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Morts Pour la France

A Database of French Fatalities of the Great War*

Victor Gay[†] Pauline Grosjean[‡]

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Abstract

This article describes the construction and content of the *Morts pour la France* database. This database contains individual-level data on the universe of the 1.3 million French fatalities of the Great War who were officially recognized as war victims. It provides information on each soldier's first and last names, dates of birth and death, recruitment status, military rank and unit, and places of birth and of recruitment. We further provide a dataset of military death rates at the level of 35 thousand municipalities and discuss avenues for future research using this data.

Keywords World War I, military fatalities, France

JEL codes N44, D74, J11

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1. Introduction

World War I was a watershed moment for French society. Over four years of battle, 8.3 million French men served in the army and 1.3 million among them died in combat, representing close to 16 percent of the male population of conscripts (Prost, 2008). The imprint of the conflict on France’s demography was profound. The war depleted several cohorts of young men and cut a lasting gash in the French population pyramid (Héran, 2014; Bellis, Léger and Parant, 2022). Fertility plummeted and its modest post-war uptick hardly replaced the million “missing” children that were never born (Rohrbasser, 2014). The gender imbalance resulting from the war disrupted marriage markets (Abramitzky, Delavande and Vasconcelos, 2011) with dramatic implications on the economy writ large, as an entire generation of war widows and single women was drawn into the labor force (Boehnke and Gay, 2022). This labor supply shock perpetuated across generations until today (Gay, 2023). Politically, the Great War may have set the seeds of France’s rapid defeat to Germany in 1940 (Bloch, 1946) and some its features help explain collaboration with Nazi Germany upon Philippe Pétain’s accession to power (Cagé et al., 2023).

This article describes a novel database that will help improve our understanding of the demographic, economic, and political consequences the Great War on French society: the *Morts pour la France* (MPF) database (“Dead for France”).¹ The MPF database includes a host of individual-level information for each of the 1.3 million French individuals who died as a result of the war: their first and last names, dates of birth and death, recruitment status, military rank and unit, and places of birth and of recruitment. In particular, the location information in the MPF database for both birth and recruitment is available at the municipality level, France’s most granular administrative unit—France counted close to 35 thousand municipalities before the war.

The unprecedented granularity of the MPF database open several avenues for research into the characteristics and consequences of the conflict. In particular, we provide municipality-level military death rates, which dramatically improves upon the sources of geographic variation that can be used to identify

¹The MPF database is available at <https://doi.org/10.7910/DVN/2APQZ6>.

the consequences of the war. Up to now, researchers had nearly exclusively relied on subsamples of the underlying MPF data aggregated at the level of 87 départements or 21 military regions (Gilles, 2010; Abramitzky, Delavande and Vasconcelos, 2011; Gilles, Guironnet and Parent, 2014; Beau, 2017; Guironnet and Parent, 2019; Boehnke and Gay, 2022; Gay, 2023).²

The MPF database will also further improve our understanding of battle-specific violence, as it contains the dates and ranks of deceased soldiers. For instance, we document that the deadliest day of French history was September 25, 1915, when 22,157 French soldiers died on the first day of the Second Battle of Champagne. Previous historiography instead supported that the deadliest days of the conflict occurred during the early weeks of the war during the Battle of the Frontiers and the First Battle of the Marne (Steg, 2013). The availability of death information will also improve our understanding of the determinants of soldiers' survival rates during the war, which so far have only been studied based on subsamples—see, e.g., Guillot and Parent (2018), which rely on a sample of 18 thousand deceased soldiers. Finally, combined information on soldiers' death and rank will enable economic historians to study organizational aspects of the conflict, in the spirit of Ager et al. (2022), who show how the introduction of specific rewards induced a shift in the mortality profile of German fighter pilots during World War II, or Dippel and Ferrara (2023), who study the effectiveness of military leadership in the context of the US Civil War.

There has been comparable efforts to study the implications of the war using individual-level military fatalities information in other European belligerent countries. In the case of Weimar Germany, De Juan et al. (2023) study the effect of WWI fatalities on the rise and support of the Nazi Party. They rely on (partly) newly digitized individual-level data on 8.6 million German soldiers who died, were wounded, captured, or went missing during the war.³ In the case of Italy,

²Related studies using subsamples of the same data source as that of the MPF database include Rolland (2005) for an analysis of suicides, Le Gall (2013) for the geography of recruitment, Guillot and Parent (2018) for survival rates, and Darlu and Chareille (2020) for the disappearance of last names. Vandenbroucke (2014) and Knowles and Vandenbroucke (2019) study the implications of the war on fertility though use a calibration approach based on national-level data.

³In a previous effort, Koenig (2023) approximated the constituency-level presence of veterans by the relative growth of the male population to study WWI veterans' support for right-wing

Fornasin (2017) relies on the *Albo d'oro* register of military deaths to construct estimates of war-related fatalities rates, while Acemoglu et al. (2022) explore the implications of war fatalities on the support for Socialism and Fascism. Finally, in the case of Britain, Carozzi, Pinchbeck and Repetto (2023) explore the implications of WWI fatalities on civic capital and combat motivation in WWII.

This article also relates to the literature focusing on the characteristics of WWI servicemen to study the selection effects of mortality among soldiers—see, e.g., Fornasin, Breschi and Manfredini (2019) on Italian soldiers, Kanazawa (2007) and Bailey, Hatton and Inwood (2023) on British soldiers, and McCalman et al. (2019) on Australian soldiers. More broadly, this article relates to the literature that uses individual-level military records to study health, wealth, and migration of historical populations (Costa and Kahn, 2008; Cranfield and Inwood, 2015; Bailey, Hatton and Inwood, 2016; Costa et al., 2018*a*; Costa et al., 2018*b*; Cunningham, 2018; Fourie, Inwood and Mariotti, 2020; Salem, 2022). The largest effort to date in this literature concerns the Union Army during the American Civil War (Fogel et al., 2000; Dippel and Heblich, 2021; Weaver, 2022).⁴ Similar data collection efforts are now being undertaken for the Confederate Army (Hall, Huff and Kuriwaki, 2019; Masera, Rosenberg and Walker, 2023).

In the rest of this article, we first provide some historical context about the organization of the French Army and the archival source of the MPF data (Section 2). Then, we describe the content of the database (Section 3) and discuss potential uses of the database (Section 4). Finally, we provide technical information on data availability (Section 5). Section 6 concludes.

parties.

⁴Spanning three decades of data collection effort, the Union Army Data (Fogel et al., 2000) consists in a sample of 40 thousand soldiers—a 1.6 percent random sample of whites mustered into the Union Army—together with additional samples of six thousand Black soldiers, White recruits in six major cities, and prisoners of war who survived until 1900. This database has recently been expanded to the 2.2 million volunteers of the Union Army by Dippel and Heblich (2021) and Weaver (2022). Dippel and Heblich (2021) rely on the *Union Army Registers* reports issued by each US State's Adjutant General's Reports. These reports includes soldiers' full name, enlistment and discharge date, age, military unit, rank, promotion, whether they volunteered, were drafted or commissioned, their State of enlistment, and their status at the end of the war. Weaver (2022) uses an alternative dataset, the American Civil War Research Database.

2. Historical Context

This section first discusses the organization of the French Army during the war (Section 2.1) then provides an overview of the construction process of the archival source of the MPF database (Section 2.2).⁵

2.1. The Military in World War I France

The territorial organization of the military at the eve of the war ensured consistency between military command and recruitment.⁶ Recruitment was structured into 21 military regions, each further subdivided into eight subdivisions (Figure A.1). In each of these subdivisions of military region, a unique recruitment bureau managed both recruitment and mobilization operations.⁷ Regarding military command, each military region was equipped with a unique army corps, which was composed of two infantry battalions, each in turn composed of one artillery and two infantry regiments—one per subdivision of military region. The army further included several cavalry divisions and additional artillery regiments, among which nine regiments of mobile artillery, two regiments of mountain artillery, and some mobile artillery groups.⁸

French men were subject to universal conscription since the Bertreaux Law of March 1905 (Crépin, 2009, 264–329; *JOLD*, 37(81), 1869–90). Moreover, by

⁵Appendix Table B.1 provides the list of abbreviations used in this section. The list of laws discussed therein and links to their original texts are provided in Appendix Table B.2. In particular, to support our assertions, we refer to the relevant legislation, which is generally available in the *Journal Officiel de la République, Lois et Décrets*, abbreviated *JOLD*.

⁶The foundations of this organization had been in place since a series of reforms passed in 1873–4 in the aftermath of the Franco-Prussian war (Boulanger 2001, 15–37; Chanet 2006; Gay 2021, 193–5) and in particular the Law relative to the general organization of the army of July 24, 1873 (*JOLD*, 5(215), 5281–3). The specific territorial structure of the military prevalent in August 1914 had been further adjusted by the military laws of September 22, 1913 (*JOLD*, 45(261), 8546–7), December 22, 1913 (*JOLD*, 45(349), 11090–1), and December 31, 1913 (*JOLD*, 46(2), 108–9).

⁷Two exceptions to this territorial organization were the cities of Paris and Lyon, which had their own military government and recruitment bureaus.

⁸The army further included 55 regiments of colonial infantry, seven regiments of colonial artillery, and several regiments of colonial troops. The colonial infantry and artillery had initially been created to defend France’s colonial empire and were composed of French men born in mainland France. In contrast, colonial troops were mostly composed of natives of France’s colonies (Antier, 2008).

August 1913 and the *Law of Three Years*, military obligations had increased to 28 years (Boulanger, 2001, 41–56; *JOLD*, 46(2), 7138–42): starting at age 20, conscripts were to serve successively for three years in the active army, for eleven years in the reserve of the active army, for seven years in the territorial army, and for seven years in the reserve of the territorial army. As a result, the active army comprised 817 thousand men of the cohorts 1891–3 upon mobilization on August 2, 1914. Within a fortnight, these troops were supplemented with the 3 million men of the reserve of the active army. An additional 3 million men from the territorial army and its reserve were then gradually incorporated through December 1915, and another 1.2 million in 1916, 1917, and 1918 (Huber, 1931, 88–111).⁹ By the end of the war, close to 8 million French men and an additional 500 thousand colonial troops had participated to the conflict.

There were initially relatively few exemptions to universal conscription, as only a few conscripts employed by the military administration were exempted from armed services upon mobilization. However, as the war lingered, the military command soon realized that its plan for supplying troops with weapons and machinery was dramatically insufficient (Porte, 2005; Bostrom, 2016). Indeed, consistent with the cult of the all-out offensive that was then prevalent among belligerent nations (Marril, 2014), the initial plan of military mobilization did not specify an industrial organization that would support a potentially long war.¹⁰ To cope with industrial warfare together with the shortage of civilian labor and the German occupation of the industrial Northeast, the military command started to withdraw soldiers with manufacturing skills from the battlefield and allocate them into war factories and mines.¹¹ As a result, up to 559

⁹Figure A.2 displays the war exposure of each cohort from the mobilization on August 2, 1914 to the official cessation of hostilities on October 24, 1919.

¹⁰For instance, the plan of mobilization designed in 1913 only provisioned 50 thousand workers allocated across 30 State factories (Porte, 2005, 26). Likewise, it procured for 14 thousand 75mm shells per day, although nearly 40 thousand of them were used daily during the Race to the Sea in October 1914. By then, half of the stocks had been depleted (Bostrom, 2016, 264).

¹¹This allocation policy was enacted by the Dalbiez Law of August 1915 (*JOLD*, 47(223), 5795–7), which stipulated that “[t]he Ministry of War is authorized to allocate to corporations, factories, and mines working for the national defense men belonging to a mobilized or mobilizable age class, industrial managers, engineers, production managers, foremen, workers, and who will justify to have held their job for at least a year in those corporations, firms and mines, or in comparable corporations, firms, and mines.”

thousand soldiers were withdrawn from the front lines over the course of the war, representing close to 12 percent of army personnel. Close to 300 thousand soldiers were also mobilized in harvesting from 1917 onward.¹²

2.2. The Mort pour la France Records

Mort pour la France individual records constitute the underlying source of the MPF database. This archival material was the outcome of a complex process that involved the Mort pour la France recognition and the preparation of the *Livre d'Or* memorial through most of the 1920s.

The Mort pour la France recognition As early as Winter 1914, the army was facing unprecedented mass mortality (Prost, 2008; Bach, 2010). To foster patriotism and mitigate the risk of demoralization, the government implemented a set of measures to pay tribute to those who had died in its name (Petit, 2016). The idea of a honorary title attributed to fallen soldiers first materialized in December 1914, eventually passing into law in July 1915 (*JOLD*, 47(184), 4653–4).¹³

The Mort pour la France honorary title represented an official recognition that was awarded to all military personnel of the French Army as well as to the French civilians who had died as a result of military operations between August 2, 1914, and October 24, 1919.¹⁴ While its attribution was systematic for those who had died in the line of duty—provided approval of military authorities—it had to be explicitly requested by the families of civilians or military personnel whose death was not directly attributable to military operations, such as deaths by suicide, disease, or accident. Soldiers executed on grounds of mutiny or treason were

¹²Appendix Table B.3 provides a detailed account of the number of mobilized soldiers outside of armed services throughout the war.

¹³The legislative process was initiated by Lower House member Joseph Thierry in December 1914, who proposed to amend the Civil Code regarding death certificates of military personnel (*JOCD doc. parl.*, 10, 2185). The bill passed promptly in the Lower House in February 1915 (*JOCD*, 11, 163) then in the Upper House in April 1915 (*JOS*, 11, 159–60). It was adopted in June 1915 (*JOCD*, 11, 829). For more details, see *BALD* (68, 226, footnote 1).

¹⁴The circumstances under which a death qualified for the recognition were later extended by the Law of February 28, 1922 (*JOLD*, 54(59), 2450). The date of October 24, 1919 corresponds to the official date of cessation of hostilities per the Law of October 23, 1919 (*JOLD*, 51(289), 11790).

denied the recognition. Once approved, this honorary title was transcribed onto the death certificate of the deceased.¹⁵ This inscription on the death certificate had the force of the law and, shortly after the war, opened compensation rights to the spouse, children, and ascendants of the deceased.¹⁶ The time interval during which a death opened the right to be awarded the recognition was indefinitely extended by November 1945 beyond the date of cessation of hostilities of October 24, 1919, so that families of those deceased even decades after the war as a result of injuries contracted during the conflict can claim this recognition ex-post, even today.

The Livre d’Or Memorial The nation’s homage to war victims was structured by the Law of October 25, 1919 (*JOLD*, 51(291), 11910), which stipulated the writing of a *Livre d’Or* (Golden Book) containing the names of all individuals who had received the *Mort pour la France* recognition (Chabord, 1973; Richard, 2013).¹⁷ The 120 volumes of the *Livre d’Or* were to be deposited at the Panthéon in Paris and excerpts sent to all of France’s municipalities with the names of the *Morts pour la France* born or residing therein at mobilization.¹⁸

Several ministries contributed to the preparation of the *Livre d’Or*, each enumerating their own *Morts pour la France*: the ministry of the Navy for maritime armed forces, the ministry of the merchant Navy for merchant navigators, the ministry of the Interior for civilians, and the ministry of Pensions for the Land Army, whose constituents represented the overwhelming majority of *Morts pour la France* (Chabord, 1973, 80).¹⁹ The office of the civil registry of the ministry

¹⁵The practicalities of the applications of the law are detailed in the circular of the Ministry of Justice of July 8, 1915 (*GGDO*, 5, 152–8).

¹⁶Conditions of attribution of these compensation rights are defined by the Law of March 31, 1919, art. 15–6 (*JOLD*, 51(90), 3342–3).

¹⁷The idea of such a memorial was initiated as early as June 1916 by Upper House member Louis Martin. However, the bill was only discussed by May 1918, eventually passing into law in October 1919 after several modifications (*BALD*, 72, 495, footnote 1). For a comparable homage through a Golden Book in Italy, see Fornasin (2017).

¹⁸Homages to fallen soldiers were pervasive throughout the country, generally emanating from decentralized initiatives. The most iconic initiative was the construction of *Monuments aux Morts* (War Memorials) in each of France’s municipalities (Prost, 1992; Aubry and de Oliveira, 2014).

¹⁹See Chabord (1973, 80–9) for details on how ministries other than the ministry of Pensions managed this process.

of Pensions began its operations in July 1922, once the situation of most missing soldiers had been settled.²⁰ It sent to all regiment operating bases 12-by-17 centimeter cards of three types: pale-havana cards for those who had been granted the *Mort pour la France* recognition, green cards for those who were denied the recognition, and white cards for unsettled cases. Regiments then filled these cards using information contained in their own records of deceased soldiers, their *fichier de position* (position file) (Prost, 2008, 49–50). These files were based on soldiers’ military identification records held by their recruitment bureaus of origin (Kesztenbaum, 2013, 10–7). This process lasted until July 1929. By then, the ministry of Pensions had received 1.5 million cards from regiment operating bases. The ministry of Pensions then sent preliminary lists of *Morts pour la France* to all municipalities for verification. Four-fifth of them responded with various comments in 1929–30, which enabled the Ministry of Pensions to rectify the content of individual cards (Chabord, 1973, 80).²¹

Despite a colossal enterprise that lasted for nearly a decade and mobilized up to 60 employees of the ministry of Pensions, the multiple requests from the Lower House in the 1930s to print the 120 volumes of the *Livre d’Or* were denied due to the budget crisis faced by the government (Chabord, 1973, 82–9). The *Livre d’Or* never saw the light of day.

The *Morts pour la France* Records While the *Livre d’Or* never materialized, its source material—1.5 million individual cards—was deposited at the Bureau of Archives of Victims of Contemporaneous Conflicts (BAVCC) in Caen.²² Starting in 1999, these cards were scanned by the BAVCC’s Direction of Heritage, Memory, and Archives (DPMA) and made available on the *Mémoire des Hommes*

²⁰The precise guidelines of these operations are detailed in the Instruction of January 11, 1922 of the ministry of Pensions.

²¹Annotated lists sent by municipalities to the ministry of Pensions were deposited at the National Archives in 1963. These were digitized in 2008–9 (Richard, 2013, 151–2) and are now available on the website of the National Archives (Richard, 2022 [2014]).

²²Three types of individual cards are deposited at the BAVCC: the 1.4 million pale-havana cards of the *Morts pour la France*, among which two thousand civilians, the 60 thousand green cards of those who were denied the *Mort pour la France* recognition, and the 30 thousand white cards of initially unsettled cases (Rolland, 2005, 270).

(MdH) web platform on November 11, 2003 (Lemarchand, 2008; Aufrey, 2014).²³

Morts pour la France records contain the following entries: last name, first name, military rank, army corps, recruitment and regiment identification numbers, class (recruitment cohort), recruitment bureau, date, location, and cause of death, date and location of birth, and date and location of transcription of death—we display the MPF record of one of the authors’ ascendant in Figure 1. Scanned records made available through the MdH web platform were initially indexed by the BAVCC through five fields: first name, last name, date of birth, département of birth, and country of birth. To gather information on the remaining fields—representing close to 20 million cells—starting in November 2013, the MdH web platform made it possible to annotate Morts pour la France records online (Aufrey, 2017). Ten days later, the initiative “1 Jour–1 Poilu” was launched, mobilizing “citizen historians” through social media in order to fulfill this enormous task (Gilot, Grandjean and Clavert, 2018).²⁴ Thanks to the participation of 25 thousand contributors, the indexation of all the fields of the Morts pour la France database was achieved on April 30, 2018 (Gilot, 2020). On January 22, 2019, the resulting annotated database was made downloadable in csv format on the MdH web platform.²⁵

Limits of the Mort pour la France Records As rich as the content of the Mort pour la France records may be, the process through which this source was constructed condition the reality of military fatalities the economic historian can capture from this source.

First, these records remain a byproduct of a broader enterprise devised by the State with two primary objectives: provide a national homage to war victims and budget compensations to their families to be distributed by the ministry of Pensions, as the Mort pour la France recognition opened rights to compensations. An accurate census of deceased soldiers was never an explicit objective and, in

²³The original MPF records are available at <https://www.memoiredeshommes.sga.defense.gouv.fr/fr/article.php?larub=24&titre=morts-pour-la-france-de-la-premiere-guerre-mondiale> (accessed in June 2023).

²⁴Primary tools for this mobilization campaign were the Twitter hashtag #1J1P together with its associated account @1J1Poilu and web page <http://www.1jour1poilu.com>.

²⁵These raw data files are available at <https://www.memoiredeshommes.sga.defense.gouv.fr/fr/article.php?laref=1380&titre=telechargement> (accessed in June 2023).

fact, has always remained out of reach (Loez, 2008; Prost, 2008). As a result, these records do not account for soldiers who died outside of the line of duty and whose families did not claim the *Mort pour la France* recognition. Conversely, they account for some civilian victims, among which some employees of the merchant Navy. This source nevertheless remains the closest to a census of deceased soldiers ever attempted.

Second, these records are subject to potential inaccuracies in their information content. On the one hand, they remain a third-level source: their content is based on soldiers' military identification records held by recruitment bureaus, which were initially transcribed onto regiments' position files during the war, then onto *Morts pour la France* records between 1922 and 1929. Regiments' personnel, generally composed of fresh conscripts, were not necessarily trained for these tasks. On the other hand, annotations made by the BAVCC between 1999 and 2003 and by citizen historians between 2013 and 2018 might contain inaccuracies not only due to user error, but also because the *Mort pour la France* records may sometimes be unreadable, exhibit crossed-off content, or contain multiple information for the same field. And contrary to other comparable crowdsourcing projects, no consensus method was used during the annotation process (see, e.g., Van Galen, 2019). Finally, annotators transcribed the information content of the *Mort pour la France* records as they appeared. As a result, except for the five fields annotated by the BAVCC, annotations remain unstandardized and heterogeneous, making them challenging to use directly for empirical analysis.

One of our contributions is to clean the raw data available on the MdH web platform and create a curated database with standardized fields and interoperable nomenclatures compatible with, e.g., historical and current geographic information systems (Gay, 2021; IGN, 2015), so that the MPF database we put forward is directly amenable to empirical analysis by quantitative historians.

3. A database of French fatalities of the Great War

In this section, we provide an overview of the variables in the MPF database: soldier’s first and last name, dates of birth and death, recruitment class, military rank, military unit, location of birth, and recruitment bureau—see Tables 1 and 2 for a summary of the content of the MPF data files.

Raw data files available on the MdH web platform contain 1,825,593 observations corresponding to 1,421,953 unique MPF records. Starting from these files, we drop duplicate records and soldiers born outside of France.²⁶ The final MPF database contains 1,270,864 records, among which 198 women (mostly nurses and civilians), 1,439 civilian victims, and 57,735 soldiers who were denied the MPF recognition (158 are still unsettled cases).²⁷

First and last name The MPF database contains 182,392 unique last names. Their distribution is highly skewed: the most frequent last name, **MARTIN**, counts 5,281 records (0.42 percent of MPF records), while 83,140 last names (45.58 percent of all unique last names) count only one entry.²⁸ Comparing the distribution of last names in the MPF database to that of all contemporaneous last names reveals that the last names composition of MPFs is representative of the general population (Appendix Table B.6).²⁹ Likewise, the distribution of first names is highly skewed. Over 227,673 unique first names, the most frequent, **JEAN**, counts 31,572 records (2.48 percent of MPF records), while 170,510 first names (74.89

²⁶There are close to 400 thousand duplicate records in the raw data files because one additional observation is created whenever a given field on an MPF record contains several annotations.

²⁷See Guillot and Parent (2021; 2022) for a quantitative study of the profile of soldiers who were denied the *Mort pour la France* recognition based on the MPF records.

²⁸Appendix Table B.4 provides the list of the 50 most frequent last names along with their frequencies and Appendix Table B.5 provides the distribution of unique last names.

²⁹To construct this comparison, we use a subset of INSEE’s (2012) file of last names, which provides the total number of last names among births registered in France over the cohorts 1891–1900. More precisely, in Appendix Table B.6, we compare the 10 most frequent last names in the MPF database among all MPF records and among the MPFs born between 1891 and 1900 to the 10 most frequent last names in INSEE’s (2012) database. We find that the ordering of these 10 most frequent last names is almost identical in all three samples. For more details on the representativeness of last names in the MPF database, see Darlu and Chareille (2020, 99–102).

percent of all unique first names) count only one entry.³⁰ Both the last name and first name variables have nearly full coverage as all MPF records have a last name while only 186 have no first name mentioned.³¹

Dates of birth and death Birth dates have nearly full coverage: 99.70 percent of MPF records have a complete birth date, while 3,747 records (0.30 percent of MPF records) only contain the birth year with no month or day information, and 75 records (0.01 percent of MPF records) have no birth date at all. While the conscription directly concerned the cohorts 1866–1900, birth dates range from 1824 to 1917, though only 3,571 MPFs were born between 1824 and 1865 or between 1901 and 1917 (0.28 percent of MPF records). Furthermore, 1,246 MPFs among them are civilians, which corresponds to 88 percent of all civilians in the MPF database. We display the distribution of birth years among MPFs born between 1866 and 1900 in Figure 2. The median MPF was born on February 22, 1889. The most affected cohorts were those in the active army (1891–5), who were mostly sent to the front lines. In particular, the cohorts 1893–4 each count more than 80 thousand MPFs. Finally, we display the distributions of months and days of birth among MPF records in Appendix Figures A.3 and A.4, respectively. They exhibit no particular cyclical pattern and no spike in January nor on the first day of the month, which suggests that these categories were not used as default options and that the data has good quality.

The coverage of death dates is also comprehensive: it is complete for 98.85 percent of records. 12,634 records (0.99 percent of MPF records) only contain the death year with no month or day information, and 2,000 records (0.16 percent of MPF records) have no death date at all. While the official date of cessation of hostilities was October 24, 1919, 3,532 records indicate a death date after that time (0.28 percent of MPF records), as the MPF recognition could be claimed past the end of the war. Moreover, 37,803 records (3.00 percent of MPF

³⁰Appendix Table B.7 provides the list of the 50 most frequent first names along with their frequencies and Appendix Table B.8 provides the distribution of unique first names. Because the INSEE’s (2012) first names file only contains first names given after 1900, we cannot make a comparison to gauge the representativeness of first names in the MPF database.

³¹MPF records further contain aliases as well as maiden names for women in 5,405 cases (0.43 percent of MPF records). We display their distribution in Appendix Table B.9.

records) indicate a death date between the Armistice of November 11, 1914, and the cessation of hostilities of October 24, 1919. The median MPF died on January 18, 1916. We display the distribution of monthly death dates in Appendix Figure A.5.

Recruitment Class Soldiers' recruitment class (*classe*) refers to the year in which they were first drafted. Ever since the Bertreaux Law of 1905, a soldiers' class normally corresponded to the year in which he turned 20. Indeed, the distribution of recruitment classes mirrors that of birth years plus 20 years (Appendix Figure A.6).

There were three types of exceptions to this enlistment rule. First, soldiers could voluntarily enlist by anticipation under the status of war volunteer (*engagé volontaire*) as early as 17 years old. Beyond sheer patriotism, early enrollment enabled volunteers to choose their weapon so as to avoid the infantry, which had higher fatalities rates than the artillery or the cavalry (Boulanger, 2001, 128–40). MPF records contain information on the volunteer status of deceased soldiers. They reveal that while only 0.2 percent of the 1870–93 cohorts enrolled as volunteers, cohorts that were to be recruited during the war enrolled as volunteers at much higher rates (Appendix Figure A.7): rates of voluntary enrollment increased from 0.4 percent for the 1894 cohort to 2.6 percent for the 1899 cohort. The second exception contended that soldiers could enlist before age 20 through a procedure of recruitment by anticipation. This procedure was pervasive during the war in order to face unprecedented losses. For instance, men of the 1916–7 classes were drafted as early as 1915 (Boulanger, 2001, 57–67). Comparing years of birth to recruitment classes among non-volunteer soldiers reveals that while only 2.3 percent of the 1870–94 cohorts were recruited by anticipation, this proportion was much higher among younger cohorts, reaching 14.5 percent for the 1899 cohort (Appendix Figure A.8). A third and final exception was deferments. Deferments were possible under various conditions: to complete one's studies (e.g., for medical training), for fathers of large families, or on grounds of poor health. Nevertheless, the military command granted much fewer exemptions during the war (Boulanger, 2001, 67–75). MPF data reveal that while 1.4 percent of the 1870–94 cohorts were granted deferments, this was only the case for

0.9 percent for the 1895 cohort and 0.03 percent for the 1899 cohort (Appendix Figure A.9).

Information for recruitment class is available for 98.54 percent of MPF records.³² For 14,089 records, the recruitment class in the data is more than three years apart from the soldier’s birth year plus 20, which is likely erroneous, and for 18,208 records, the recruitment class is missing (1.43 percent of records). In these cases, we impute the recruitment class with the theoretical value of birth year plus 20. Appendix Table B.10 provides a breakdown of these cases, which are flagged in the MPF database.

Military Rank We normalize MPFs’ military ranks into 51 categories so that each category contains at least 10 observations—we classify residual categories into an `OTHER` category, which contains 53 records. Rank information is missing for 4,549 records (0.36 percent). As shown in Appendix Table B.11, the most frequent rank is `SOLDIER` with 870,324 records (68.80 percent of MPF records). The second most frequent is `CORPORAL` with 104,952 records (8.30 percent of MPF records). 79.33 percent of MPFs are low-ranked enlisted soldiers (`ENLISTED`), 18.91 percent are non-commissioned officers (`NCO`), and 1.76 percent are commissioned officers (`CO`), including 90 generals.

Military Unit We normalize MPFs’ military units into 390 entities (Appendix Table B.12). The overwhelming majority of MPFs were part of the infantry, with close to 1.1 million records (86.17 percent of MPF records), and generally part of an infantry regiment (64.91 percent of MPF records).³³ Other units include artillery (6.93 percent), engineer corps (2.23 percent), cavalry (1.61 percent), and miscellaneous categories (3.07 percent).³⁴ Despite being born in metropolitan France, close to 10 percent of MPFs belonged to a colonial military unit (see Footnote 8 and example in Figure 1). Again, the data coverage for this variable

³²By construction, this information is missing for civilians and women.

³³We also provide the military unit number, which is available for 99.01 percent of MPF records for which the military unit information is available.

³⁴Reflecting the evolution of the strategic importance of the infantry relative to the artillery over the course of the war, the share of infantry among MPFs declined from 94 percent in 1914 to 74 percent in 1918 and 54 percent in 1919 (Appendix Figure A.10).

is substantial as only 8,654 records (0.68 percent of MPF records) do not contain information on military unit.

Place of Birth Information on MPFs’ places of birth is available in nearly all cases at the level of the municipality (99.34 percent of MPF records), the most granular level of administration—France counted close to 35 thousand municipalities before the war. In 8,318 cases (0.65 percent of MPF records), only the département of birth is provided. The location of birth is missing in only 133 cases (0.01 percent of MPF records).

To facilitate usage of this variable for quantitative analysis, we match the birth location string provided in the original MPF records to its corresponding Cassini code, which uniquely identifies each of the 41,410 municipalities that ever existed between 1801 and 2005 (Motte, Séguy and Théré, 2003; Motte and Vouloir, 2007).³⁵ The availability of this unique identifier makes it possible to match MPFs’ birth locations to any posterior geographic information system. In particular, we match these locations to the nomenclatures of municipalities as of 1911 and 1921 (Gay, 2020a) as well as to the nomenclature of municipalities as of 2015 (INSEE, 2015), which spatial counterpart corresponds to IGN’s (2015) Geofla communes shapefile.

The most frequent municipality of birth is PARIS with 64,988 records (5.14 percent of MPF records), before LYON with 8,851 records (0.70 percent). At the other end, 669 municipalities count only one entry (0.05 percent of MPF records).³⁶ In Appendix Figure A.11, we display the distribution of MPF records across municipalities of birth in 2015 geography.³⁷

³⁵These identifiers are from the *Histoire Administrative des Communes* (HAC) database, initially distributed through <http://cassini.ehess.fr> and are available as a csv file on EHESS’ Didoména repository (Cristofoli et al., 2021).

³⁶Appendix Table B.13 provides the list of the 40 most frequent municipalities of birth along with their frequencies and Appendix Table B.14 provides the distribution of unique municipalities.

³⁷Close to four thousand MPFs were born in Alsace-Lorraine. These numbers are relatively low compared to other municipalities, since those regions were part of German territory in 1914. Still, it is estimated that 17,500 men from Alsace-Lorraine volunteered for the French Army, including 12 thousand who were already in France at the start of the war and three thousand who would have escaped German mobilization (Georges, 2015).

Recruitment Bureau MPF records indicate the name of the recruitment bureau where each soldier was first drafted at age 20. As explained in Section 2.1, each subdivision of military region had one recruitment bureau, i.e., 154 bureaus in total in 1914 (Appendix Figure A.1).³⁸ However, while 97.23 percent of MPFs were recruited by a bureau that existed in 1914, a few MPFs (7,276 cases or 0.57 percent of MPF records) were recruited by bureaus that did not exist by 1914. Additionally, while born in France, some MPFs were recruited outside of France (2,210 cases or 0.17 of MPF records). Nevertheless, the availability of this variable is nearly complete as only 1.60 percent of MPF records don't have a recruitment bureau information.

To facilitate usage of this variable for quantitative analysis, we match MPFs' recruitment bureaus to two types of geographic information. First, we match each recruitment bureau to its corresponding military region and subdivision of military region (Gay, 2020*c*; Gay, 2020*d*)—as explained in Section 2.1 military command and recruitment overlapped consistently. Second, we match each recruitment bureau to the nomenclatures of municipalities as of 1911, 1921, and 2015, in the same way as for MPFs' locations of birth (IGN, 2015; INSEE, 2015; Gay, 2020*a*).

4. Applications

This section provides two examples of how the MPF database might be used for empirical analysis: first, by aggregating MPF records over space to create military death rates and approximate the demographic shock of the war at different geographic levels (Section 4.1) and second, by aggregating MPF records over time to shed light on the most deadly battles of the war (Section 4.2).

4.1. Aggregate-Level Military Death Rates

An important application of the MPF database is the aggregation of MPF records at various geographic levels to measure the demographic shock of the war.

³⁸This includes the five recruitment bureaus of the military government of Paris, the three of the military government of Lyon, and the recruitment bureau of Versailles, which were not attached to a specific subdivision of military region.

Indeed, the sex ratio among adults aged 15–50 dropped from 98 men per 100 women at the onset of the war to 88 by the end of the war, and it was not until the early 1950s that it reverted back to balance (Appendix figure A.12).³⁹ This type of analysis has been done by previous research both at the département (Gilles, 2010; Gilles, Guironnet and Parent, 2014; Beau, 2017; Guironnet and Parent, 2019; Boehnke and Gay, 2022; Gay, 2023) and at the municipality levels (Cagé et al., 2023). We discuss these applications below and provide some insight on how to properly use these military death rates.

4.1.1. Département-Level Military Death Rates

We first create a dataset of département-level military death rates by calculating the ratio of MPFs to the size of a département’s drafted population during the war, which we approximate by the number of men aged 15–44 in the census of 1911, the last census before the war.⁴⁰ We display the distribution of military death rates across départements in Figure 3. They range from 7 percent in Alpes-Maritimes to 30 percent in Lozère, with an average of 16 percent and standard deviation of 4 percent (Panel A of Table 3).⁴¹ When using the total population in 1911 as the denominator instead, military death rates have an average of 3.5 percent and a standard deviation of 0.7 percent.

As highlighted in Section 2.1, the systematic part of the distribution of military fatalities was determined by the territorial organization of military recruitment and the industrial war effort. Soldiers recruited in the same military region were initially grouped into the same units and sent to the same battlefields. However, as the war lingered and fatalities accumulated, soldiers were allocated to depleted units depending on the most urgent needs of the military starting in

³⁹The adult sex ratio was only marginally affected by military fatalities of World War II as 115 thousand French soldiers died over that period, which is an order of magnitude below the fatalities from World War I (Lagrou, 2002).

⁴⁰More precisely, we use the sample of non-civilian MPFs born in France outside of Alsace-Lorraine who died between 1914 and 1919.

⁴¹Département-level military death rates were previously made available by Boehnke and Gay (2020) using an early version of the MPF database. In Appendix Tables B.15 and B.16, we compare the raw département-level data used in Boehnke and Gay (2022) and in the current study. Numbers are fairly close and military death rates are on average larger by 0.72 percentage points when using the current updated database.

the Fall of 1914, resulting in variation both within and across military regions. Moreover, to cope with industrial warfare, many soldiers from industrial areas were sent to war factories, effectively protecting them from death in the trenches. These patterns are apparent when analyzing the pre-war determinants of military death rates across départements through regressions (Appendix Table B.17), as rural départements experienced greater military death rates—rurality explains 75 percent of the variation in military death rates. Other characteristics capturing the pre-war economic structure of départements are not significantly correlated with military death rates and do not explain much more of their variation, as does further including military region fixed effects.⁴² For these reasons, we advise potential users of the département-level military death rates data to rely on the residual variation in military death rates once rurality is accounted for.⁴³

4.1.2. Municipality-Level Military Death Rates

To analyze the implications of the war at a more disaggregated level, the MPF database makes it possible to create a dataset of municipality-level military death rates. Municipalities are the most disaggregated administrative level in France, as there were about 35 thousand municipalities before the war. Unfortunately, the census of 1911 does not provide municipality-level population by age and gender, so we are constrained to rely on total population for the denominator. We display the resulting distribution of military death rates in Figure 4.⁴⁴ Therein,

⁴²We capture rurality through two aspects: the share of the population that resides in municipalities with fewer than 2,000 inhabitants and the share of the population born in the département. Other characteristics we consider include pre-war female labor force participation rates, the share of girls aged 5–19 in school, total fertility rates, personal wealth (in 10,000 francs), the share of active population in the industrial sector, average height of conscripts, total population, the share of literate population, and average direct taxes per inhabitant. See Boehnke and Gay (2022, 1217–9) and Gay (2023, 6–7) for more details.

⁴³See also Boehnke and Gay (2022, 1225–6) for an instrumental variables approach that exploits discontinuities in the timing of military service across the cohorts 1891–4. It is also worth mentioning that we assign military fatalities to a département through MPFs’ départements of birth. However, these might have differed from their départements of residence at the onset of the war, as 19 percent of men aged 15–44 resided outside their département of birth in 1911—see Boehnke and Gay (2022, Appendix E) on this potential issue.

⁴⁴As with département-level military death rates, we use the sample of non-civilian MPFs born in France outside of Alsace-Lorraine and who died between 1914 and 1919. Note that we are constrained to map this variable in 2015 geography because municipality-level shape-

we exclude Alsace-Lorraine as it was outside of France before the war, so that no population return was available for that part of the country. Municipality-level military death rates range from 0 percent (in 255 small municipalities) to 58 percent, with an average of 4 percent and standard deviation of 2 percent (Panel B of Table 3).⁴⁵ Given the modest size of French municipalities, this means that the average municipality lost 36 men during the war.

4.2. The Deadliest Days of the War

A second potential application of the MPF database is in the study of the dynamics of the conflict. For example, Figure 5 plots the time series of aggregated daily dates of death in order to shed light on the most deadly battles of the war.⁴⁶ It reveals that the deadliest day of the conflict was on the first day of the Second Battle of Champagne, September 25, 1915, an ultimately failed offensive for the French Army. On that day, 22,057 men died. Many historians assert instead that the date of August 22, 1914, during the Battle of the Frontiers, was the deadliest day of the conflict (see, e.g., Steg 2013). Our data records this day as the second deadliest day of the conflict with 19,974 fatalities.⁴⁷

Overall, the Battle of the Frontiers of 1914 remains a period of very high mortality. Several days of late August 1914 feature among the days with highest total deaths: 9,671 men died on August 20, 1914, 6,233 on August 25, 1914,

files for 1914 do not exist at this date—this is among the endeavors of the ongoing project ANR COMMUNE HIS-DBD (<https://anrcommunes.hypotheses.org/>), which is scheduled to make these shapefiles available by 2025.

⁴⁵Municipality-level military death rates were previously made available by Cagé et al. (2023) using an early version of the MPF database. Note that very high municipality-level military death rates are relatively rare and are concentrated in very small municipalities with only a few hundred inhabitants—see Appendix Table B.18 for a list of the 50 most affected municipalities along with their 1911 population counts, with military death rates ranging from 58 percent to 15 percent.

⁴⁶This time series focuses on the sample of non-civilian MPFs born in France who died between August 2, 1914 and November 11, 1918 and for which the full date of death is available.

⁴⁷Note that the MPF database only includes the subset of colonial troops that were born in Metropolitan France, and thus does not count colonial troops born in the colonies. The database also counts men who died of diseases on a given day, but these men may have been injured on another day. It therefore remains to be shown whether these differences would make up for the difference in fatalities between what is commonly accepted as the deadliest day of WWI for the French Army and what the MPF database reveals. In any case, this point illustrates the potential uses of the MPF database for the historiography of WWI in France.

and 7,370 on August 28, 1914. A few days later during the First Battle of the Marne on September 8, 1914, 6,624 men would die. Another notable day is the first day of the Chemin des Dames offensive on April 16, 1917, when 9,425 men died during another failed French attempt to break through the German lines. This failed offensive led to the onset of massive mutinies in the French Army (Loez and Mariot, 2008).

5. Data Availability

The dissemination of MPF records through the MdH web platform was authorized by the decrees of October 3, 2003 and July 24, 2014 (Aufrey, 2014).⁴⁸ The collection, digitization, indexation, conservation, and online diffusion of the personal data contained in the MPF records was further authorized by the National Commission on Informatics and Liberty (CNIL) on July 10, 2014, for historical, statistical, and scientific purposes.⁴⁹

We disseminate the MPF database under the CC-BY 4.0 license on the Harvard Dataverse at <https://doi.org/10.7910/DVN/2APQZ6> in both Stata data format (`dta`) and text delimited format (`txt`). We also disseminate two additional datasets discussed in Section 4: the département-level military death rates dataset and the municipality-level military death rates dataset (see Appendix Table B.19 for a summary of the content of these data files).

6. Conclusion

This article describes the *Morts pour la France* (MPF) database, which includes a host of individual-level information for each of the 1.3 million French individuals who died as a result of the war: their first and last names, dates of

⁴⁸The texts of these two decrees are accessible at <https://www.legifrance.gouv.fr/eli/arrete/2003/10/3/DEFS0302096A/jo/texte> and <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000029361926>.

⁴⁹The text of this deliberation is available at <https://www.legifrance.gouv.fr/cnil/id/CNILTEXT000029312428>. The MdH web platform specifies that “[t]he public information visible on the Mémoire des Hommes website may be freely reused for purposes other than those of the public service mission for the needs of which the documents were produced or received according to the Etalab 2 open license model.” (<https://www.memoiredeshommes.sga.defense.gouv.fr/fr/article.php?laref=7>, accessed in June 2023).

birth and death, recruitment status, military rank and unit, and places of birth and of recruitment. We also provide datasets of military death rates at the level of 87 départements and 35 thousand municipalities.

Information on height, weight, occupation, and other physiological characteristics as well as migration history is available for every serviceman from their military identification record (Kesztenbaum, 2013). This archival source is available in département archives and can be linked to the MPF database, opening several avenues of research in health and military studies.

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PARTIE À REMPLIR PAR LE CORPS.

Nom GALINIER

Prénoms Joseph Henri

Grade Soldat

Corps 22^e Régiment d'Infanterie Coloniale

N^o 011686 au Corps. — Cl. 1901

Matricule. 349 au Recrutement Narbonne

Mort pour la France le 23 Septembre 1914

H^ôpital militaire de Brienne le château

Genre de mort Suite Blessure de guerre

Né le 6 novembre 1881

St-Laurent de la Cabrerisse département Aude

Arr^s municipal (p^r Paris et Lyon), }
a défaut rue et N^o. }

Jugement rendu le 20 Janvier 1915

par le Tribunal de Villetritouls

acte ou jugement transcrit le Aude

à _____

N^o du registre d'état civil _____

101-708-1022. [26434]

Cette partie n'est pas à remplir par le Corps.

Figure 1. Example of a Mort pour la France Record

Notes: Example of the MPF card of Joseph Henri Galinier, 22d Colonial Infantry Regiment, Mort pour la France on September 23, 1914, in Brienne-le-Château due to war injuries. He was born on November 6, 1881, in Saint-Laurent-de-la-Cabrerisse, in the département of Aude.

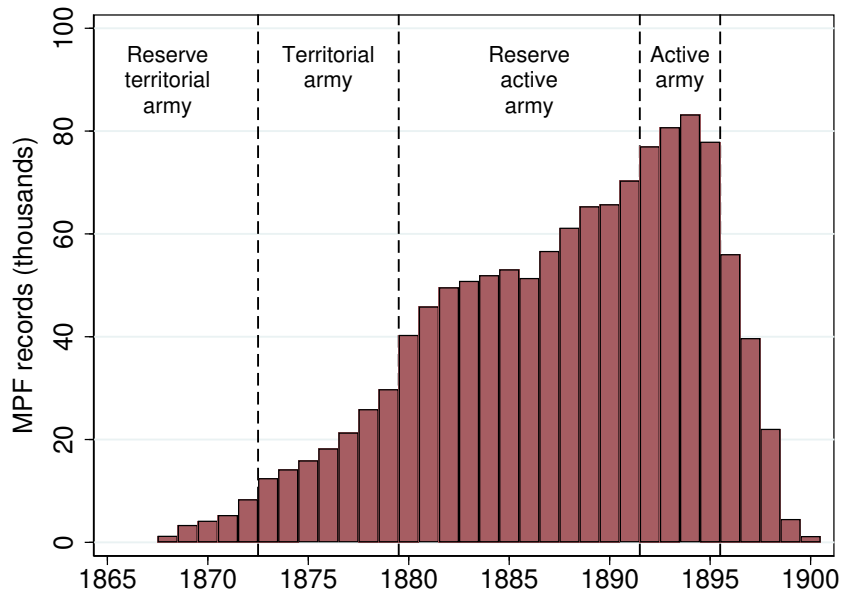


Figure 2. Distribution of Years of Birth Among MPF Records

Notes: Each bar represents the number of MPF records that were born in a given year. This figure is restricted to the cohorts 1866–1900, which represent 1,267,771 MPF records. It further indicates the armies to which MPF cohorts belonged in 1914 (post-1895 cohorts were drafted after 1914).

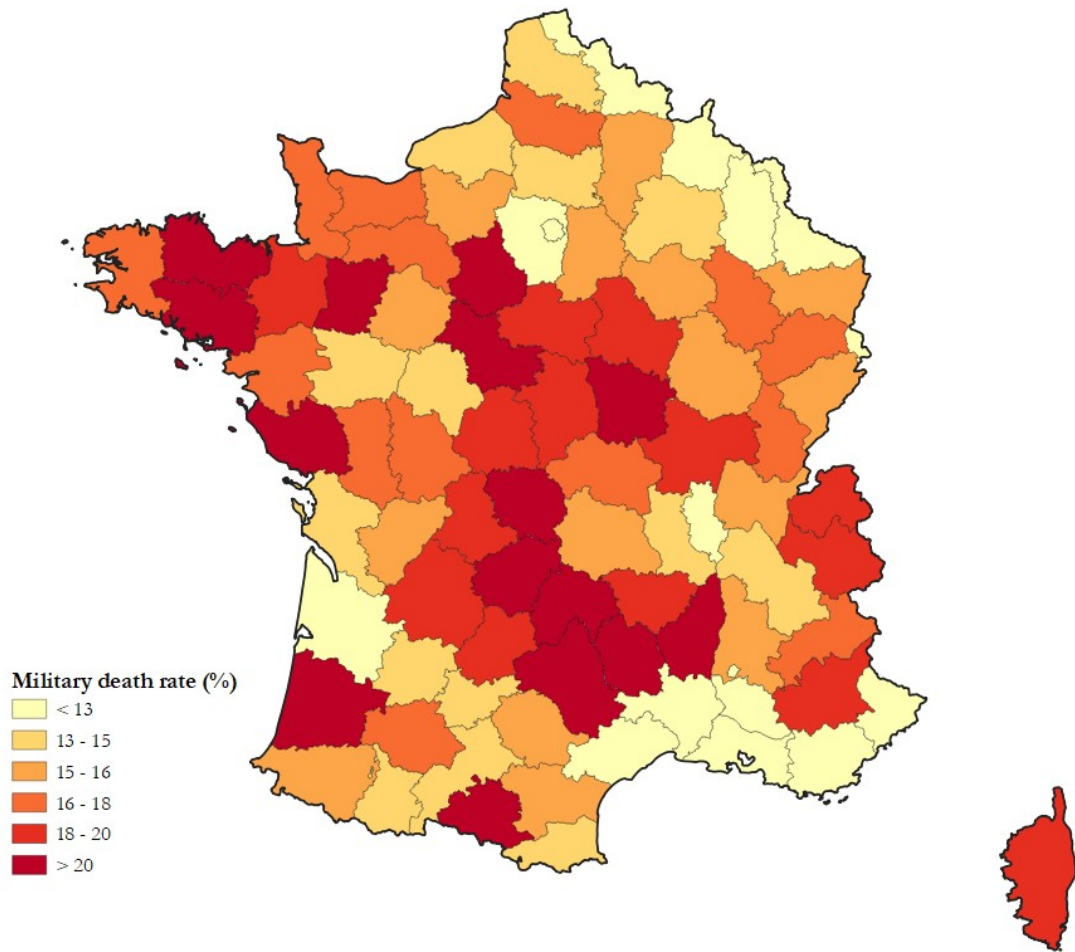


Figure 3. Military Death Rates across Départements

Notes: This figure displays the distribution of military death rates across départements. It is the ratio of non-civilian male MPFs who died between 1914 and 1919 to the number of men aged 15–44 in 1911. The data are mapped in 1914 geography using the département-level shapefile of Gay (2020b).

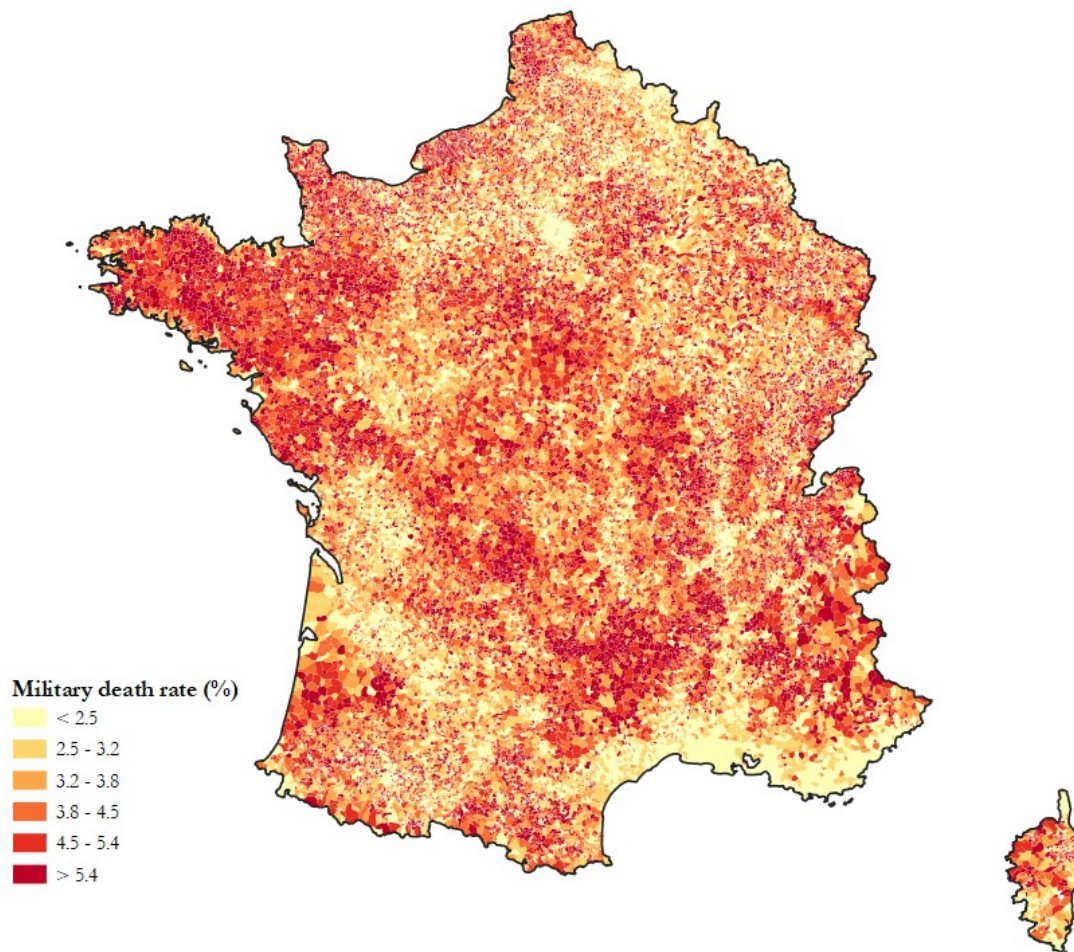


Figure 4. Military Death Rates across Municipalities

Notes: This figure displays the distribution of military death rates across municipalities within the boundaries of France as of 1914. It is the ratio of non-civilian male MPFs who died between 1914 and 1919 to the total population in 1911. The data are mapped in 2015 geography using the shapefile of IGN (2015).

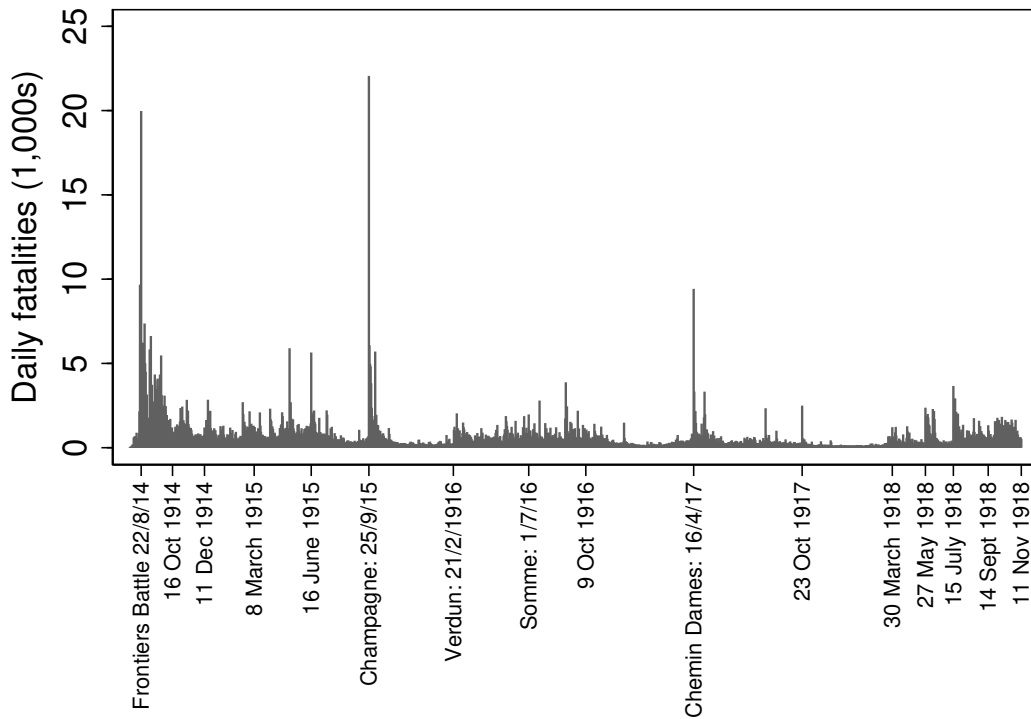


Figure 5. Daily Number of Military Fatalities

Notes: This figure displays the number of daily fatalities in the MPF database between 2 August 1914 and 11 November 1918 among non-civilian MPFs born in France and for which the date of death is available, 1,212,936 MPFs in total. Some notable, particularly deadly dates are highlighted with accompanying events on the front. Other dates are provided for reference.

Table 1. Variables in the MPF Database (1/2)

Category	Variable	Description	Values
Identifiers	ark	Mémoire des Hommes url	String
	id	Record unique identifier	Numeric
General	mpf	MPF status	Non MPF (0), MPF (1), Unsettled (2)
	gender	Gender	Male (1), Female (2)
	civilian	Civilian status	No (0), Yes (1)
Names	lname	Last name	String
	fname	First name	String
	oname_type	Other name type	See table notes.
	oname	Other name	String
Birth date	birth_date_flag	Birth date flag	See table notes
	birth_date	Birth date	Date
	birth_year	Birth year	Numeric
	birth_month	Birth month	Numeric
	birth_day	Birth day	Numeric
Death date	death_date_flag	Death date flag	See table notes
	death_date	Death date	Date
	death_year	Death year	Numeric
	death_month	Death month	Numeric
	death_day	Death day	Numeric
Recruitment class	class_flag	Recruitment class flag	See table notes
	class	Recruitment class	Numeric
	engage	Volunteer status	No (0), Yes (1)
Military rank	rank_det	Military rank, detailed	52 categories
	rank_gen	Military rank, general	Civilian (1), Enlisted (2), NCO (3), CO (4)
Military unit	unit_type	Military unit type	See table notes
	unit_id	Military unit id	Numeric
	unit	Military unit acronym	String
	unit_name	Military unit name	String
	unit_colony	Colonial military unit	No (0), Yes (1)

Notes: Values for **oname_type**: No other name (1), Ou (2), Alias (3), Dit (4), Née (5), Épouse (6). Values for **birth_date_flag**: Birth date available (1), Birth day missing (4), Birth month and day missing (7), Birth date entirely missing (8). Values for **death_date_flag**: Death date available (1), Death day missing (4), Death month and day missing (7), Death date entirely missing (8). Values for **class_flag**: Class available and in bounds pm 4 years (1), Class missing and inputted from birth year (2), Class out of bound (pm 3 years), inputted from birth year (4), Class missing and civilian (5), Class missing and female (6). Values for **unit_type**: Infantry (1), Artillery (2), Engineering (3), Cavalry (4), Other (5).

Table 2. Variables in the MPF Database (2/2)

Category	Variable	Description	Values
Birth place	birth_place_flag	Birth place flag	See table notes
	birth_cassini	Birth municipality identifier [Cassini]	Numeric
	birth_insee_2015	Birth municipality identifier [INSEE]	String
	birth_geofla_2015	Birth municipality identifier [GEOFLA]	String
	birth_x_geofla	Birth municipality latitude [GEOFLA]	Numeric
	birth_y_geofla	Birth municipality longitude [GEOFLA]	Numeric
	birth_dep_YYYY	Birth département identifier [INSEE, TRF-GIS]	String
	birth_dep_name_YYYY	Birth département name [INSEE, TRF-GIS]	String
	birth_com_name_YYYY	Birth municipality name [INSEE, TRF-GIS]	String
	Recruitment bureau	bureau_flag	Recruitment bureau flag
bureau_id		Recruitment bureau identifier	Numeric
bureau_name		Recruitment bureau name [TRF-GIS]	String
bureau_mreg		Recruitment bureau military region identifier [TRF-GIS]	String
bureau_mreg_name		Recruitment bureau military region name [TRF-GIS]	String
bureau_mregsub		Recruitment bureau military region-subdivision identifier [TRF-GIS]	String
bureau_msub		Recruitment bureau military subdivision identifier [TRF-GIS]	String
bureau_msub_name		Recruitment bureau military subdivision name [TRF-GIS]	String
bureau_cassini		Recruitment bureau municipality identifier [Cassini]	Numeric
bureau_insee_2015		Recruitment bureau municipality identifier [INSEE]	String
bureau_geofla_2015		Recruitment bureau municipality identifier [GEOFLA]	String
bureau_x_geofla		Recruitment bureau municipality latitude [GEOFLA]	Numeric
bureau_y_geofla		Recruitment bureau municipality longitude [GEOFLA]	Numeric
bureau_dep_YYYY		Recruitment bureau département identifier [INSEE, TRF-GIS]	String
bureau_dep_name_YYYY		Recruitment bureau département name [INSEE, TRF-GIS]	String
bureau_com_name_YYYY		Recruitment bureau municipality name [INSEE, TRF-GIS]	String

Notes: Values for `birth_place_flag`: Commune available (1), Commune available, Alsace-Lorraine (2), Département available only (3), Birth place missing (4). Values for `bureau_flag`: Current recruitment bureau (1), Former recruitment bureau (2), Split recruitment bureau (3), Recruitment bureau département only (4), Recruitment bureau city only (5), Former recruitment bureau, Alsace-Lorraine (6), Recruitment bureau out of France (7). YYYY: information relative to the geographic information systems of 2015 (INSEE, 2015; IGN, 2015), 1911, and 1921 (Gay, 2020a; Gay, 2020d; Gay, 2021)

Table 3. MPFs and Military Death Rates

	Obs.	Mean	S.d.	Min.	Max.
A. Level of aggregation: départements					
MPFs	87	14,481	10,231	2,591	81,272
Total population in 1911	87	450,461	468,396	100,203	4,090,028
Male population aged 15–44 in 1911	87	100,855	122,464	21,620	1,090,751
Military death rate (total)	87	3.48	0.66	1.72	5.45
Military death rate (male 15–44)	87	16.27	3.91	6.78	29.57
B. Level of aggregation: municipalities					
MPFs	34,903	36	140	0	8,814
Total population in 1911	34,903	1,138	6,915	17	550,619
Military death rate (total)	34,903	4.00	1.95	0.00	58.20

Notes: This table provides the summary statistics for MPFs and military death rates at two levels of aggregation: départements and municipalities. Information for the total population and male population aged 15–44 in 1911 is from the census of 1911. France’s territory exclude Alsace-Lorraine and the communes of La Brigue and Tende. MPFs include non-civilian MPFs born in France outside of Alsace-Lorraine and who died between 1914 and 1919.