecta.hypotheses.org/>, and its dedicated homepage: *Collecta, archive numérique de la collection Gaignières (1642-1715)*, [online] <https://www.collecta.fr/>.

⁶⁵ The French homepage: *Archivum Rhenanum, archives numérisées du Rhin supérieur*, dir. L. BRASSEUR-WILD, [online] <https://archives-fr.hypotheses.org/>.

⁶⁶ ANR *Transscript: Écrit et gouvernance entre France et Empire, XIII^e-XVI^e siècle*, *Centre de recherche universitaire lorrain d’histoire*, [online] <https://cruh.univ-lorraine.fr/content/anr-transscript>; Présentation du

and 1594, joining the forces of French and Spanish institutions⁶⁷. Such collaborations are, of course, a wonderful opportunity for the study of frontier regions or the publication of their documentation. Digital projects are not the only possibility of doing that; but they seem to have greatly helped.

4. ‘Digital humanities’

The last category of research falls under the umbrella denomination of ‘digital humanities’, or advanced technologies for the study of the past providing new dimensions to humanistic research⁶⁸. In those cases, the implication of the public can also exist, but in terms different than in the above-mentioned projects. Archival documents are, in fact, not only interesting for historians and their friends, but also for other actors which one would not have always thought of. In that regard, even more as for other themes, the orientations taken by research have to be understood globally: the French cases are often merely examples of research taking place in several different countries at the same time.

A very active sector of research in that regard lies in the automatic or semi-automatic exploitation of documentation, an old endeavour of which is the machine-assisted reading of manuscripts. A good example can be found in a succession of projects that have been conducted at the French Institut de recherche et d’histoire des textes through the years. The beginning was made by the Graphem project, led by Denis Muzerelle⁶⁹; it was followed by Himanis and, now, by Home⁷⁰, both led by Dominique Stutzmann. Not only did these projects follow each other chronologically and institutionally; their history also illustrated changing

projet TRANSSCRIPT aux Archives nationales, *Archives nationales de Luxembourg*, 12 October 2018, [online] <https://anlux.public.lu/fr/actualites/2018/presentation-transscript.html>.

⁶⁷ Blog: *Acronavarre*, dir. Ph. CHAREYRE, [online] <https://acronavarre.hypotheses.org/>.

⁶⁸ In France as well as worldwide, the concept, role, and even existence of digital humanities have been debated. An access to the French side of a debate on the legitimacy of “Humanités numériques” can be found in the journal *Humanités numériques* (e.g. M. PIOTROWSKI and A. XANTHOS, Décomposer les humanités numériques, *Humanités numériques* 1 (2020), [online] <https://journals.openedition.org/revuehn/381>), and for instance in G. POUPEAU, Repenser la place du numérique dans les SHS, *Les petites cases*, 7 July 2019, [online] <http://www.lespetitescases.net/repenser-la-place-du-numerique-dans-les-shs> or in P. BERTRAND, La fin nécessaire et heureuse des humanités numériques #DHIHA8, MDVZ 3, *Médiévismes, carnet de recherche de Paul B.*, saison 3, 11 July 2019, [online] <https://medievizmesblog.wordpress.com/2019/06/11/la-fin-necessaire-et-heureuse-des-humanites-numeriques/>; see also F. Clavert and V. Schafer, Les humanités numériques, un enjeu historique, *Quaderni. Communication technologies, pouvoir* 98 (2018-2019), 33–49, [online] <https://journals.openedition.org/quaderni/1417>.

⁶⁹ The main results are given in a special issue of the *Gazette du livre médiéval: Analyse d’images et paléographie systématique. L’écriture entre histoire et science*, ed. D. MUZERELLE and M. GURRADO, *Gazette du livre médiéval* 56-57 (2011), online: https://www.persee.fr/issue/galim_0753-5015_2011_num_56_1.

⁷⁰ For both: *Himanis. HistoricalMANuscript Indexing for user-controlled Search*, dir. D. STUTZMANN, [online] <https://himanis.hypotheses.org/>.

methodological backgrounds for research of this kind. Interestingly, the first one was an initiative of the specialists of IT technologies, and the later one of the historians – all three entail close cooperation from both sides. The problems met by the first project (that focussed on script classification) gave an impulse for the development of the subsequent ones (that concentrated first on script recognition and semi-automatic indexation). While a lay person (like the author of the present article) could think that “teaching a computer to read or recognise scripts” always means the same at the technological level, this is not the case, and the means to achieve this – or, better said, to achieve a process leading to a similar result, have been the subject of diverse and intense research. It should be noticed that these projects are not all strictly speaking of an archival nature: only Himanis and Home made those the centre of their investigations. While they are based on the analysis and (semi-)automatic indexation of handwriting, and contribute as such to computerized palaeography, their archival nature might reinforce their interest for a broader public; not so much because it would have more interest for registers or chartularies in themselves than in books, but because their semi-automatic indexation gives easy access to historical data of interest to many historians, including those not specialised in palaeography or chanceries – which is bound to happen only on a smaller scale with ‘literary’ texts for example. This is why Himanis includes a possibility for the public to participate: a click on the result of a query gives the possibility of giving input as to the correctness of the identification of a word. Similar problems can be addressed regarding the semi-automated exploitation of image corpuses; this is the object of the BeCoRe project the author of these lines is a principal investigator in, along with Georg Vogeler in Graz – aiming at the exploration of graphic signs of authority in late-medieval charters⁷¹.

Working on archives also means working on digital documents, and even sometimes on collections one may create ad hoc. Any human activity implies archives in the making; and it is no different for digital documents. The use and exploitation of such material is one occasion of building and using innovative tools for its collection and exploitation. At the same time, the ever-growing flow of native archival documents is certainly one of the biggest, if not

⁷¹ See BeCoRe. Between Composition and Reception: the Authority of Medieval Charters, *Institut de recherche et d'histoire des textes*, 2020, [online] <https://www.irht.cnrs.fr/?q=fr/recherche/les-programmes-de-recherche/becore>; the project relies heavily on the Monasterium portal (<https://www.monasterium.net/mom/home>), a creation of IcarUS and a further example of the importance of international cooperation, even in an article dealing primarily with France. The project could build on earlier developments by Monasterium and on Monasterium (cf. M. ROLAND, *Illuminierte Urkunden. Maßregeln und Chancen*, *Digital Diplomatics. The Computer as a Tool for the Diplomatist?*, ed. A. AMBROSIO, S. BARRET, and G. VOGELER, Cologne-Weimar-Vienna 2014, 245–269, 323–332.

the biggest challenge of contemporary archival science, in France and elsewhere. This challenge has been met with a wealth of new ideas, but as this article deals more with projects using archives than with every aspect of research on them – and as its author certainly cannot claim any competence on archival science – it will not delve into this aspect; but it should not be overseen that this area of research is extremely lively and important⁷². In that regard, the French side of the matter is, as is often the case, a part of reflexions taking place at the international level, as proven by the translation offered by Françoise Banat-Berger, Emily Borgeaud and Christine Nougaret of a part of the results produced by the InterPARES 2 project⁷³.

If digitisation can be a game-changer for historical research, the appearance and very fast rise in diversity and quantity of native electronic documents has potentially even greater effects – in a striking parallel to its impact on archives and archival science. Not only is there an exponentially growing number of documents; the typology of digital products that are being produced and are bound to get the interest of archivists and historians is getting ever so more diverse: apart from the numbers, this is a decisive difference with the digital experience of, say, historians of the Middle Ages. That is especially striking when talking about very recent history, or history in the making, what the French often call “histoire du temps présent”⁷⁴. In that regard, social media are a good example for being massive producers as well as privileged research areas, where researchers can, if they are fitted with the necessary technical equipment and software, draw the documents they want to use from their very sources in real or almost-real time. With this, I am actually wandering towards the very edge of my topic, as one could very reasonably argue that capturing social media posts is not working on archival documents, even electronic ones, as no archiving has taken place (and as I just manifested my intention of not really talking about archival practices on native electronic documents); but one could also argue that researchers are thus creating their ad-hoc archives. At any rate, these possibilities led David Chavalarias and Mazyar Panahi to create the Climate Tweetoscope that allows a comparison between tweets relating to climate-related themes and online accessible scientific literature on the matter, in both cases as network

⁷² See for instance *Meta/morphoses. Les archives, bouillons de culture numérique, forum des archivistes*, 30-31 mars et 1er avril 2016, special issue of *La gazette des archives* 245 (2017/1), [online] https://www.persee.fr/issue/gazar_0016-5522_2017_num_245_1.

⁷³ *Archivistique et diplomatie numériques: une traduction en français d'une partie des livrables du projet InterPARES 2*, transl. F. BANAT-BERGER, E. BORGEAUD, and Ch NOUGARET, Paris 2016 [online] <http://www.chartes.psl.eu/fr/publication/interpares-2>. For InterPARES itself, see *International Research on Permanent Authentic Records in Electronic Systems*, dir. L. DURANTI, [online] <http://www.interpares.org/>.

⁷⁴ See: *Institut d'histoire du temps présent*, [online] <https://www.ihtp.cnrs.fr/>.

visualisation based on the words used⁷⁵. Frédéric Clavert, a French historian working in Luxemburg, did so for tweets relating to the Great War and its commemoration – a special take on the above-mentioned subject⁷⁶. Similar endeavours have been and are still being made on the special subject of the Covid-19 pandemic of 2020⁷⁷, echoing the collection of more traditional documents on the same matter⁷⁸. They cover social media, web archives, datasets... On a more global level, the kind of criss-crossing between archives and libraries I already talked about also plays a role for this topic: the Bibliothèque nationale de France, being responsible for the legal deposit of French publications, has had to create the appropriate structures for websites in their dimension as publications, thus aiming at creating ‘archives of the web’ and fostering relevant research projects⁷⁹.

As archival documents are also a source of raw data, it is fitting that these data may be used in the most refined ways digital technologies can offer, especially computer-based statistics, data- and text-mining. This is not new: such approaches have had their inception in the 1970s at the latest (Emmanuel Leroy-Ladurie is often seen as the Godfather of the application of computational techniques for history in France⁸⁰); but technical progress has made it possible to considerably develop these methods for the technically and mathematically apt – and to benefit from them for the not-so-apt. Depending on the situation, these can be very closely linked to the above-described methods of exploration and collection. While the basis of statistical methods already has a long history, their application and, above all, their application by an individual or a small team has been made practically possible by the development of digital technologies and personal computers. This is not to say that everything has become easy for everyone; but the logistical side of the matter is now more and more accessible to researcher without access to high-end computational structures – although some projects will still need them.

⁷⁵ *Climate Tweetoscope*, dir. D. CHAVALARIAS and Maziyar PANAH, 2018 [online] <http://tweetoscope.iscpif.fr/>.

⁷⁶ See on his research blog: F. CLAVERT, *L'histoire contemporaine à l'ère numérique: humanités et études numériques en histoire contemporaine*, 2020, [online] <https://histnum.hypotheses.org/category/ww1>.

⁷⁷ On Frédéric Clavert's blog: *Conserver la mémoire d'une épidémie*, *ibid.*, 2020 [online] <https://histnum.hypotheses.org/3274>.

⁷⁸ Mémoires de confinement, *FranceArchives*, 11 September 2020, [online] <https://francearchives.fr/fr/actualite/224765841>.

⁷⁹ Projets de recherche sur les archives de l'Internet, *Bibliothèque nationale de France*, [online] <https://www.bnf.fr/fr/projets-de-recherche-sur-les-archives-de-linternet>. For the legal deposit itself, see: <https://www.bnf.fr/fr/centre-d-aide/depot-legal-des-sites-web-mode-demploi>, as well as: <https://www.bnf.fr/fr/le-depot-legal-numerique>.

⁸⁰ See, as one example among many, O. JACQUOT, Emmanuel Leroy Ladurie, précurseur du *data mining*, *Carnets de la recherche à la Bibliothèque nationale de France*, 14 September 2018, [online] <https://bnf.hypotheses.org/1316>.

Medievalists, at least some of them, have been attracted by these new possibilities – paradoxically, it might have been initially facilitated by the relative scarceness of medieval sources: in many situations, they yield information in quantities that, on the one hand, seem too abundant for ‘manual’ processing, but on the other hand do not seem unrealistic to collect with electronic help. The data given by this documentation is often rough and irregular; while this at first discouraged statistical approaches because of legitimate concerns about the representativity of datasets, this also gave the impulse to fill the gaps with the help of fine-tuned methods and larger selections of data. In that regard, the edition of the charters from the abbey of Cluny offers a good example of the transition from traditional to half-traditional to digital humanities approaches. The documents have been edited at the turn of the 19th and 20th centuries⁸¹; this edition has been digitised and put online by the Gallica portal of the Bibliothèque nationale, offering images of the original pages⁸²; by the “Cluny” project of the Institut für Frühmittelalterforschung in Münster (Germany), with refined search tools and optimised legibility⁸³; and by the project *Corpus Burgundiae Medii Aevi*, among other documents, in several formats allowing for text analytics and statistics (TXM, PhiloLogic, etc) seen as the main goal of the process⁸⁴. On the level of personal research, Isabelle Rosé has, for instance, made extensive use of computer-assisted network analysis to reconstruct the social environment of Abbot Odo of Cluny⁸⁵ or of Queen Emma⁸⁶. Nicolas Perreaux, who has worked on the just mentioned CBMA project, has elaborated on it and built his own datasets, databases and statistical tools to explore first charters and afterwards also literary texts in studies that heavily rely on text-mining, machine-learning and historical semantics⁸⁷. Recently, Sergio Torres’ PhD dissertation developed models for the automated recognition of

⁸¹ *Recueil des chartes de l’abbaye de Cluny*, ed. A. BERNARD and A. BRUEL, Paris 1876-1905, 6 vols.

⁸² *BNF Gallica*, [online] <https://gallica.bnf.fr>; access to the six volumes is also given by the online catalogue: *Recueil des chartes de l’abbaye de Cluny...*, *BnF, catalogue general*, [online] <https://catalogue.bnf.fr/ark:/12148/cb37564493b>.

⁸³ *Cartae Cluniacenses Electronicae*, ed. M. HILLEBRAND and F. NEISKE, *Die Urkunden des Klosters Cluny*, Münster 2010→ [online] <https://www.uni-muenster.de/Fruehmittlelalter/Projekte/Cluny/CCE/Welcome.htm>. There are, on the homepage of the projects, many more resources relating to the Abbey of Cluny.

⁸⁴ Base de données, *Corpus Burgundiae Medii Aevi*, 2020, [online] <http://www.cbma-project.eu/bdds2.html>. This is part of a broader and impressive project giving access to all kind of digitisations (text, images...) of documents relating to Burgundy, with various tools, bibliographies, publications... which could easily have been cited several times in the course of this paper.

⁸⁵ I. Rosé, Reconstitution, représentation graphique et analyse des réseaux de pouvoir au haut Moyen Âge. Approches des pratiques sociales de l’aristocratie à partir de l’exemple d’Odon de Cluny, *REDES* 21 (2011), [online] http://revista-redes.rediris.es/html-vol21/vol21_5f.htm.

⁸⁶ I. Rosé, L’histoire du genre à l’épreuve du quantitatif? Itinéraire réticulaire de la reine robertienne Emma (vers 890-934), in *La forme des réseaux: France et Europe (X^e-XX^e siècle)*, ed. J. VERGER, Paris 2017, 103–115 [online] <https://books.openedition.org/cths/723>.

⁸⁷ An overview of his works is provided on France’s central open access repository for scholarly publications: Nicolas Perreaux, *Archive ouverte HAL*, [online] <https://cv.archives-ouvertes.fr/nicolas-perreaux>.

textual structures and named entities⁸⁸. As the broader activities of these researchers show, archival documents are not the only objects of such methods – for example, specialists of medieval literature use them for the establishment of stemmata, stylistic analysis and the edition of texts of all sorts⁸⁹, as well as classicists⁹⁰.

Conclusion

All in all, one could say that every echelon of French archival and historical research has now seized the opportunities that digital technologies have to offer. This also means that these technologies are used in various ways and levels of complexity, according to each actor's needs and objectives. This might be especially perceptible in France because of the great variety of situations its institutions and structures allow, but also because in the course of their use becoming widespread, technologies are bound to go through a kind of differentiation process. This process provides technical solutions for an ever-growing number of situations, especially for people and professional groups who are not on the cutting edge of IT progress – and gives those who are new opportunities. This makes it possible for broader segments of the public and relevant professional spheres to make competent use of computation for their needs. As this is a relatively new evolution, it has also led to sometimes diverging views on what should constitute the core of these still new activities, and how they should be organised on the professional level. Historians have debated whether every one of them should be able to code or should this better be left to really qualified specialists. In this latter case (that *volens nolens* is still the most usual), the question of how to set up a fruitful and efficient cooperation between the 'two sides' of a digital project is still the object of many a discussion: there have been enough instances where the scholarly versed and the technically competent have found it difficult to understand each other. In this regard too, progress has been made, but there is still much to do.

On a more fundamental level, the very place of the digital in the panorama of history, archival science and archival practices is still being discussed. Of course, no one would really

⁸⁸ S. TORRES, *Un modèle de reconnaissance automatique des entités nommées et des structures textuelles pour les corpus diplomatiques médiolatins*, PhD thesis, Paris-Saclay University 2019 (supervisors: P. Chastang, X. Tannier), [online] <https://tel.archives-ouvertes.fr/tel-02497686>.

⁸⁹ For instance: A. PINCHE, J.-B. CAMPS, and T. CLERICE, *Stylometry for Noisy Medieval Data: Evaluating Paul Meyer's Hagiographic Hypothesis*, *Digital Humanities Conference 2019*, Utrecht 2019, [online] <https://hal.archives-ouvertes.fr/hal-02182737>.

⁹⁰ See for instance Aurélien Berra's works 2010-2018: A. BERRA, *Philologie à venir, textes anciens et humanités numériques*, 2010-2018 [online] <https://philologia.hypotheses.org/>.

want to put the clock back; but the role of digital technologies in the shaping of the matters they find their use in is still an object of discussion. This is one of the aspects of the debates on digital humanities (and even on their existence as such): do they form a discernible discipline or are they a mere set of techniques and competences? There is also a recurrent question of how research projects should be organised and which aspect should “lead” the others in the production of the final results. Because the French research and archives system tends to rely mainly – in principle – on the public sector and tech-heavy projects need accordingly fitted technical structures and staff, situations of concurrence arise around the question whether already dwindling funding should go to more ‘scientific’ or more ‘technical’ equipment – for instance when programming the recruitment of public servants. This very matter is made more complicated by the fact that French research has been, and still is, undergoing massive structural changes that aim to organise it around limited-time projects and work contracts, or at least to significantly raise the proportion of the latter, amidst a general reduction of funding – which is not unknown to many other European countries. As for archival institutions, the decentralisation which has been alluded to has been a major structural change, with funding and personnel also being a recurrent question. The implication of the private sector is logically getting more important, through orders and outsourcing (e.g. for digitisation or software development) or collaboration in some cases (especially for projects implying artificial intelligence or machine learning).

All of this makes for a vivid and contrasted picture, as the French actors of digital research have had to adapt to several evolutions at the same time in their respective activities. While some institutions and people have been attracted to new technologies very fast, others have been initially caught more or less unaware by their rapid development. These gaps are now closing, and digital research, in spite of all problems and setbacks, is thriving. Due to the difficulties in funding and long-time planning, however, there are concerns about the sustainability of the results and productions of such research, as limited-time funding does not allow directly for them, and permanent structures are not always accordingly equipped. Paradoxically, this does not concern so much the archiving of the data and fundamental instruments produced in the wake of a given research, for which instruments do exist⁹¹, as the keeping in shape and maintenance of the dissemination instruments or of the working tools – which is certainly also a remnant of scholarly habits where once a book is published, nothing

⁹¹ For instance, one of the possibilities for archiving data and electronic documents from French higher education and research institutions is given by the Centre informatique national de l’Enseignement supérieur: *Archivage, Cines*, [online] <https://www.cines.fr/archivage/>.

more is expected than stocking and selling. Solutions have emerged and are gaining in scope and efficiency, but cannot give a 100% / 360° answer to everything⁹². While the creativity is there, the structures still need developing. The recent birth of a French-speaking, international, open-access journal dedicated to digital humanities is one of many positive initiatives⁹³; we must hope that logistics will follow suit.

Summary

For the sake of presentation, the state of digital research on archival documents in France, which is also heavily influenced by the forms of its archival, administrative and educative structures, can be divided in four sectors: electronic dissemination of the primary documents and associated research instruments; the use of digital means to reach out to a broader public and exchange with it; research and collaborative projects of a scholarly nature; and ‘digital humanities’. Archives in France are now routinely using digital methods to disseminate and communicate. They provide easy access to documents which are often used (birth registers, etc) or deemed to be of special interest for the public. They make use of such technologies not only to reach out to the public, but also to allow the participation of the population in the construction and use of digital archives. A noted instance of this has been a general participation of archival institutions in the celebrations of the Great War of 1914–1918.

Scholarly projects of several types are based on the use of digital technologies; an early field has been the electronic edition of texts, from medieval charters to contemporary collections of *archivalia*. Beyond the preparation and dissemination of the editions, there also seems to be a tendency to develop integrated virtual workspaces, where not only the edited texts, but also tools and presentations of results can be found. As the field is still new, different approaches cohabit, and one cannot say that there would be some kind of standard in France for the organisation of such projects, on the methodological as well as on the technical level. As funding and personnel may greatly vary with time and place, the visible outcome of the research can be very different from case to case; to which one must add the tendency of

⁹² One of these structures is HumaNum (*Huma-Num, la TGIR des humanités numériques*, 2020, [online] <https://www.huma-num.fr/>), that provides a vast array of tools for hosting, archiving (together with the CINES), disseminating... humanities research in digital forms; but for all the possibilities it offers, it is explicitly stated on their website that they cannot take on the development and maintenance tasks, for instance.

⁹³ *Humanités numériques* was created in 2020 and is published on the Open Edition platform: see *Humanités numériques*, 2020, [online] <https://journals.openedition.org/revuehn/>.

each actor to want to develop own solutions and methods. This is also valid for projects which can be subsumed under the name of ‘digital humanities’, that profit from digital technologies by applying methods which would not be possible without them or at least very difficult: text and data mining, computer-assisted reading of manuscripts etc.

All these undertakings share common problems in relation to their durability and to the sustainability of their results (or at least, of the dissemination of their results): funding is decreasing and the newly appeared funding bodies (ANR in France, ERC, etc) base their approach on limited-time projects. As the perennial structures that still exist are not always sufficient to ensure the maintenance of the various products that digital research can yield, this is still an important problem to be addressed. Archivists and researchers have collectively adapted to new technologies (of course with individual differences); the logistical side of the matter is still partly wanting.