Six's Generals: A Quantitative Introduction

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Introduction

This document is a tour of what the structured data can reveal about the French generals of the Revolutionary and Napoleonic Wars. The sections that follow take up eight questions in turn. How were ranks structured, and how fast did careers move? Where did the generals come from? Who made it onto the Arc de Triomphe, and where? Which battles mattered most, and does the quality of a battlefield's senior officers predict whether France won? Where were generals assigned across the named armies of the period? What did post-career provisions — pensions and retirement — look like? And how did the imperial honor system work, both as an institution and as a response to individual battles?

The underlying data come from Georges Six's *Dictionnaire biographique des généraux et amiraux français de la Révolution et de l'Empire* (1934), a two-volume reference work covering 2,206 generals and admirals who served between roughly 1792 and 1815. Six organized each biography as a semicolon-delimited series of facts — rank promotions, unit assignments, campaigns, wounds, honors — which makes the text unusually amenable to structured extraction. The pipeline that converted Six's prose into the dataset used here is described in detail in the companion document, *Digitizing Georges Six's* Dictionnaire biographique*: A Data Pipeline for French Revolutionary Military Biography*.

```
Entries: 2,206
Total clauses: 88,465

Clause types:
clause_type
appointment       18591
service           17299
rank_promotion    17180
unknown           11836
administrative     8171
battle             6962
honor              5146
injury             2855
death               221
personal            204
```

Coverage and data quality

The 2,206 entries generate **{python} f"{len(df):,}"** clauses across all clause types. Coverage is uneven — Six devoted more space to more prominent careers — but the broad biographical facts (birth date, death date, birth place) are present for a large share of entries.

```
Entries with birth year:  2,071 (94%)
Entries with birth dept:  1,549 (70%)
Entries with death year:  950 (43%)
```

Ranks and careers

The rank hierarchy

Six's text uses the vocabulary of three distinct eras — the Old Regime, the Revolution, and the Empire — each with its own rank names and promotion logic. The table below shows the 18-level canonical hierarchy used to normalize these across periods, collapsing synonymous titles onto a single ordered level.

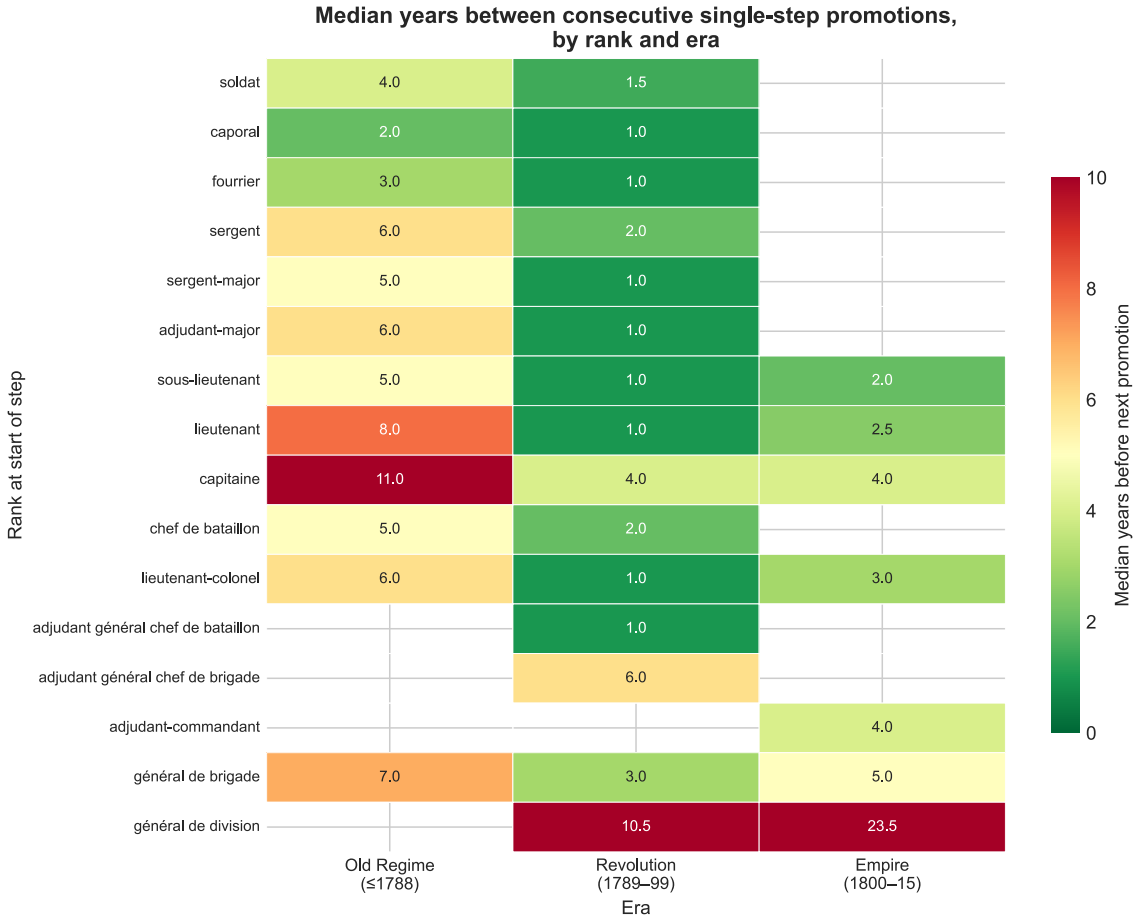
Order	Canonical name	Tier	Representative raw values
1	soldat	enlisted	*soldat, volontaire, grenadier, canonnier*
2	caporal	enlisted	*caporal, brigadier*
3	fourrier	NCO	*fourrier*
4	sergent	NCO	*sergent, maréchal des logis*
5	sergent-major	NCO	*sergent-major, maréchal des logis chef*
6	adjudant-major	NCO	*adjudant-major, adjudant sous-officier*
7	sous-lieutenant	subaltern	*sous-lieutenant, enseigne, 2e lieutenant, cadet*
8	lieutenant	subaltern	*lieutenant, premier lieutenant*
9	capitaine	subaltern	*capitaine, capitaine-commandant*
10	chef de bataillon	field	*chef de bataillon, chef d'escadrons, major*
11	lieutenant-colonel	field	*lieutenant-colonel*
12	colonel	field	*colonel, chef de brigade, mestre de camp*
13	adjudant général chef de bataillon	staff-general	
14	adjudant général chef de brigade	staff-general	*adjudant général*

Order	Canonical name	Tier	Representative raw values
15	adjudant-commandant	staff-general	
16	général de brigade	general	*général de brigade, maréchal de camp, contre-amiral*
17	général de division	general	*général de division, lieutenant général, vice-amiral*
18	maréchal de france	marshal	*maréchal de france, amiral*

The Old Regime fast-track used *en second* positions — *capitaine en second*, *lieutenant en second*, *colonel en second* — to slot well-connected officers into the seniority ladder at an accelerated pace. These positions map onto the same canonical level as their base rank but carry a separate `is_en_second` flag, detectable from clause text even when absent from the parsed `d_to_rank` field.

Promotion speed across eras

For each general with at least three dated rank promotions, consecutive single-step promotions (advancing exactly one canonical level) are timed. The figure below shows the median wait at each rank before the next promotion, broken out by era.



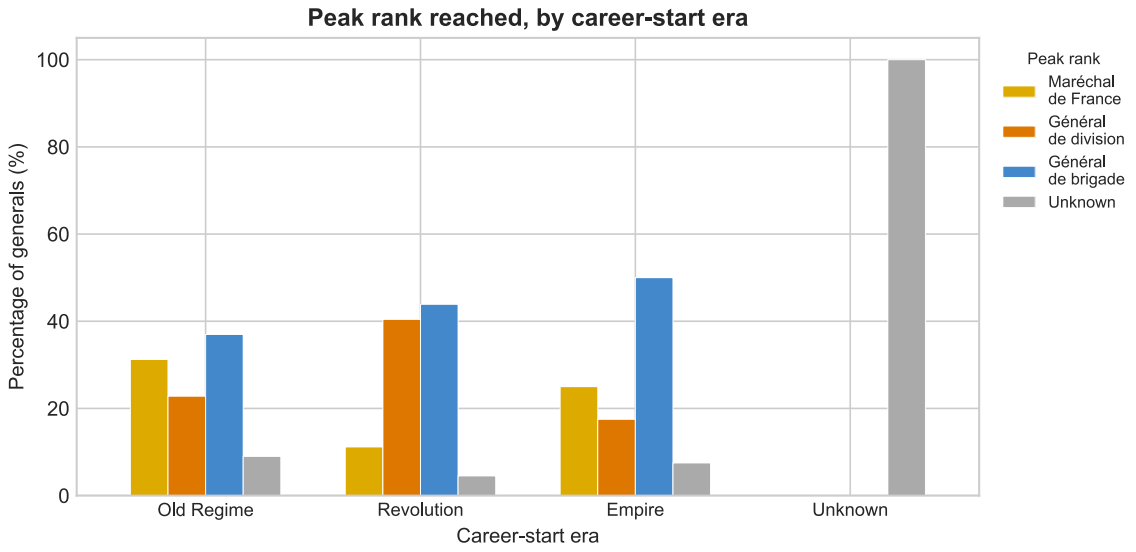
The figure tells a sharp story: promotion times at every level of the hierarchy collapsed during the Revolution, then partially recovered under the Empire. The pre-Revolutionary median wait was roughly five years per step; the Revolutionary median fell to about one year. The Empire settled at roughly four years — faster than the Old Regime, but far slower than the Revolution at its peak.

The mechanism behind that compression is over-determined: the seniority rules that had governed the Old Regime were abolished; the army expanded from roughly 180,000 to over 700,000 men between 1789 and 1794; and performance displaced birth as the operative criterion for advancement. The data cannot separate these causes, but the scale of the shift is unambiguous.

Did individual momentum matter?

If fast promotion at one rank predicts fast promotion at the next, there is an individual-level "momentum" effect operating independently of era. The correlation between consecutive wait times (same general, same era) is $r = 0.003$ ($p = 0.92$) after removing era-level means — statistically indistinguishable from zero. The Revolution was a tide that lifted all boats equally. The one exception is a within-Revolution correlation of $r = 0.13$ ($p = 0.001$), consistent with a modest merit-selection signal even within the accelerated environment.

Peak rank reached



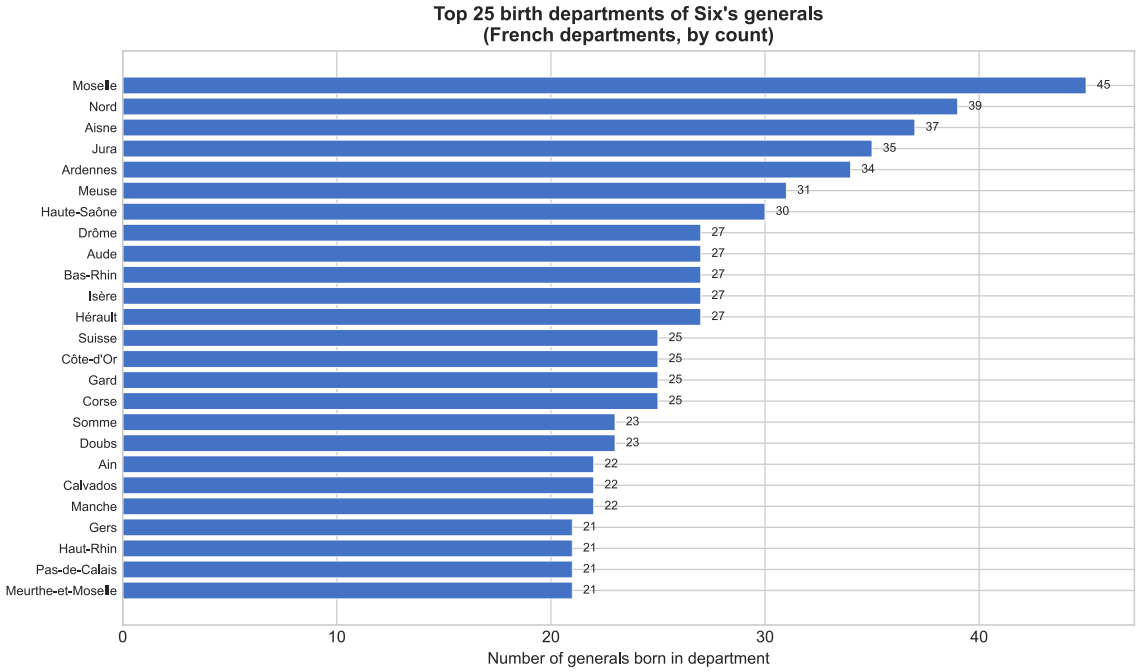

```
Rate reaching général de division or higher, by career-start era:
  Old Regime: 54.0%
  Revolution: 51.6%
  Empire: 42.5%
```

```
/var/folders/ym/dbdl0gj10tbdhp5s1w8svtbh0000gp/T/
ipykernel_13446/2759942817.py:48: FutureWarning: DataFrameGroupBy.apply
operated on the grouping columns. This behavior is deprecated, and in a future
version of pandas the grouping columns will be excluded from the operation.
Either pass `include_groups=False` to exclude the groupings or explicitly
select the grouping columns after groupby to silence this warning.
  div_rate = meta.groupby('career_era').apply(
```

Revolutionary-era career starters reached général de division at the highest rate — a reflection of both the institutional opening and the extraordinary demand the Republic placed on its officer corps. The Empire rate is lowest, partly because the pool was larger and the path to the top more contested, and partly because many Empire-era careers were simply cut short by defeat and demobilization in 1814–15.

Geography of French generalship

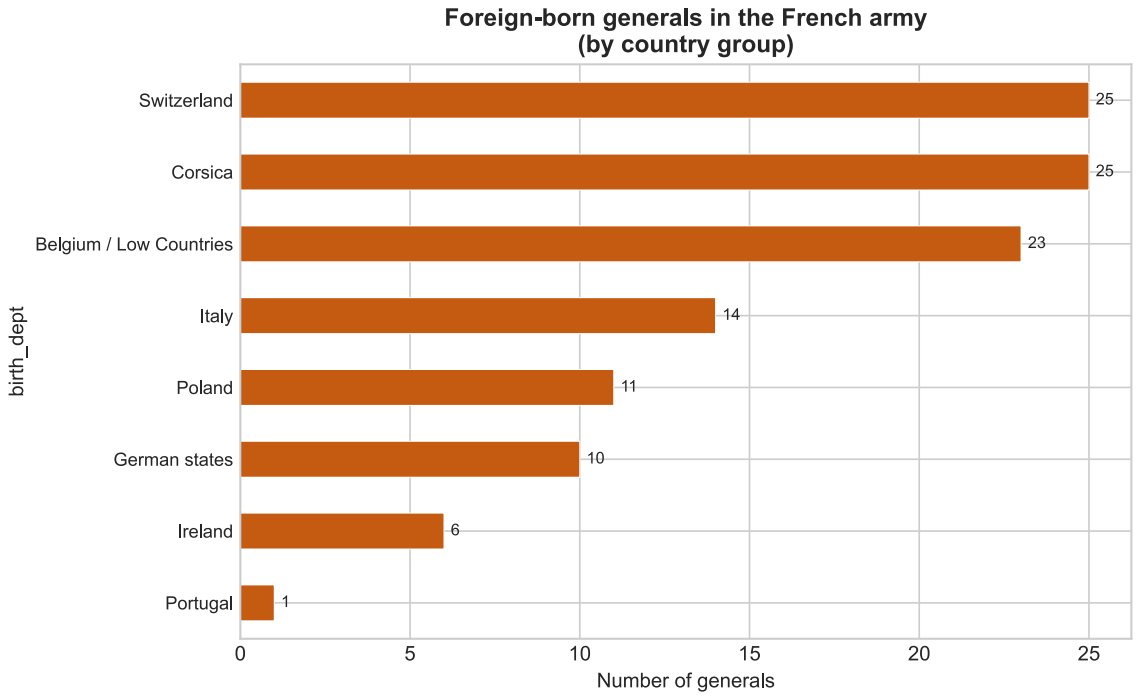
Where the generals came from




```
Total entries with parseable birth_dept: 1,549
Distinct departments: 195
```

The eastern frontier — Lorraine, Alsace, Moselle, and adjacent departments — produced by far the most generals. This reflects the dense garrison presence on France's most contested border: a generation of young men grew up in a militarized environment, with career paths in the officer corps more visible and accessible than elsewhere. Paris and the Seine also rank high, as one would expect for the administrative capital.

Foreign-born generals in the French army




```
Foreign-born generals identified: 115
```

Foreign-born generals in the French army are sharply stratified by era. German, Swiss, and Irish officers are overwhelmingly pre-Revolutionary — products of the Old Regime's tradition of foreign regiments (the *régiments étrangers*) and of the Wild Geese families who had served France since the 1690s. Belgian and Italian generals skew Revolutionary, absorbed as France annexed the Austrian Netherlands and northern Italy after 1795. The pattern reflects the transformation of the French army from an institution that recruited foreign professionals to one that drafted citizens and their newly conquered neighbors.

Six's allied-contingent supplement

Six also compiled a supplementary *Liste des généraux étrangers* covering 315 generals who served not in the French army proper but in allied contingents — the Confederation of the Rhine satellite armies, the Duchy of Warsaw, the Kingdom of Italy, and the Kingdom of Naples. That list is dominated by Saxon (55), Polish (55), Italian (49), Westphalian (38), and Württemberg (36) generals, reflecting the Napoleonic empire's reliance on client-state officer corps.

The structural contrast is illuminating: Swiss and Belgian officers were absorbed directly into the French army, while German and Polish generals led their own national contingents alongside it. The distinction maps almost perfectly onto which territories France annexed outright and which it governed through client monarchies.

The Arc de Triomphe

The 660 names inscribed on the four inner pillars of the Arc de Triomphe can be cross-referenced against Six's *Dictionnaire* to ask which generals received the fullest treatment and where they sit in the monument's physical geography. Each pillar carries roughly 165 names arranged in 10 columns of 16–17 rows. The North and South pillars each reserve the top of the central column for a Bonaparte — Jérôme on the North, Louis on the South — flanked by the most senior marshals and divisional generals.

The figure below maps all four pillars as heatmaps: cell color encodes the log number of clauses in Six's entry for that general (yellow = sparse, dark red = rich), and border color encodes peak rank achieved (blue = général de brigade, orange = général de division, gold = maréchal de France). Cells in gray are names on the Arc that do not appear in Six's *Dictionnaire* (~14–16% per face).

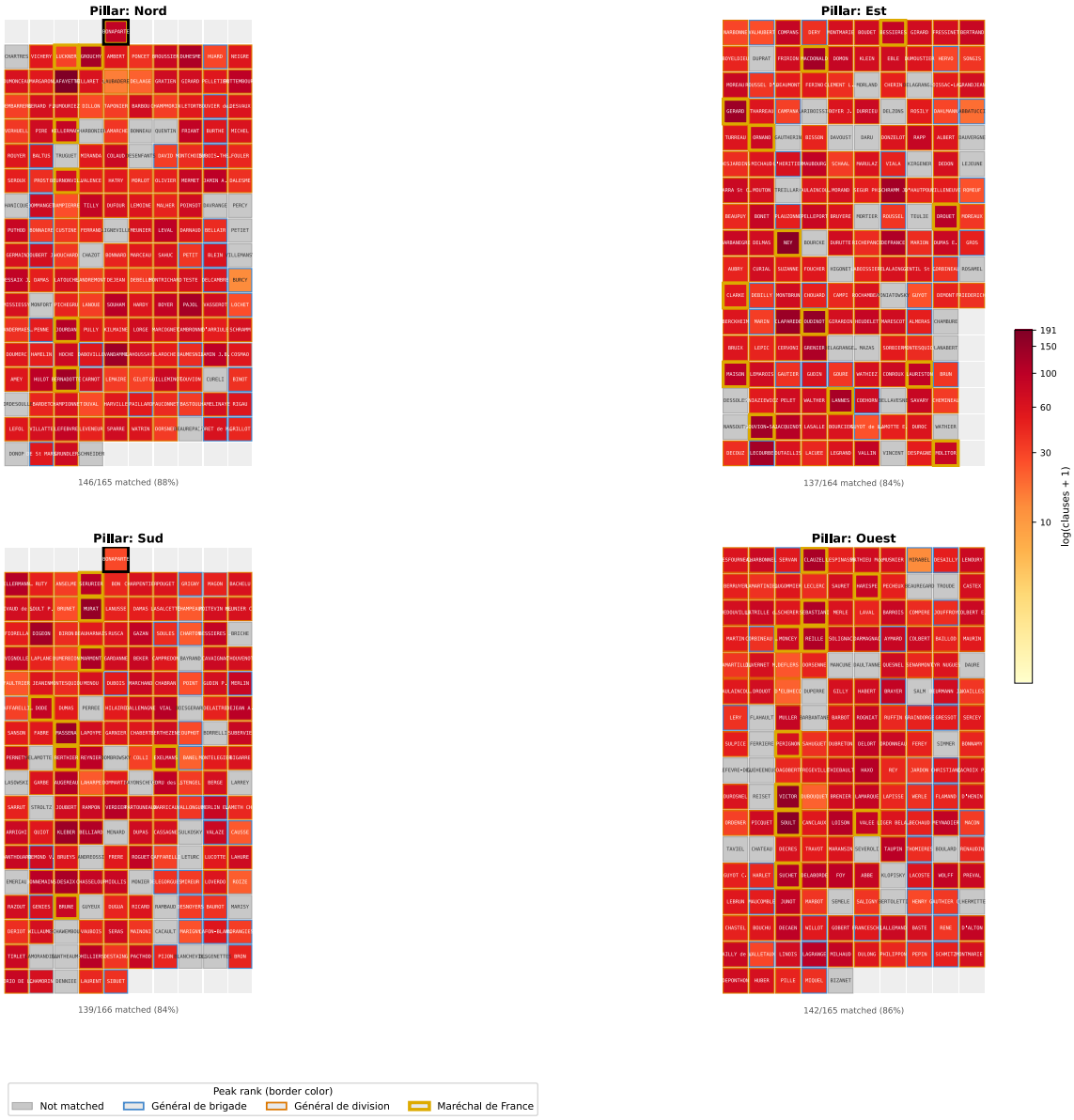


Figure 1: Arc de Triomphe — Six's entry depth by pillar. Cell color = clause count; border = peak rank. Black outline marks the Bonaparte cells at the top of the central column on the North and South faces.

The matched generals (84–88% per face) reveal a clear spatial logic: the most intensely documented figures are concentrated in the upper rows of each pillar, and the marshals' gold borders

cluster most densely in the East pillar (Italy, Danube, Helvetia campaigns). The Arc's geography — organized army by army, theater by theater — maps directly onto Six's depth of coverage.

Battle portfolios

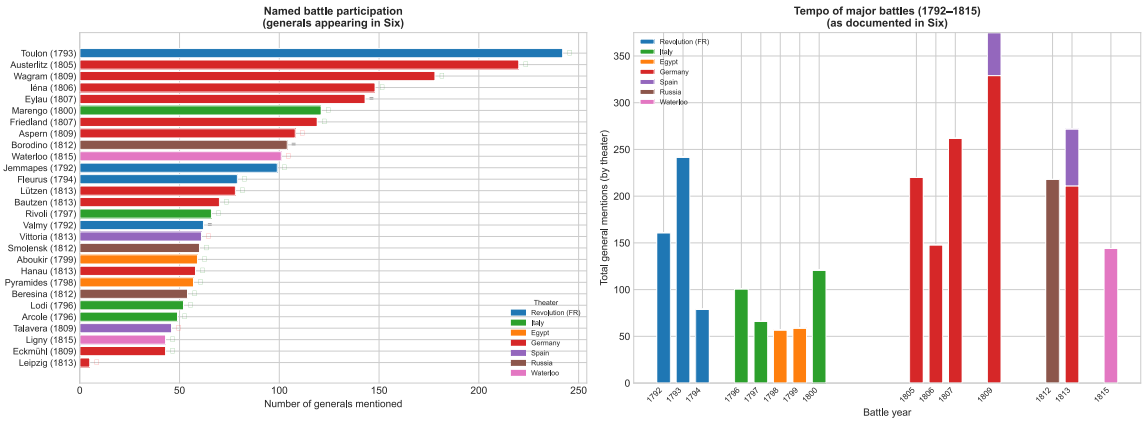
Which battles appear most in Six's text?

```
Generals with ≥1 named battle: 1,012 (45.9%)

Battle participation counts:
Toulon        242
Austerlitz    220
Wagram        178
Iéna          148
Eylau         143
Marengo       121
Friedland     119
Aspern        108
Borodino      104
Waterloo      101
Jemmapes       99
Fleurus        79
Lützen         78
Bautzen        70
Rivoli         66
Valmy          62
Vittoria       61
Smolensk       60
Aboukir        59
Hanau          58
Pyramides      57
Beresina       54
Lodi           52
Arcole         49
Talavera       46
Eckmühl        43
Ligny          43
Leipzig         5
```

```
/var/folders/ym/dbdl0gj10tbdhp5s1w8svtbh0000gp/T/
ipykernel_13446/2835880511.py:48: UserWarning: Glyph 10007 (\N{BALLOT X})
missing from font(s) Arial.
  plt.tight_layout()
/var/folders/ym/dbdl0gj10tbdhp5s1w8svtbh0000gp/T/
ipykernel_13446/2835880511.py:48: UserWarning: Glyph 10003 (\N{CHECK MARK})
missing from font(s) Arial.
  plt.tight_layout()
```

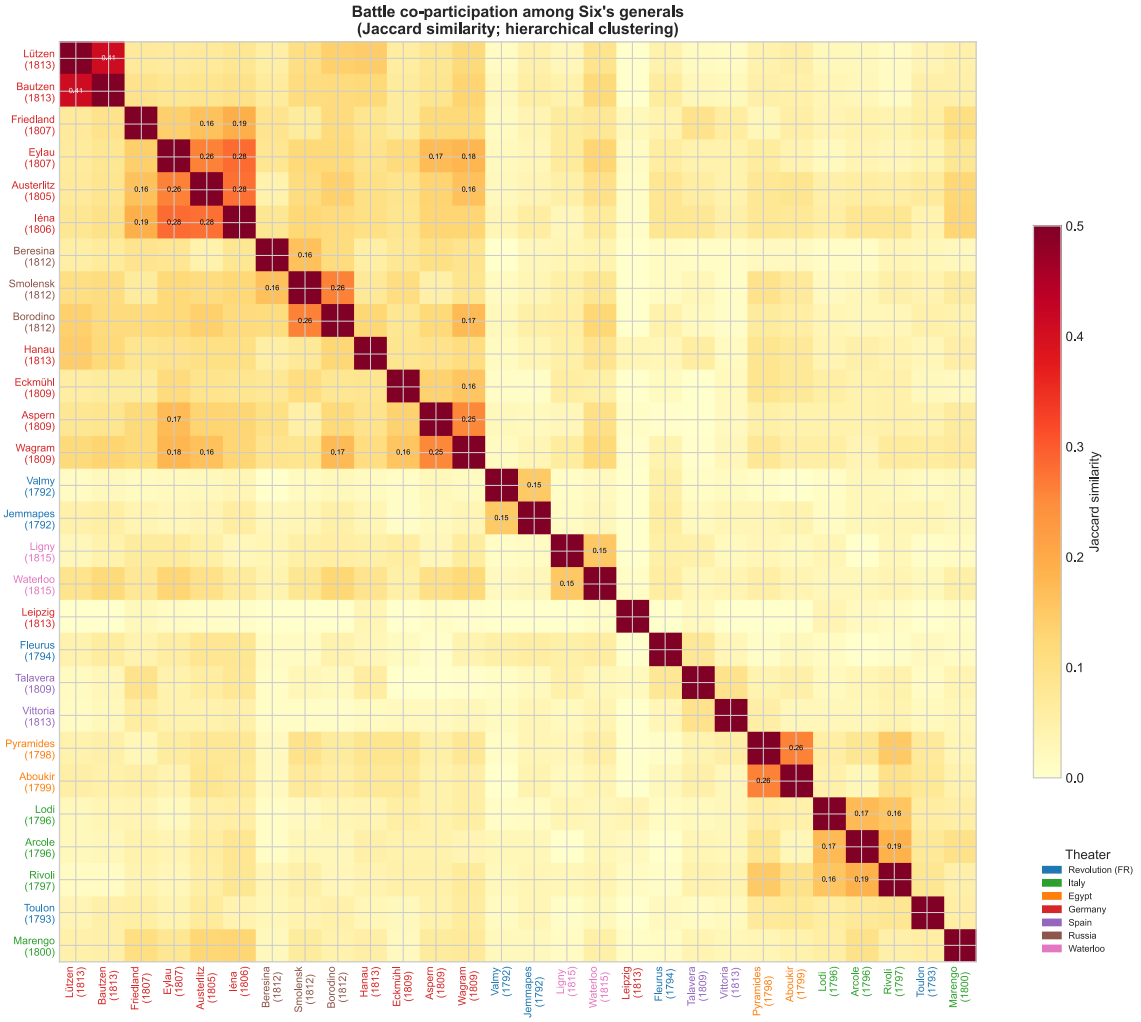
```
/Users/rjc/portfolio/generals/.venv/lib/python3.12/site-packages/IPython/core/
pylabtools.py:170: UserWarning: Glyph 10007 (\N{BALLOT X}) missing from
font(s) Arial.
  fig.canvas.print_figure(bytes_io, **kw)
/Users/rjc/portfolio/generals/.venv/lib/python3.12/site-packages/IPython/core/
pylabtools.py:170: UserWarning: Glyph 10003 (\N{CHECK MARK}) missing from
font(s) Arial.
  fig.canvas.print_figure(bytes_io, **kw)
```



Toulon (242 generals) and Austerlitz (220) are the two battles with the largest footprint in Six's text, followed by Wagram, Iéna, and Eylau. The 1813 battles that ended Napoleon's German campaign — Leipzig, Lützen, Bautzen — are less prominent than their historical significance might suggest, partly because Six's text uses period spellings that differ from modern ones (Leipzig appears as *Leipsick* in the OCR, Beresina as *Bérésina*), and partly because the defeated army's veterans were less likely to accumulate honors and subsequent career clauses that would bring those battles into the biographical record.

Which battles cluster together?

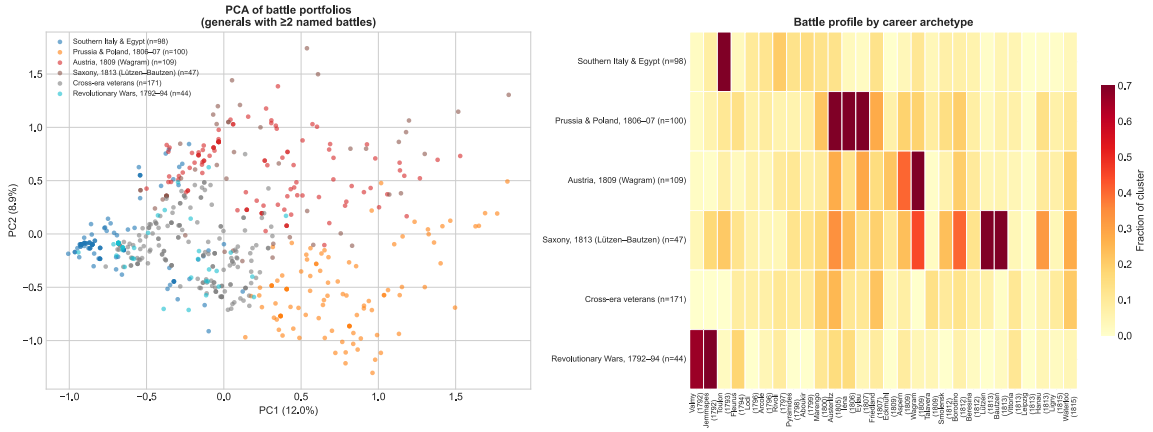
Generals who fought in one battle tended to fight in others in the same theater and year. The Jaccard similarity matrix below reveals this co-participation structure.



The German campaign battles cluster tightly by period: the 1806–07 Prussian battles (Iéna, Eylau, Friedland) form one block; the 1809 Austrian battles (Wagram, Aspern, Eckmühl) another; and the 1813 Saxon campaign (Lützen, Bautzen) a third. The Revolutionary and Egyptian battles are an island unto themselves, connected to the Empire-era campaigns mainly through the small cohort of generals old enough to have served in both.

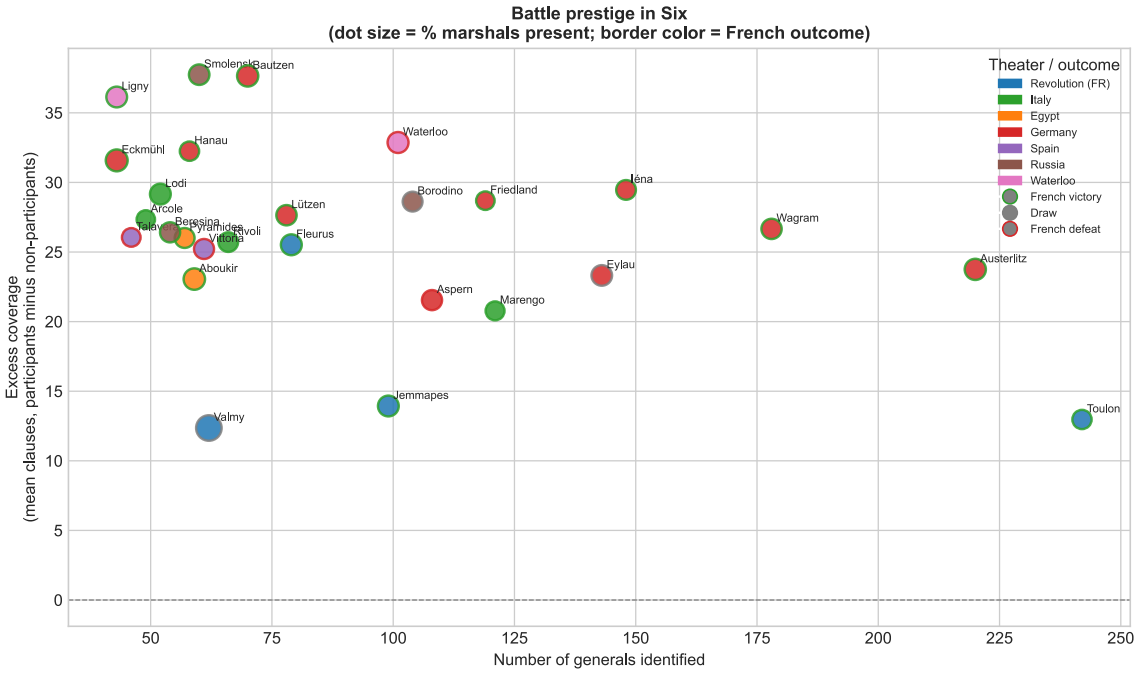
Career archetypes from battle portfolios

```
Cluster 0 (n=98): dominant battles = Toulon, Rivoli, Aboukir
Cluster 1 (n=100): dominant battles = Iéna, Austerlitz, Eylau
Cluster 2 (n=109): dominant battles = Wagram, Aspern, Eylau
Cluster 3 (n=47): dominant battles = Lützen, Bautzen, Wagram
Cluster 4 (n=171): dominant battles = Austerlitz, Friedland, Waterloo
Cluster 5 (n=44): dominant battles = Jemmapes, Valmy, Fleurus
```



Six distinct career archetypes emerge from a k-means clustering on battle participation portfolios. The largest (n=171) is the cross-era group — generals who appear in battles from Austerlitz through Waterloo, suggesting either long careers or particularly well-documented service. The Southern Italy and Egypt cluster captures the cohort formed by the Italian campaigns of 1796–99, many of whom went on to senior roles in the Empire. The Revolutionary cluster (n=44) is the most historically distinctive: generals who fought at Jemmapes and Fleurus but largely did not survive or adapt into Napoleonic service.

Battle prestige: which battles attracted the most distinguished participants?



```
Battles ranked by excess coverage (mean clauses):
            n_generals  excess_coverage  frac_marshal
battle
Smolensk            60            37.74          0.20
Bautzen             70            37.65          0.23
Ligny               43            36.14          0.21
Waterloo           101            32.87          0.22
Hanau               58            32.25          0.16
Eckmühl             43            31.58          0.26
Iéna               148            29.46          0.17
Lodi                52            29.16          0.21
Friedland          119            28.69          0.13
Borodino           104            28.62          0.17
Lützen              78            27.64          0.19
Arcole              49            27.34          0.12
Wagram             178            26.66          0.19
Beresina            54            26.41          0.19
Talavera            46            26.05          0.13
Pyramides           57            26.01          0.18
Rivoli              66            25.71          0.17
Fleurus             79            25.52          0.22
Vittoria            61            25.22          0.18
Austerlitz         220            23.75          0.23
Eylau              143            23.32          0.20
Aboukir             59            23.06          0.24
Aspern             108            21.55          0.19
Marengo            121            20.77          0.14
Jemmapes            99            13.94          0.21
Toulon             242            12.97          0.15
Valmy               62            12.36          0.42
```

Smolensk, Bautzen, and Ligny top the prestige ranking by "excess coverage" — generals who fought there received far more biographical space from Six than those who did not. This reflects selection: smaller, later battles (1812–15) attracted generals who had already accumulated long careers, and those careers generated more clauses. Toulon and Valmy, despite their historical fame, score low on excess coverage because they were early-career battles; the young officers who fought there in 1793 had not yet done most of the things Six would eventually record.

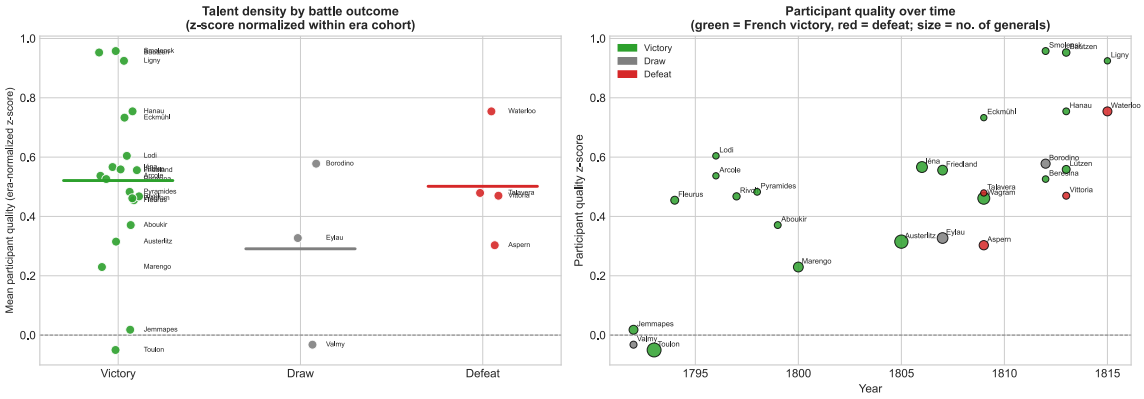
The coaching-staff question: did better generals win more battles?

If Six's clause count is a proxy for a general's historical distinction — and he was generally more thorough with more prominent careers — we can ask whether battles in which the French contingent was richer in eventual talent tended to be French victories.

```
Mean era-normalized participant quality (z-score):
  Victories (n=20): +0.521
```

```
Defeats   (n=4):  +0.502
Draws     (n=3):  +0.291

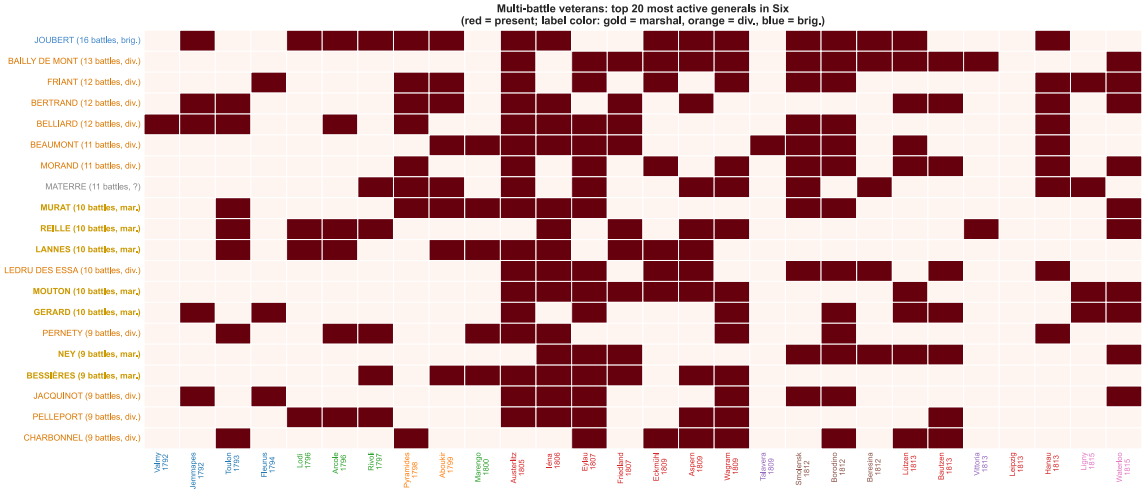
t-test (victories vs. defeats): t=0.14, p=0.893
```



The answer to the coaching-staff question is essentially no: there is no significant difference in mean participant quality between French victories and defeats (t = 0.14, p = 0.89). Waterloo is the most striking illustration — it has the highest participant quality score of any battle (the cream of the Imperial Army assembled for a final campaign) and is a French defeat. The quality of senior officers, as measured by eventual biographical coverage in Six, does not predict which side won.

This is perhaps not surprising. The outcome of a Napoleonic battle depended on logistics, timing, allied coordination, and the decisions of a small number of very senior commanders — not on the average distinction of the hundred-odd generals present. What the result does confirm is that Six's coverage correlates with career longevity and accumulated honors more than with battlefield performance at any individual engagement.

Veterans: who fought the most named battles?



```
Top 20 battle veterans:
  JOUBERT               16 battles  brig.
  BAILLY DE MONTHION    13 battles  div.
  FRIANT                12 battles  div.
  BERTRAND              12 battles  div.
  BELLIARD              12 battles  div.
  BEAUMONT              11 battles  div.
  MORAND                11 battles  div.
  MATERRE               11 battles  ?
  MURAT                 10 battles  mar.
  REILLE                10 battles  mar.
  LANNES                10 battles  mar.
  LEDRU DES ESSARTS     10 battles  div.
  MOUTON                10 battles  mar.
  GERARD                10 battles  mar.
  PERNETY                9 battles  div.
  NEY                    9 battles  mar.
  BESSIÈRES              9 battles  mar.
  JACQUINOT              9 battles  div.
  PELLEPORT              9 battles  div.
  CHARBONNEL             9 battles  div.
```

Unit assignments and army service

The 18,591 appointment clauses in the dataset record how Six understood career *movement* — every reassignment, staff posting, inspection tour, and colonial commission that marked a general's trajectory. Where the promotion clauses in Section 2 measure ascent through the rank hierarchy, appointment clauses map the geographic and institutional breadth of a career.

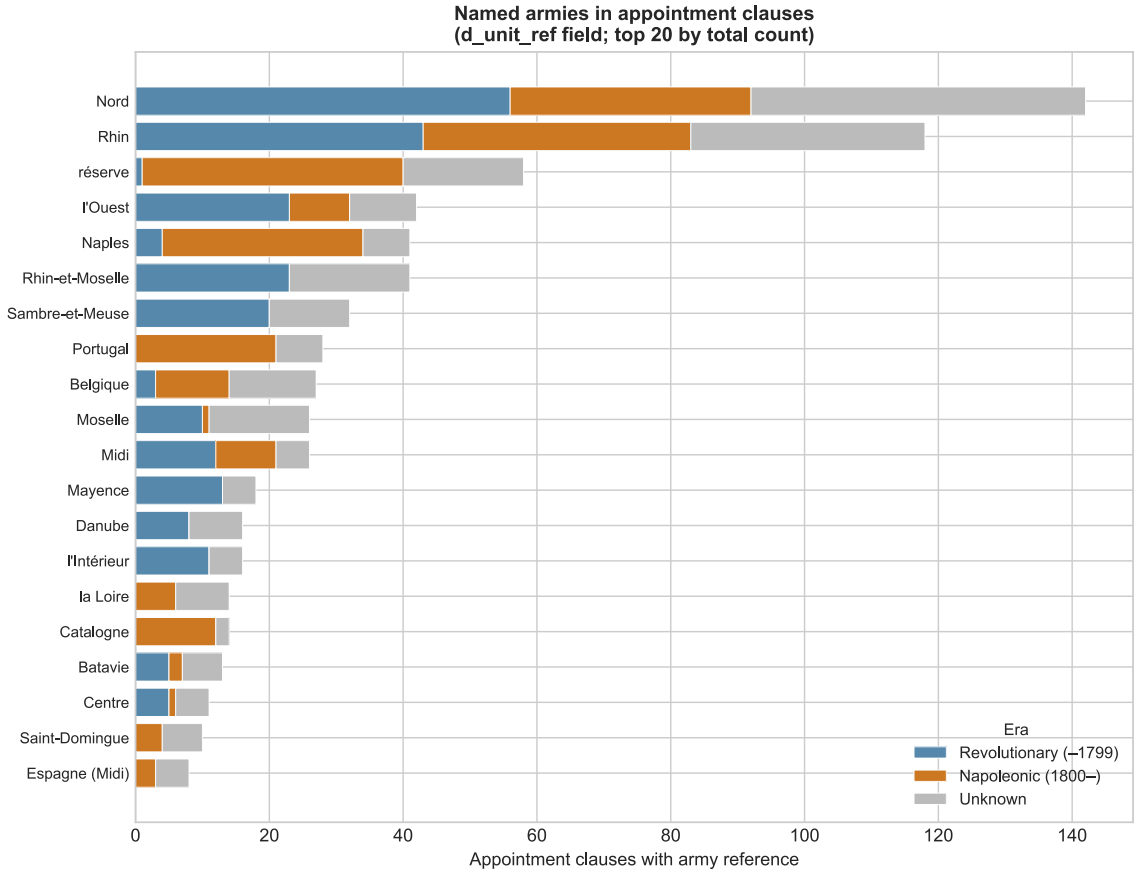
Because Six's prose is the source, army names appear in their historical form. The *armée du Nord*, the *armée de Sambre-et-Meuse*, and the *Grande Armée* are distinct entries in Six's text, not labels imposed by later historiography — the same OCR-driven normalization challenge that produced Leipsick and Bérésina in the battle section applies here too.

```
Appointment clauses : 18,591
Generals with ≥1    : 2,082
d_unit_ref filled   : 963  (5.2 %)
d_person_ref filled : 506  (2.7 %)
```

Named armies

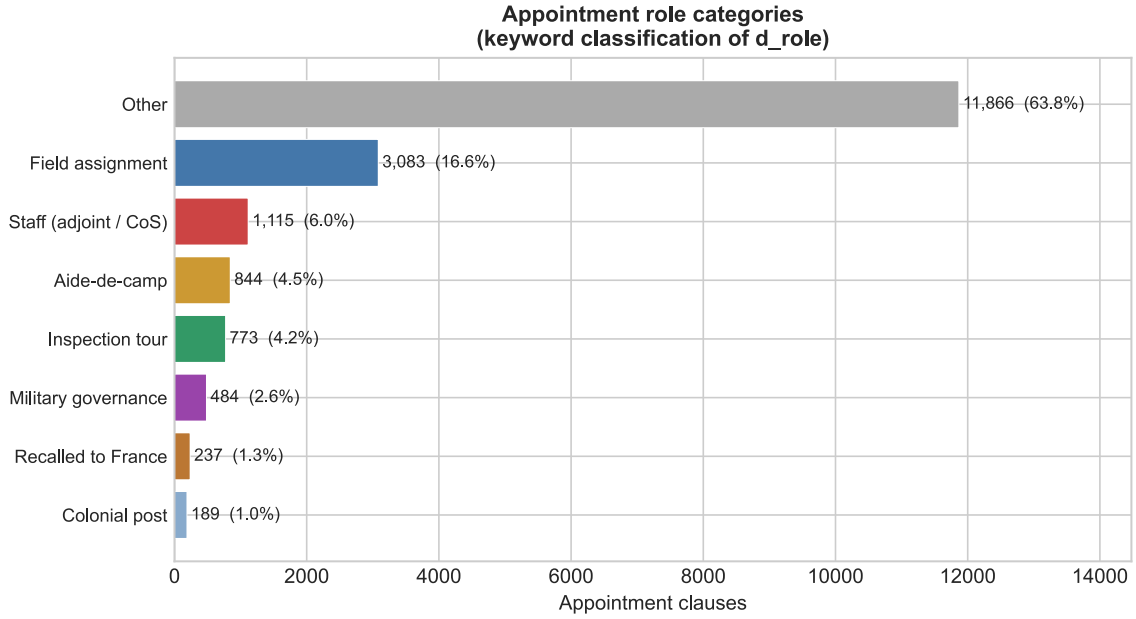
The pipeline extracts an army-reference field (`d_unit_ref`) from appointment clauses wherever the grammar is sufficiently regular. Coverage is partial — about 5 % of appointments yield a clean reference — but the distribution is historically coherent. The Revolutionary period is dominated by the frontier armies of the Rhine corridor and the Low Countries; after 1800 the Grande Armée

absorbs the largest share of assignments, with Spain and Portugal growing steadily from 1808 onward.



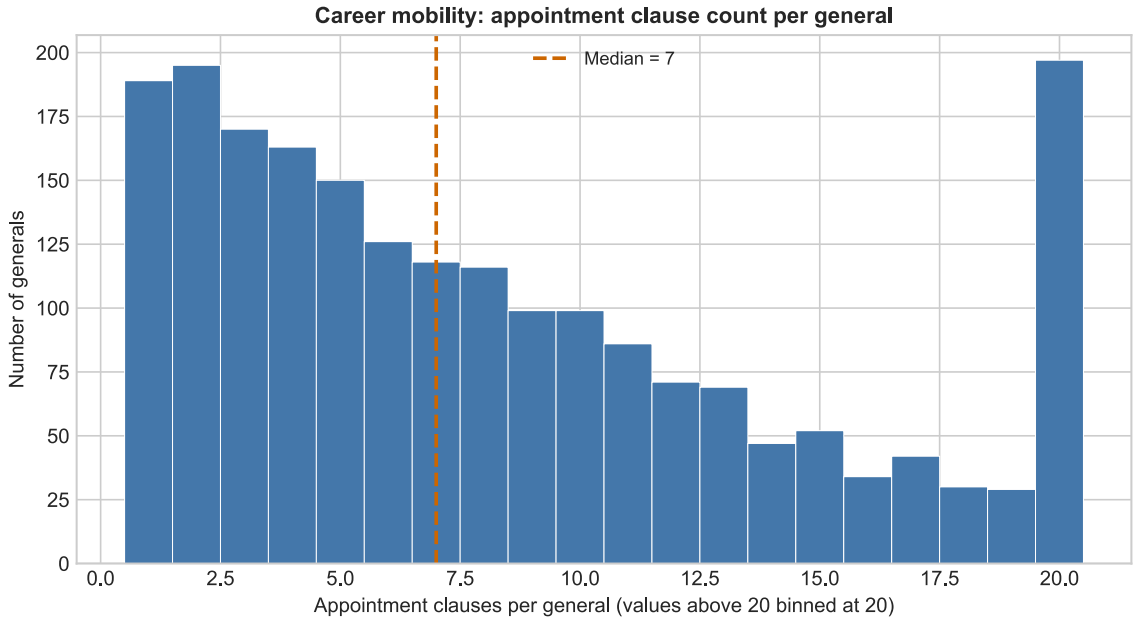
Career roles

Not all appointment clauses record field assignments. A significant fraction document inspection tours, administrative governance of *divisions militaires*, colonial postings, and simple recalls to Paris. The taxonomy below is extracted from `d_role` keyword patterns and illustrates the range of institutional roles Six felt worth recording alongside battlefield service.



Career mobility

The distribution of appointment clauses per general is strongly right-skewed: most generals appear in one or two such clauses, while a small number accumulate a dozen or more reassignments across decades of service. High counts tend to mark generals who survived long enough to cycle through multiple theaters — or who spent significant time in staff and inspection roles between field commands.



```
Most frequently reassigned generals:
  SCHRAMM                    58 appointments
  HAXO                       45 appointments
  GOUVION-SAINT-CYR          42 appointments
  VICTOR                     42 appointments
  CLAPAREDE                  41 appointments
```

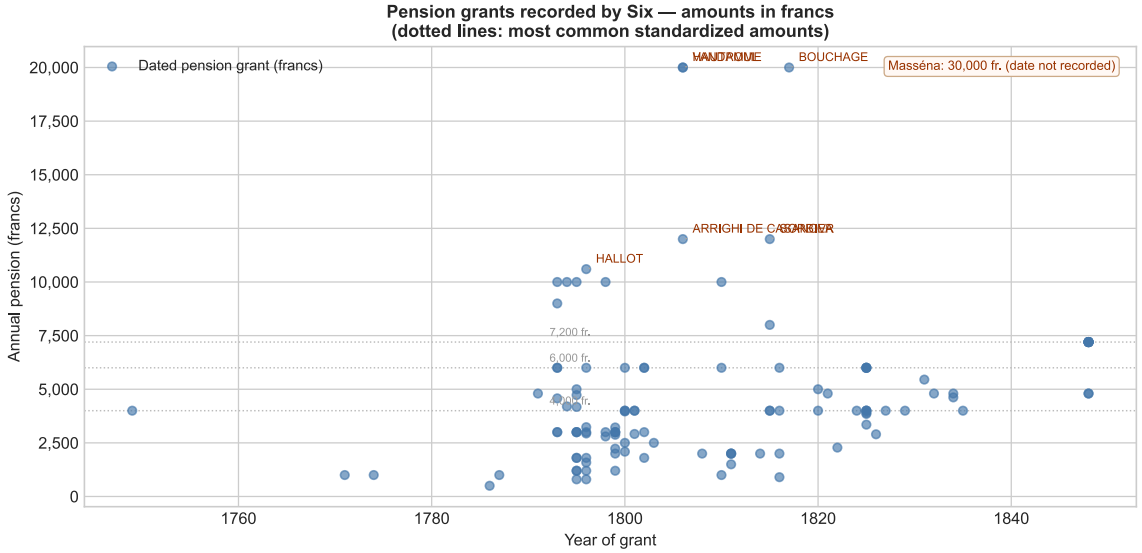
The 2.7 % of appointment clauses that carry a `d_person_ref` value record aide-de-camp relationships — appointments explicitly phrased as service under a named superior. This is too sparse for a full network analysis (506 clauses across the corpus), but a future enrichment pass linking each reference back to its entry index would make it possible to reconstruct patron–client chains among the officer corps and trace which senior commanders built the largest staff networks.

Pensions and post-career provisions

Three hundred and fourteen entries — about 14 % of the corpus — include at least one pension mention, making retirement provisions one of the better-represented post-career outcomes in Six's text. Two currency regimes appear: *livres* for ancien régime grants (44 clauses, mostly pre-1792, running back to 1749), and *francs* for Revolutionary and later pensions (128 clauses with a stated amount). The remaining 186 pension references note a *pension de retraite* without specifying the sum — Six's shorthand for the routine half-pay retirement that warranted only a line.

```
Pension mentions : 358  across 314 generals
  Amounts in francs : 128
  Amounts in livres : 44
  No amount stated  : 186
```

The 128 franc-denominated amounts range from 500 to 30,000 francs per year. The distribution clusters around a handful of round figures — 4,000 (19 cases), 6,000 (12), and 7,200 (10) — which correspond to the standardized pension schedules tied to rank and seniority. Generals of cavalry averaged the most (6,465 fr.); the broader *général* category averaged 3,843 fr. The most distinguished pensions — including Masséna's extraordinary 30,000 fr. grant — were special imperial provisions paid directly from the *trésor impérial* rather than from the standard pension fund.



The livres pensions are a reminder that Six's dictionary covers careers beginning well before the Revolution: the earliest entry in the dataset received a pension in 1749, under Louis XV. For the minority of generals who entered service under the ancien régime and survived into the Republic and Empire, Six records both their pre-Revolutionary provisions and any subsequent Republican or imperial grants — occasionally on the same page.

The honor economy

Six's text captures 5,146 honor clauses spanning 1,741 generals (79 % of the corpus). The awards fall into five broad categories: the *Légion d'honneur* and its hierarchy of grades; imperial titles (*baron*, *vicomte*, *comte* de l'Empire); royal and allied orders (*Saint-Louis*, *Couronne de Fer*, *Mérite Militaire*, *pair de France*); *dotations* — income grants from conquered territories awarded as financial rewards for service; and everything else, including the pre-Légion *sabres d'honneur* distributed by the Directory and early Consulate.

```
Honor clauses total : 5,146  across 1,741 generals

Category breakdown:
  Royal / allied order      1,581
  Légion d'honneur          1,155
  Imperial title              931
  Other                       766
  Dotation                    312
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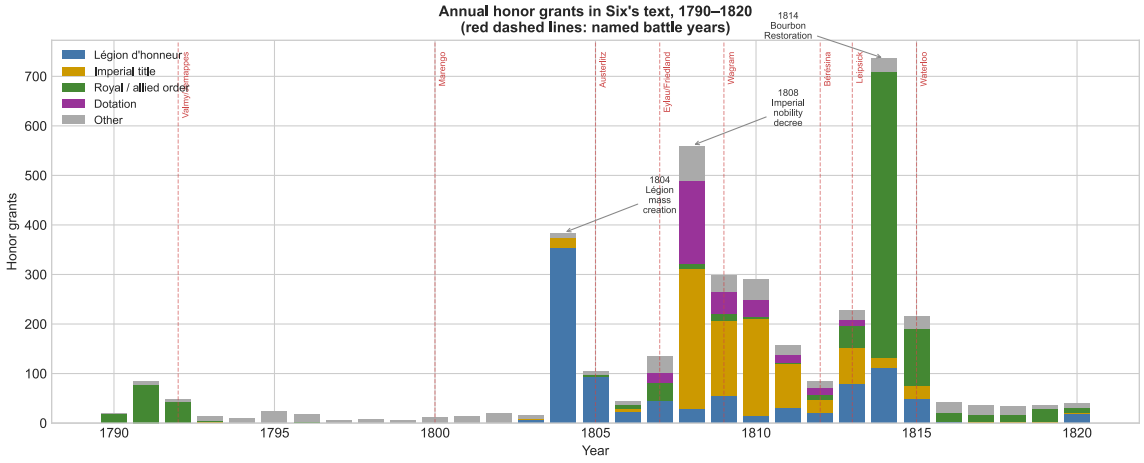
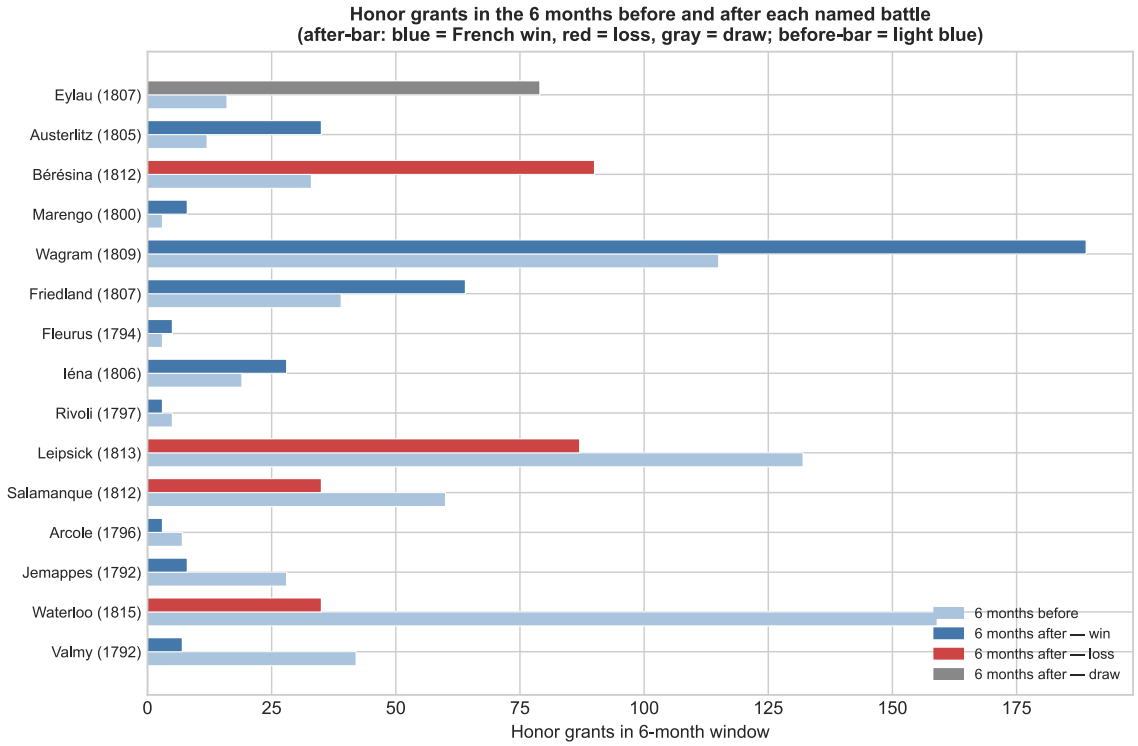
The rhythm of imperial honors



Three structural events dwarf any individual battle. The 1804 peak (384 grants) is Napoleon formalizing the Légion d'honneur as a national order and conducting a mass investiture. The 1808 spike (560 grants) reflects the *Décret organique* of March 1808 establishing the imperial nobility and triggering a wave of *baron de l'Empire* letters patent. The largest year of all — 1814 (736 grants) — is the Bourbon Restoration, which re-established the Order of Saint-Louis and distributed it broadly to officers willing to make their peace with the new regime. Actual battle-linked spikes are visible in 1807 and 1809, but they operate within the much larger institutional waves.

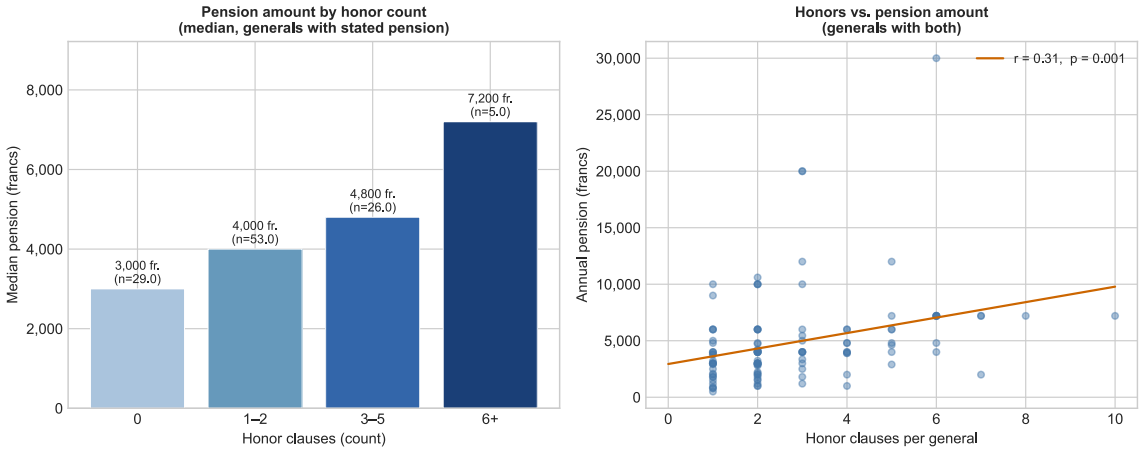
Battles and their honor aftermath



The pattern is more nuanced than a simple victory-bonus story. The early Revolutionary battles (Valmy, Jemappes, Arcole) show almost no aftermath spike because the modern French honor system did not yet exist — there were no Légion d'honneur grants to distribute. Once the Légion and the imperial nobility were in place, clear battle-linked waves appear: Austerlitz generates 2.8× more grants in the six months after than the six before; Eylau and its sequel Friedland together produce the sharpest local spike (their six-month windows partially overlap, since Friedland followed only four months later, and Tilsit came shortly after). Wagram (1809) produces a large absolute number but a more moderate ratio because the background rate of honor grants was already elevated by the imperial nobility decree.

The Bérésina result (2.7× ratio after a catastrophic retreat) is perhaps the most striking: rather than a reward for victory, honors here likely reflect Napoleon's deliberate effort to maintain morale and institutional loyalty during the winter retreat from Moscow. Conversely, the three definitive defeats of 1812–1815 — Leipsick, Salamanque, Waterloo — all show flat or declining honor flows in the aftermath, consistent with a regime increasingly unable to fund and distribute patronage.

Honors and pensions



The relationship is modest but statistically reliable (Pearson r = 0.28, p = 0.002, n = 121). The bucket medians are monotonically increasing: generals with no honor clauses record a median pension of 3,000 francs; those with six or more record 7,200 francs. Both honors and pensions are markers of the same underlying career distinction, so the correlation is expected — but it confirms that the two fields are tracking the same latent variable rather than independent dimensions of post-career outcome.

Honors as a pre-battle quality measure

The coaching-staff test in Section 5 used total biographical clause count as the quality proxy for each general at each battle. Could pre-battle Légion d'honneur grants serve as a cleaner, forward-looking measure — one that captures recognized merit *before* a battle rather than accumulated coverage *after* a career?

The answer is complicated by a temporal confound. The Légion d'honneur was distributed on an expanding scale: the 1804 mass creation covered roughly 350 officers; by 1809 hundreds more had received it; by 1815 it was near-universal among senior commanders. Later battles — which happen to include France's most consequential losses — therefore have *more* pre-battle Légion holders among their participants simply because of when they occurred, not because they had higher-quality rosters. A naïve comparison using raw pre-battle Légion counts would amplify the apparent inverse relationship rather than resolve it.

The cleaner approach, left for future work, would be to normalize each general's honor accumulation against the cohort-wide distribution at that date — asking not "has this general received the Légion?" but "does this general hold more grades than expected for an officer of his vintage?" That normalization requires a general-by-year honor accumulation table that the current dataset can support but has not yet been constructed.