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Manuel Eisner

From Swords to Words: Does Macro-Level Change in Self-Control Predict Long-Term Variation in Levels of Homicide?

ABSTRACT

Over the past decade the idea that Europe experienced a centuries-long decline in homicide, interrupted by recurrent surges and at different speeds in different parts of the continent, became widely acknowledged. So far explanations have relied mostly on anecdotal evidence, usually broadly relying on Norbert Elias's theory of the "civilizing process." One major general theory of large-scale fluctuations in homicide rates, self-control theory, offers a wide range of hypotheses that can be tested with rigorous quantitative analyses. A number of macro-level indicators for societal efforts to promote civility, self-discipline, and long-sightedness have been examined and appear to be strongly associated with fluctuations in homicide rates over the past six centuries.

q1 Homicide rates in the United States have dropped by at least 40 percent since 1991, mirroring a much broader downturn of violent crime that includes assault, robbery, rape, bullying, and child abuse (Blumstein and Wallman 2000). But while the US decline has long been known, experts only recently began to realize that something similar

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is happening across the Western world. Homicide rates in most European countries have declined considerably since the early 1990s (Eisner 2008), and overall crime levels have been moving along a downward trend for the past 20 years (van Dijk, Tseloni, and Farrell 2012).

The phenomenon of a largely synchronized decline in violent crime across the Western world has puzzled researchers. Initial explanations had mainly focused on the United States, but as the evidence for the similarities mounts, scholars find that attention must be paid to mechanisms that account for the astonishing commonalities. One such approach interprets the past two decades as one of several extended historical periods during which interpersonal violence was in retreat. They are believed to be part of a broader civilizing process—a long dynamic toward the growing concentration of the legitimate use of force in the hands of the state; expansion of methodical and rationalized self-control; and rising abhorrence of judicial torture, maltreatment of children, cruelty against animals, and bullying in schools (Eisner 2003; Muchembled 2008; Spierenburg 2008; Pinker 2011). In this view trends in violence are similar across Western societies, because the macro-level forces that shape patterns of daily discipline and self-control easily transgress national boundaries.

A prominent example of this perspective is found in Steven Pinker's monumental *The Better Angels of Our Nature* (2011), which develops a comprehensive theoretical framework for understanding the decline of violence since the early beginnings of state-organized societies in the Neolithic age. Within this framework Pinker sees the rise in violent crime between the 1960s and the 1980s mainly as a side effect of the assault on self-control in the pleasure-seeking, self-indulging, and substance-abusing youth countercultures of the generation that came of age in the 1960s (p. 106). But by the early 1990s the civilizing process stopped its temporary reverse gear and was restored to its forward direction in what Pinker calls a "recivilizing process." Communities began recivilizing their young men, the criminal justice system became more predictable, self-control became increasingly central to crime prevention programs, and society returned to glorifying the value of responsibility. Others have told a similar story. Fifteen years ago the political scientist Francis Fukuyama (1999) argued that in the early 1990s the United States entered a phase of re-anchoring beliefs in a civil society that values self-control and responsibility. Ouimet (2002) saw a new "ethos of moderation" contributing to the crime

decline in Canada and the United States (also see Mishra and Lalumiere 2009). Kivivuori and Bernburg (2011) suggested that young people in Finland increasingly perceive substance users and delinquents as "losers" or "jerks"—a trend that they interpret as a growing condemnation of uncontrolled behavior.

That the Western world lost self-control in a decivilizing crisis of the 1960s and returned to a trajectory of increasing civility in the 1990s is a plausible story. The problem is that there is a lack of empirical support for the hypothesis, especially in the shape of robust quantitative indicators. And a similar problem also holds for the substantial European homicide decline in interpersonal violence over centuries, which took levels of lethal encounters from rates of 20–50 per 100,000 in late medieval cities to rates below one per 100,000 in many of the great European metropolises by the mid-twentieth century (Eisner 2001). While the descriptive pattern is now broadly accepted, little empirical evidence has yet been produced about whether indicators of presumed causal mechanisms corroborate current theories (but see, e.g., Pinker 2011; Roth 2012).

It is therefore time to move beyond the description of historical trends and to assess more formally the mechanisms that may have been involved in the big homicide decline. This essay presents a first attempt in this direction. In the first two sections, I review the evidence by presenting new findings based on the History of Homicide Database, the most comprehensive collection of quantitative estimates of homicide levels from 1200 to the present. In Section III, I introduce an interpretive framework that links the decline in violence to a sequence of civilizing offensives, historically specific bundles of techniques that target both the inner self (i.e., self-control) and the mechanisms of social control. In Section IV, the core of this essay, I examine the empirical evidence related to five theoretically important questions for which meaningful quantifiable indicators can be collected: Was the decline in interpersonal violence preceded by an even longer dynamic toward the pacification of the elites? Was the long trend in homicide associated with change in punitive practices as measured by the frequency of executions? Were trajectories in the early modern decline of violence associated with the diffusion of the written word and literacy? Were nineteenth- and twentieth-century fluctuations in homicide rates associated with coordinated attempts to promote temperance and self-control as measured by levels of alcohol consumption? And is there

any evidence to support the notion that the long wave of homicide since the early 1960s was a result of cultural shifts that reflect the loss and return of self-control? Section V wraps up the discussion.

I. Measuring Homicide Trends since the Middle Ages

In 1981 political scientist Ted Robert Gurr plotted findings from several primary studies of historical crime in a graph to describe what happened to homicide over the centuries since the Middle Ages (1981, p. 313). The graph was based on just a handful of studies mainly relating to the south of England, but the conclusion of a long-term decline between the thirteenth and the twentieth centuries still stands today. In two studies published in the early 2000s, I followed his lead with a more systematic review of the historical evidence across Europe from around 1200 onward (Eisner 2001, 2003). The main idea was to compile all available historical scholarship that had produced homicide counts for some period and place in Europe and then to examine emerging patterns across the estimates. By 2001 the History of Homicide Database comprised 390 estimates of homicide rates for the pre-1800 period, retrieved from 90 publications. For the age of statistics, I had collected national time series for 10 countries, primarily based on mortality statistics. These data allowed me to identify trends in five major regions, namely, England, the Netherlands, Scandinavia, Germany and Switzerland, and Italy. I proposed several generalizations. First, the data suggested a long-term declining trend in homicide across Europe from about 1500 until the mid-twentieth century, which took homicide rates from about 30 per 100,000 to about one per 100,000 (Eisner 2003, p. 99). Second, I argued that the evidence supports the notion of substantial geographic variation in the timing of the decline, with England and the Netherlands leading the way, Sweden remaining high until the early seventeenth century and experiencing a steep decline from then onward, and Italy following a trajectory with high levels of homicide until the early nineteenth century, followed by a steep decline from then onward. For Germany and Switzerland, I suggested a middling path between the north and the south, while noting a lack of sufficiently clear data. I therefore interpreted the pattern of homicide rates visible in the second half of the nineteenth century: low rates across the wealthier and more advanced northern and central Europe (i.e., mainly including Germany, France,

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Scandinavia, and the British Isles) and high rates in the south and the east as the result of a center-periphery difference that had gradually developed since the seventeenth century. Finally, I suggested that the development between the 1860s and the mid-1990s was best understood as a U-shaped pattern with a decline until the 1950s and a substantial increase since. I also interpreted the data as being suggestive of a center-periphery pattern with the decline in homicide occurring earlier among the pioneers of European modernization, the Netherlands and England, and a much tardier decline at the rims of European modernity.

Since then the History of Homicide Database could be expanded considerably. It now comprises twice as many observation points for the pre-1800 period, national time series for more countries and longer time periods, and a wealth of information on contextual aspects (e.g., age, sex, location, time, weapon, and social class) of homicide over the past 800 years. Not all of this material can be presented here. Rather, I limit myself to a selective update with a focus on describing the current structure of the database and an overview of the core findings relating to the major long-term trends.

A. The History of Homicide Database

Addressing questions about the causes for the long-term homicide decline requires quantitative indicators that track the historical change in levels of interpersonal violence and data that index long-term trajectories of theoretically relevant processes. This is the primary goal of the History of Homicide Database (http://www.ebscohost.com/academic/criminal-justice-abstracts), an ongoing project aimed at the systematic collection of numerical data related to levels and characteristics of homicide in Europe since the Middle Ages. It currently comprises four main groups of data. The "premodern homicide data set" includes estimates of homicide rates extracted from local historical studies from 1200 until the onset of national statistics. The "modern homicide data set" comprises time series of national homicide data for 18 European countries over the longest time periods for which data could be found. The "contextual homicide characteristics data set" is a comprehensive collection of quantitative data on a variety of contextual characteristics of homicide over the past 800 years. Core variables include information about the sex of perpetrators; the sex of victims; offender-victim relationships; the age of perpetrators and victims; the

distribution of homicides by location, day, and time; as well as data on weapons used and the time elapsed between the incident and the death. The "homicide correlates" database, finally, retrieves macro-level time series of information on potentially relevant predictors including, for example, long-term serial data on levels of elite violence, the frequency of executions, urbanization, book production, literacy, wage levels, alcohol consumption, and life expectancy.

I briefly describe the premodern and modern homicide databases. A fuller documentation along with the data can be found at http://www.crim.cam.ac.uk/.

1. *Premodern Homicide Data Set.* The logic of collecting information for the premodern homicide data set has remained the same as the approach described in more detail in Eisner (2003). In a first stage, primary historical research on homicide, violence, and crime is retrieved. Systematic searches are conducted in English, French, German, Italian, and Spanish, but more limited searches also include publications in Dutch and Swedish. The search strategy is flexible and uses electronic catalogues of national libraries, the backtracking of references in recent publications, and various other search strategies. Conventional databases (e.g., *Criminal Justice Abstracts*) are of limited value as they rarely index more specialist literature in non-English lan-
q2 guages. Publications that include statistical tables of the number of cases recorded in the underlying source are then carefully read to understand better the nature of the primary source, the geographic area the data refer to, and the classification of crimes. The data are finally entered into the Homicide Database if the study includes homicide counts and the source is assessed as reflecting a substantial proportion of actual homicides.

When primary studies present series of annual data over longer time spans, the data are aggregated to 10-year time units—the preferred length of observations in the premodern homicide data set. For each observation the entered data include the region, the exact location, the time period, the count of homicides, the population estimate, a description of the data source, information about whether infanticide is included, and references to the source of the homicide count and the population estimate. Rates are expressed as homicides per 100,000 inhabitants. Generally, a preference is given to estimates that include infanticide (as few studies make the distinction between infanticide and

other homicides), but infanticides are almost entirely absent from judicial records before the seventeenth century.

In 2003 the premodern homicide data set comprised 390 observation points. Since then the size has more than doubled and currently encompasses 823 local estimates between 1200 and the beginning of national data series. Estimates are derived from a total of 115 historical studies. A considerable part of the growth in estimates is due to the inclusion of data for regions that were not covered in Eisner (2003), namely, Spain, the southern Low Countries, France, and a set of estimates relating to Sardinia and Corsica. All together the data represent 10,570 place-years of data, and each observation covers, on average, 13.2 years (standard deviation 16.9). The number of observation points per century increases over time, moving from $N = 28$ and $N = 70$ in the thirteenth and fourteenth centuries to $N = 192$ and $N = 213$ in the seventeenth and eighteenth centuries.

2. *Modern Homicide Time-Series Data Set.* In addition to the evidence derived from local studies, the History of Homicide Database includes a data set of national series of recorded homicide, usually based on mortality statistics or statistics on police-recorded homicides. The data and the sources are described in more detail in Eisner (2008). The longest data series come from Sweden and Finland, which introduced the first national death registration system in 1754 (Kivivuori and Lehti 2011); the series for France, England and Wales, Scotland, Ireland, and Prussia (subsumed under the series for Germany) start in the first half of the nineteenth century; and all other series start in the second half of the nineteenth century or around 1900. In some cases only conviction statistics were available (e.g., for the Netherlands before 1900). In these cases the conviction rates were multiplied with a constant of 1.65. The conversion coefficient is based on a sample of nineteenth-century periods in different countries where overlapping police or mortality statistics and conviction statistics exist. They suggest that conviction rates are typically about 60 percent of the rates based on either mortality or police statistics.

In total, the modern homicide time-series data set currently comprises 2,705 data points covering 19 geographic units. In addition to series described in Eisner (2001, 2003), the data set includes series starting in the nineteenth century for Spain, Portugal, Austria, Hungary, Serbia, Romania, and Norway.

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B. Sources of Bias

Historians of crime rightly warn that figures emerging from analyses of historical records are fraught with uncertainty and that they may in various ways systematically over- or underestimate the true occurrence of assaults leading to death (e.g., Schwerhoff 2002). Such bias may vary over time, leading to erroneous conclusions about true time trends. However, we are beginning to understand some of these biases better, meaning that we can assess their likely effects on estimates over time. I briefly examine six relevant issues, namely, geographic bias, incomplete records, changing age structure, wound treatment, and the lethality of weapons.

1. *Disproportionate Representation of Cities.* Especially during the first few centuries, most data for areas other than England (where data are available for whole counties) come from cities—bustling places with markets, taverns, and brothels that attracted problem groups such as students and vagrants in large numbers (Dean 2001). However, only a small fraction of the medieval population lived in urban settlements, and we know much less about crime and violence in the more typical rural areas. In the few instances in which such information is available, historians have sometimes found lower homicide rates (Hanawalt 1979; van Dijck 2007). This is corroborated by findings from the premodern historical homicide data set, where average homicide estimates for the urban centers in the period between 1200 and 1500 are 32 per 100,000, falling to 27 per 100,000 for other towns and cities, and to 15 per 100,000 for territorial units such as counties or bailiwicks. However, it is currently impossible to say with confidence whether the tendency toward lower rates in rural areas reflects incomplete records because of the absence of criminal justice institutions or whether violence was effectively concentrated in urban centers.

2. *Incomplete Records.* For several reasons the surviving records likely give an incomplete picture of the incidence of homicide across historical times. For example, during the first centuries covered here, only part of all homicides ended up in criminal courts because cases of manslaughter could still be dealt with via private compensation and because prosecution in court sometimes required accusation by a family member of the victim (Rousseaux 1999). Also, late medieval and early modern criminal justice was a web of competing systems in which, for example, large fractions of homicide cases could be diverted away from the urban justices if perpetrators submitted a request for pardon to

their king (Muchembled 1992). This means that surviving records of any one judicial institution may reflect only part of even those cases that were known and that this proportion may have undergone significant shifts over time.

Also, a substantial proportion of data come from trials in criminal courts, which would happen only if a suspect was identified. But arrest was probably rare during much of the earlier period. Spierenburg (1994) and van Dijck (2007) have compared early modern autopsy reports and criminal justice records. They suggest that probably only about 10–20 percent of medieval and early modern killers ended up in a court, the others fleeing somewhere else or finding an extrajudicial settlement of the problem. To account for this problem at least to some extent, the database does not include data from sources that are clearly incomplete such as the medieval jail delivery rolls in England, which comprise only trials of offenders arrested and kept in jail (Bellamy 1998).

Finally, some common subcategories of homicide are almost entirely absent from medieval records. This is particularly blatant for infanticide, which starts to find its way into the criminal courts only from the seventeenth century onward, and even then was likely practiced much more widely than judicial records suggest (Hanlon 2003). Some historians of crime hence believe that in medieval societies, infanticide was regarded as a sin rather than as a punishable crime (e.g., Trexler 1973). True levels of infanticide over time are probably impossible to determine empirically. But by the nineteenth century, when authorities made systematic attempts to bring infanticide under control, mortality statistics from France, England, and Switzerland suggest that about one-third of recorded homicides concerned victims at ages below 12 months.

3. *Changing Age Structure.* In all known societies, males aged 16–30 are most likely than other people to commit homicides. Changes in demographic composition will therefore affect findings on long-term trends, with homicide rates appearing to be higher in periods when the proportion of young males is elevated.

To estimate the effects of a changing demographic structure on homicide rates, two crude ideal-type age pyramids were constructed, one reflecting the demographic regime of the Middle Ages and the early modern period and one typical for a late modern society. For the first demographic structure, an age pyramid was assumed where 25 percent

TABLE 1

Modeled Demographic Regimes in Two Time Periods and Estimated Effect on Overall Homicide Rate

	Hypothetical Demographic Regime	
	Medieval and Early Modern	Late 20th Century
Underlying assumed characteristics:		
Life expectancy at birth (years)	25.3	75.2
Infant mortality (< 4 years; %)	25	.4
% aged 50+ (%)	9.5	35.2
Crime-relevant characteristics:		
% aged 16–30 of total population (%)	25.5	18.2
% aged 16–30 of population aged 16+ (%)	43.2	23.0
Age-standardized homicide rate*	112	100

NOTE.—Model populations were created using 22 4-year age brackets (0–3, 4–7, 8–11, etc.). The medieval age-standardized rate was modeled using the age distribution across age brackets as weights and assuming a stable age-homicide curve in both periods.

* Assumes a constant homicide-age curve (index = 100 for the late twentieth-century demographic structure).

of children died within the first 4 years of age and subsequently 1.2 percent of the population died in each year of life. The average life expectancy at birth in this demographic model is 25.3 years, which is close to the empirical estimates suggested by demographic research on premodern societies. The late modern demographic structure assumes an infant mortality rate of 0.4 percent, an average risk of death of 0.1 percent for each year of life until age 60, and a steep increase in mortality between ages 72 and 90. The average life expectancy in this model would be about 75 years, and about 35 percent of the population would be at age 50 and above. These characteristics are close to those found empirically in highly developed societies in the late twentieth century.

I consider two indicators for assessing the possible effect of different demographic regimes on homicide rates. First, we can estimate the proportion of those aged 16–30—the age group found to be at the highest risk of criminal violence across all known societies—in both model populations. As table 1 shows, their share of the population was considerably higher in a premodern society. This is especially true of the share of 16–30-year-olds among those aged 16 and above, which was around 40–45 percent in medieval and early modern societies and

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typically ranges around 20–25 percent in a contemporary society. This is an important difference. Young men accounted for a much larger proportion of the medieval and early modern public than is the case in a contemporary society.

Second, we can assess the direct effect of the demographic structure by estimating age-standardized homicide rates. To do so, I assumed a constant crime-age curve for homicide perpetrators, with a steep increase between ages 12 and 20, a peak age of offending at age 24, and a decline in the offending rate to half its peak value by age 37. This standard curve was developed on the basis of 36 empirical homicide age curves collected from samples covering nine countries (Germany, Norway, Sweden, England, Portugal, France, Austria, Italy, and Switzerland) between 1830 and 2010 (Eisner, forthcoming). Accepting this as a general age pattern of homicide offenders, we can then estimate an age-standardized homicide rate for the premodern demographic structure by summing up the products of the homicide rate for each age group times the demographic weight of the group. The result shown in table 1 suggests that premodern homicide rates are probably only 12 percent higher than they would have been with a late modern age distribution of the population.

In interpreting this finding, it is important to bear in mind that this exercise takes into account only the direct linear bias introduced by differences in the population weight of various age groups. It does not account for possible nonlinear effects such as a greater likelihood of conflictive interactions in a society where the population share of young men was twice as high as it is in a typical modern society. It is plausible that such effects exist, but we do not currently have any way of estimating their size. They would primarily change the picture during the course of the twentieth century, when the bulk of the demographic change occurred. Finally, one should note that the effective age distribution of homicide perpetrators in the Middle Ages is unknown and that there could have been both short- and long-term variation in the peak age of violent offending.

4. *Wound Treatment.* An important source of bias over long periods of time is progress in healing technology, including rapid transportation to a hospital, easily available emergency services, and better wound treatment including antibiotics and trauma medicine (Monkkonen 2001). Data collected as part of the History of Homicide Database allow us to estimate the timing and the size of this factor by examining

TABLE 2
Distribution between Assault and Time of Death, Seven Samples between 1300 and 2010 (%)

Location	Period	Time to Death				*N*
		Immediate	< 24 Hours	1–7 Days	8+ Days	
London	1300–1340	33	25	35	7	117
Gascony	1360–1526	62		38		101
Spain	1623–99	37	36	14	13	188
Middlesex	1667–84	41	16	22	22	74
East Sussex	1750–1838	38	29	16	16	84
Philadelphia	1839–1901	67		33		1,359
Finland	2003–8	79	19	2		549

SOURCE.—London, Middlesex, and East Sussex: own analyses based on coroner's records and assize records. Spain: Chaulet (1997); Gascony: Prétou (2010); Philadelphia: Lane (1979, p. 79). Finland: Granath et al. (2011).

information on the time between the event and the occurrence of death over eight centuries. Table 2 shows a sample of estimates derived from prior historical scholarship as well as from the coding of some additional English sources.

The data show a consistent picture. Until the early twentieth century, some 35–40 percent of the victims died "immediately," 15–35 percent died within the first 24 hours after the incident, and 30–45 percent died more than 24 hours later, often suffering for days or weeks until they died. This approximate shape of the survival curve remained essentially unchanged between the fourteenth and the late nineteenth centuries, suggesting that improved wound treatment is not a plausible source of bias before 1900. But over the past 100 years, advances in healing technology have had a major impact. Its size order can be estimated if we assume that none of those who died immediately could be rescued with modern technology, that half of those who died within the first 24 hours could be rescued, and that probably almost all of those who survived for a day could be treated with modern technology. Applying such crude weights suggests that the percentage of serious injuries before 1900 that would not result in death with modern technology is about 50 percent. When considering long-term trends, we therefore need to take into account that any change during the twentieth century is biased toward lower rates.

5. *Lethality of Weapons.* Homicide rates may change over time because people's access to suitable killing instruments in situations of

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TABLE 3
Method of Killing, England, Fourteenth to Twenty-First Centuries (%)

Location	Period	Instrument					
		Sharp	Blunt	Shooting	Any Manual	Any Other	*N*
London	1300–1348	67	19	1	7	5	153
Northamptonshire	1300–1348	63	29	6	1	1	472
Kent	1560–99	32	31	2	14	21	231
Kent	1600–1649	28	32	2	23	15	209
Kent	1650–99	19	20	8	37	16	254
Kent	1700–1749	14	19	14	38	14	140
Kent	1750–99	13	13	21	37	16	154
Kent	1800–1849	12	11	15	37	26	197
England	1956–66	31	12	9	34	13	1,400
England	2000–2009	37	9	8	29	17	5,292

SOURCE.—London, 1300–1349: coroner's record, own coding. Northamptonshire: Hanawalt (1976). Kent: Cockburn (1991, p. 80). England, 1956–66: Morris and Blom-Cooper (1979). England, 2000–2009: Smith et al. (2012, p. 34).

NOTE.—Sharp instrument: axe, hatchet, knife, sword; blunt instrument: staff, stick, stone; shooting instrument: arrow, firearm; any manual: hit, kick, push, strangulate; other: drown, burn, poison.

altercation varies. Although this source of variability does not constitute bias in the same sense as incomplete records, it is desirable to have estimates of access to killing technology such as swords, knives, or guns over time. While access to weapons is difficult to establish empirically, data on weapon use in homicides provide a good proxy.

The History of Homicide Database includes a scattering of estimates of weapon use for several regions. The only region for which we can currently establish trends with some degree of confidence over time is southern England, where a series of data points provide a picture of the long-term trend over the past 800 years. Table 3 shows selected data across eight centuries.

Almost all homicides in medieval London were committed with some fighting instrument. The weapons of choice were swords, fighting knives such as the *anelace* or the *misericorde*, and staffs—long, thick wooden poles whose end was often reinforced with a metal tip. The medieval coroner's records make it clear that we are looking at a society of well-armed men who were well trained in the fighting technologies of the day (e.g., Sharpe 1913).

From the fourteenth to the eighteenth century, the data suggest one big trend in weapon use. As overall levels of homicides declined, the proportion of those committed with weapons also went down, and a larger share of the dwindling number of homicides was committed without weapons. By the second half of the eighteenth century and during the nineteenth century, 30–50 percent of homicides in southern England were committed by bare hands or feet, suggesting that in conflictive encounters people either did not have a weapon at hand or were unwilling to use it. From this we can conclude that a disproportionately large part of the overall decline in homicide was due to situations that involved weapons, which probably suggests that weapons generally disappeared from routine activities in public space (on the sword going out of fashion in the 1720s, see, e.g., Shoemaker [2002]).

The situation has changed quite considerably since the 1950s. In particular, an increase in the proportion of homicides committed with knives and a decrease of those committed with bare hands and legs suggest a return to a situation in which violence-prone groups carry fighting instruments in expectation of violent clashes.

II. European Homicide from 1200 to 2011

Quantifying the course of interpersonal violence over centuries will always remain an exercise fraught with doubts about the comparability of data over time and space and limitations regarding homicide as a leading indicator for violence more generally. But combining data over large spaces and long periods has important benefits. It makes big dynamics visible that are hard to see with a case study approach anchored in specialist knowledge of any one place in one period. In this section, I provide a condensed overview of the main trends in homicide as they emerge from the updated and extended data collection.

q3 I present the main results in two ways. Table 4 shows an overview of estimates from 1200 through 2012 for 11 large geographic areas of Europe in which estimates based on local studies and national series provide enough information to make a substantive interpretation defensible. All data for the periods before 1800 (with the exception of Sweden, where national series start in 1754) are based on averages of local estimates, aggregated over 50-year periods. For the periods 1750–99, 1800–1849, and 1850–74, I present local estimates only if no national data series are available. From 1850 onward, the data in table 4

TABLE 4

Mean Homicide Rates in 11 European Regions, 1250–2012, by 50-Year Intervals until 1849, 25-Year Intervals for 1850–2012

	1200–1299	1300–1349	1350–99	1400–1449	1450–1500	1501–50	1551–1600	1601–50	1651–1700	1701–50	1751–1800	1800–1849	1850–74	1875–99	1900–1925	1925–49	1950–75	1975–99	2000–2012
North:																			
England and Wales	14.7 (23)	21.4 (14)	13.0 (4)	. . .	. . .	. . .	5.2 (16)	5.8 (17)	3.5 (25)	2.0 (20)	1.4 (19)	1.6	1.6	1.3	.8	.8	.8	1.3	1.5
Ireland	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	5.9 (3)	4.2 (4)	2.3	1.7	1.9	1.2	.4	.4	1.0	1.5
Sweden and Finland	. . .	. . .	. . .	. . .	38.3 (7)	18.4 (5)	23.3 (20)	22.3 (28)	9.0 (17)	4.2 (6)	1.1*	1.6*	1.7*	1.6*	1.3*	.8*	.8*	1.2*	.9*
Center:																			
France	. . .	. . .	. . .	. . .	. . .	20.2 (5)	7.2 (10)	13.6 (8)	6.0 (11)	2.9 (8)	2.3 (4)	1.5	1.4	1.4	1.5	1.1	1.1	1.1	.7
Belgium	. . .	. . .	16.4 (12)	20.5 (14)	22.5 (19)	13.2 (22)	8.8 (19)	14.6 (12)	5.7 (19)	4.3 (14)	2.4 (18)	.8	1.7	1.8	2.2	1.6	.8	1.6	1.4
Netherlands	. . .	. . .	20.7 (2)	59.1 (3)	. . .	35.9 (2)	8.9 (7)	7.6 (5)	3.1 (8)	3.4 (8)	1.9 (9)	. . .	.8	.9	.6	.8	.5	1.0	1.0
Germany	39.4 (4)	26.8 (9)	30.1 (20)	6.6 (2)	18.6 (4)	. . .	9.0 (7)	10.1 (9)	3.1 (6)	5.0 (10)	4.6 (9)	2.4	1.5	1.6	2.1	1.8	1.1	1.1	.6
South:																			

Switzerland	. . .	. . .	56.8 (3)	13.6 (4)	4.0 (1)	. . .	6.8 (1)	10.4 (1)	5.3 (1)	4.3 (2)	5.1 (4)	4.7†	1.7†	3.0	2.1	1.4	.8	1.1	.8
Italy	22.4 (2)	. . .	71.7 (6)	62.0 (1)	. . .	. . .	38.7 (10)	39.1 (3)	10.2 (3)	16.9 (3)	7.1 (10)	8.0 (5)	7.0 (3)	5.7	3.9	2.0	1.3	1.7	1.0
Spain	. . .	. . .	32.3 (3)	. . .	. . .	12.6 (3)	7.9 (8)	4.7 (5)	8.6 (9)	5.9 (9)	4.2 (20)	8.8 (16)	8.3	5.5	4.5	1.4	.3	.9	.9
Corsica and Sardinia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	28.1 (1)	42.2 (3)	49.1 (1)	22.8‡	29.2‡	14.1‡	10.0‡	. . .	. . .	2.5‡	2.0‡
Average§	25.8	23.4	32.7	32.4	20.9	20.1	12.8	12.0	6.1	5.5	3.8	3.5	2.7	2.5	2.0	1.2	.8	1.2	1.0

NOTE.—Averages of local estimates. Numbers of estimates are in parentheses. Figures for 1800–2012 are based on national statistics except for Italy in 1800–1849 and Spain in 1800–1849. Estimates for France and Italy exclude Corsica and Sardinia, which are shown as a separate unit.

* National series for Sweden only.

† Canton of Zurich only.

‡ Estimates for Sardinia only.

§ Without Corsica and Sardinia.

[d] Audiencia de Madrid only

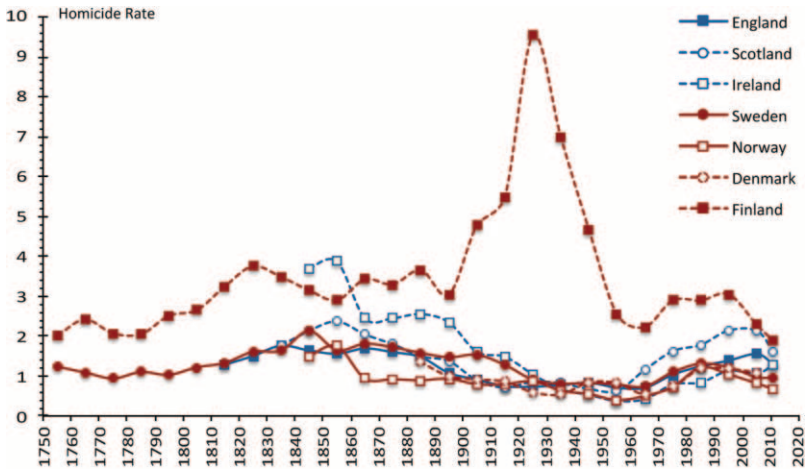

FIG. 1.—Modern homicide trends in northern Europe. Source: History of Homicide Database.

are based on national data series and aggregated by 25-year periods. I present combined data for Corsica and Sardinia in a separate row to illustrate a long-term trajectory that is very different from that in continental Europe. Estimates based on local data are usually displayed only if at least two local estimates were available. Some exceptions were made either where local estimates are based on a reasonably good series of data (e.g., the series of recorded homicide in Geneva as a proxy for Switzerland in the seventeenth century) or where the data refer to a big part of a regional unit (e.g., the data for Sardinia in the late eighteenth century that cover a large proportion of the island).

Figures 1–3 present trend data based on national statistics since 1750. The data have been aggregated in 10-year periods to give a better idea of medium-term fluctuations over the past 250 years. Similar to the long series in table 4, the data have been arranged in three geographic clusters, namely, northern Europe (Finland, Sweden, Norway, Denmark, England and Wales, Scotland, Ireland), central western Europe (France, Belgium, Netherlands, Germany), and southern and eastern Europe (Austria, Hungary, Italy, Spain, Portugal, Switzerland). Periods when a war was fought on the respective territory (e.g., Finnish War 1808–9, Italy 1942–45) were excluded in the calculation of the

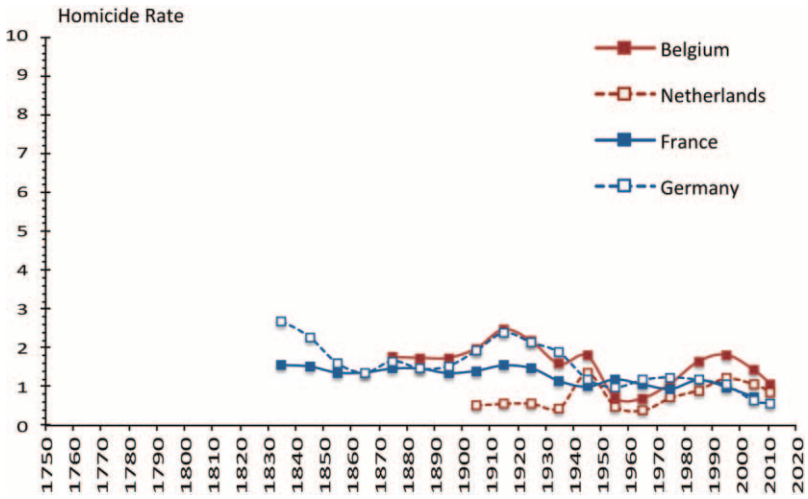

FIG. 2.—Modern homicide trends in central Europe. Source: History of Homicide Database

estimates. War years usually show massive spikes in homicide rates recorded in the mortality statistics, but it is currently unclear to what extent these spikes reflect war-related deaths, for example, deaths inflicted on resistance fighters.

A. The Big Picture

I first want to draw attention to the big picture over the past 800 years as it emerges from the findings presented in table 4. It shows essentially two main trend periods. The first period covers the first 250 years or so, from 1200 to about 1450. During this period the average estimates of homicide rates for each region typically range between 15 and 60 per 100,000 inhabitants, with little evidence of systematic trends in either direction. Across the continent, estimates converge at a rate of about 27 per 100,000. There was, of course, much variation at the level of cities and smaller areas, and most probably such variation reflects true variability. Medieval cities and rural areas likely oscillated between being rather orderly places with well-functioning institutions and including periods when they were ridden by feuds, unrest, banditry, and antagonistic groups engaged in serious conflicts. q4

The second trend period starts in the first half of the fifteenth cen-

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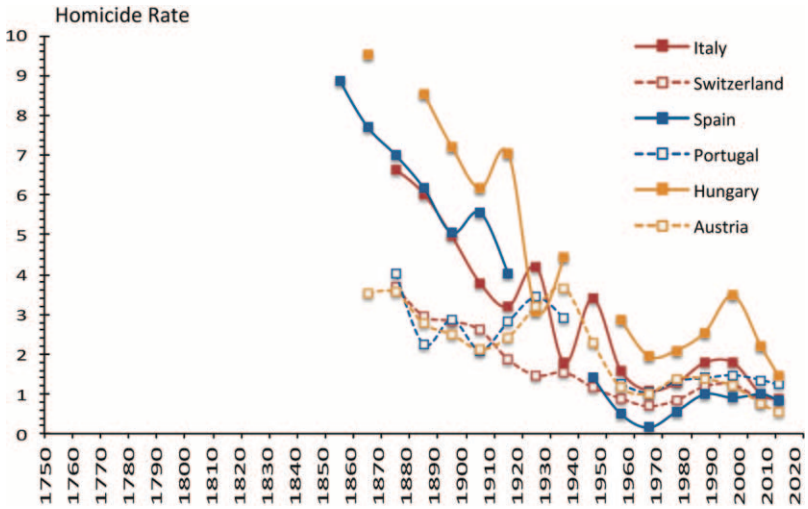

FIG. 3.—Modern homicide trends in southern and eastern Europe. Source: History of Homicide Database.

tury and continues essentially unbroken until the early twenty-first century. During this period the data suggest a long declining trend. Consider the grand average homicide rate across the local estimates at the beginning of each century as an approximation for the overall European trend: 20.1 (1500–1549), 12.0 (1600–1649), 5.5 (1700–1749), 3.5 (1800–1825), 2.0 (1900–1924), and 1.0 (2000–2012). This is a remarkable sequence of numbers. What it suggests is that over a period of 500 years the peacetime criminal homicide rate in Europe fell by half every century, corresponding to a rather stable average rate of decline of about 0.5 percent per year.

B. Emerging Regional Differences

While the overall decline is the dominant trend across Europe, the data shown in table 4 and figures 1–3 also suggest some important regional differences emerging during the early modern period. Considering the period until 1800 first, the data suggest that estimates for England were already lower than those for the rest of Europe during the Middle Ages and that estimates for the late sixteenth and seventeenth centuries continued to be lower than those on the continent.

This may suggest an early entry into a trajectory of declining violence in England, but it is also possible that the lower estimates result from the more comprehensive geographic coverage of whole countries rather than cities, as is usually the case on the continent. In Scandinavia the clusters of estimates for Stockholm and a range of smaller cities suggest persistent homicide rates of around 20–50 per 100,000 until the mid-seventeenth century. Then homicide begins to decline with an average rate of 3 percent per year over a period of 100 years, taking rates in Stockholm from 26 per 100,000 to 1.4 over the period (for an overview, see Karonen [2001]). From the start of national statistics onward, the data suggest a high similarity in the trends across the whole north of Europe with periods of increasing homicide from the 1770s to the 1830s or 1840 and again from the early 1960s to the early 1990s. The major exception is the massive peak in Finland between about 1910 and 1940, which has been associated with the sustained period of civil strife and the political legitimacy crisis before and after the Finnish Civil War of 1918 (Kivivuori and Lehti 2011).

Across central Europe, few systematic differences emerge, and the main impression is of a largely parallel movement in France, Belgium, the Netherlands, and Germany. From about 1600 until 1800 and beyond, the rates in the Netherlands appear to have been somewhat lower than those in other regions in this cluster. This may be indicative of a somewhat stronger decline in the Calvinist-dominated north of the Dutch provinces, where a combination of economic prosperity during the Dutch Golden Age and the Protestant emphasis on a methodic conduct of life may have helped to accelerate the decline in homicide (Spierenburg 2007*b*). However, the differences from the Catholic south (which also remained politically subjected to Habsburg rule) were relatively small. Van Dijck (2007) has argued that hardly many meaningful differences existed.

In southern Europe the new estimates confirm that Italy had consistently higher rates than those in northern Europe. Mean homicide rates around 1800 are considerably lower than those found before 1650, suggesting a declining trend that may have begun around the mid-seventeenth century and continued throughout the nineteenth and early twentieth centuries (see fig. 3). In contrast, the new data emerging from research in Spain are at best partly in line with what I expected. Thus, I would have assumed that the early modern trajectory in Spain would follow a "southern" pattern, with homicide rates remaining high

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until the late nineteenth century and then gradually falling to levels found in the rest of Europe. During the nineteenth century, homicide statistics for Spain do suggest a high level of lethal interpersonal violence, similar to those in other countries at the periphery of Europe such as Italy, Greece, or Hungary during this period. However, early modern data based on court records in Madrid (Alloza 2000) and Navarra (Berraondo 2012) suggest homicide levels in the seventeenth and eighteenth centuries that were closer to those in London or Paris than to those in Rome. Limitations of the data may be important here. In both cases, the records of cases recorded by the judicial authorities may be far off the true mark because of a lack of reporting, inefficient policing, and inadequate forensic expertise. Especially striking are the persistently high rates on the Mediterranean islands of Corsica and Sardinia, where homicide rates were around 30–50 per 100,000 in the eighteenth century and started to decline only during the nineteenth century.

C. Differential Trends for Types of Homicide

Homicides can occur in a mix of different situational contexts and for a variety of different reasons. For explanations it is therefore important to understand which subtypes of interpersonal violence contributed most to the long-term declining trend. Findings presented in Eisner (2003) on this issue suggested that over the centuries the proportion of male victims declined and similarly that the proportion of nondomestic homicides (i.e., between acquaintances and strangers) tended to fall over time, suggesting that the strongest decline was related to fights between men. However, no direct evidence of this hypothesis was presented then.

Additional data now allow for a more direct test of the hypothesis that big falls in homicide are primarily due to a reduction in male-to-male fighting. For example, data relating to noninfant homicide in London can be broken down by the sex of perpetrators and victims over 700 years (with a gap in the fifteenth and sixteenth centuries).

Findings suggest, first, that homicide in London declined by about 98 percent between the early fourteenth century and the turn of the twentieth century. It also suggests that over this long period the rates of both male and female perpetrators declined. See table 5. However, the decline was considerably stronger for male perpetrators, which fell from an estimated rate of about 46 per 100,000 in the fourteenth cen-

TABLE 5

Homicide Rates per 100,000 by Sex of Perpetrators and Victims, London, 1300–1909

	1300–1340 (1)	1680–99 (2)	1740–59 (3)	1780–99 (4)	1830–49 (5)	1890–1909 (6)	Change (%) (Col. 6 − Col. 1)
Perpetrators:							
Male	46.37	10.72	3.01	1.47	2.14	.90	−98
Female	3.63	.88	.47	.13	.46	.30	−92
Male/female ratio	12.78	12.23	6.33	11.47	4.60	3.06	
Victims:							
Male	45.42	9.82	2.51	1.21	1.67	.67	−99
Female	4.58	1.78	.97	.39	.93	.53	−88
Male/female ratio	9.93	5.51	2.58	3.05	1.78	1.26	
Homicide rate	25.0	5.80	1.74	.8	1.3	.60	−98

SOURCE.—1300–1340: coroner's rolls, own data collection; 1680–1909: data for calculations derived from Old Bailey Online, http://www.oldbaileyonline.org.

tury to about 0.9 around 1900. The over-proportionate fall in male offenders is reflected in the male/female perpetrator ratio, which fell over the centuries from about 131 to about 31.

The differential change is even more pronounced for victims, for whom the risk of a lethal assault against a male person was approxi-
q6 mately 100 times lower around 1900 as compared with the situation in the early fourteenth century. The risk for women to be killed also fell over the centuries, but "only" by a factor of about 81, corresponding to a reduction of 88 percent. Over the centuries these differential changes are indexed well by the ratio of male to female victims, which fell along a clear trend from about 101 in the fourteenth century to an almost equal risk around 1900.

The data presented in Eisner (2003) suggest that trends in the proportion of female victims were similar in other areas in which a homicide decline occurred, implying that any covariates that may explain the long-term decline in homicide must probably focus on the pacification of unrelated male-to-male interactions in public spaces.

D. The Western World, 1950–2011

Figures 1–3 show that by the mid-twentieth century, homicide rates across most of western Europe had converged to a narrow range of

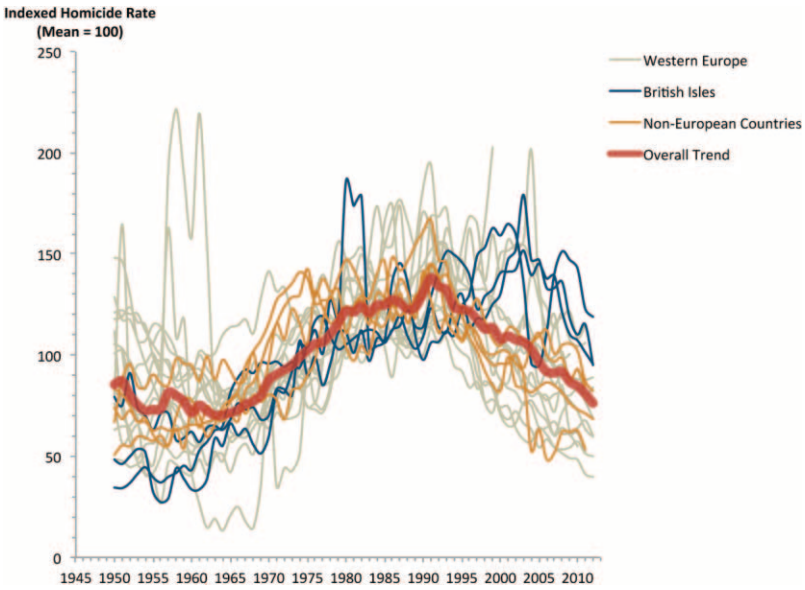

FIG. 4.—Shared homicide trend across the Western world, 1950–2012. Homicide rates for Australia, Austria, Belgium, Canada, Denmark, England and Wales, France, Germany, Finland, Hungary, Ireland, Italy, Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, and the United States. Each series is standardized by its own mean, $M = 100$. Series for countries with a population less than 10 million in 2000 were smoothed with 3-year moving averages. Source: History of Homicide Database.

0.5 to two cases per 100,000 inhabitants, with only a few areas at the outer fringes of the continent—most notably the southern parts of Italy and Corsica—still experiencing a substantially higher incidence of lethal interpersonal violence. Since then, homicide trends in various European countries have by and large been variations of one long cyclical movement that embraced all of the Western world. To illustrate this movement, figure 4 shows the trend in homicide rates across 18 Western societies, including data series for almost all European countries as well as Australia, Canada, New Zealand, and the United States. Northern Ireland was excluded because official records include an unknown proportion of deaths related to the violent ethnonationalist conflict that began in the late 1960s. All series have been standardized to their own mean = 100, and series for countries with a population of less than 10 million in 2000 were smoothed with 3-year moving av-

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erages to reduce random variation due to small numbers. The gray line represents the averages across all 18 series.

The figure shows a common long-term movement of increasing homicide between about 1965 and 1992 and a shared declining trend from 1992 onward. The average correlation of the 18 series with the shared trend is $r = .69$, with 16 correlations ranging between .50 and .94. The lowest correlation with the shared trend was found for France ($r = .07$), where the Algerian War of Independence between 1954 and 1962 spilled over to mainland France and led to a spike in homicides during a period when levels in most other countries were at a low.

E. The European Trend and Its Variations, 1200–2012

A critical requirement for assessing the facial plausibility of potential quantitative covariates that may guide the explanation of the long homicide drop is the availability of acceptable estimates of the "outcome" variable over time. In Section IV, I explore a number of indicators for social processes associated with changes in self-control that may contribute to the explanation of the decline in homicide. To this purpose the information that is now available in the History of Homicide Database was condensed into one overall time series of homicide levels in Europe between 1200 and 2012 (see fig. 5). The series consists of two parts. The first is based on averages of the local estimates and the second on averages of the national time series. For the first part, I used all local estimates other than those for Corsica and Sardinia, because estimates for these areas start relatively late and because they are distinct outliers in comparison with the rest of Europe. All other estimates were first ordered chronologically by the mean year of the underlying time span. I then computed means for overlapping 20-year time periods, for example, 1400–1419, 1410–29, 1420–39, and so forth. No corrections were made for differences in the underlying population size, variation in the geographic coverage over time, or the quality of the underlying data. In principle, such "corrections" would be desirable, but I do not think that our present understanding of various potential biases is advanced enough to make a weighting of observations a defensible approach.

For the modern period, I compute means of the 10-year average homicide rates for 14 European countries: England and Wales, Scotland, Ireland, Sweden, Norway, Denmark, Belgium, the Netherlands, France, Germany, Italy, Switzerland, Spain, and Portugal. For most

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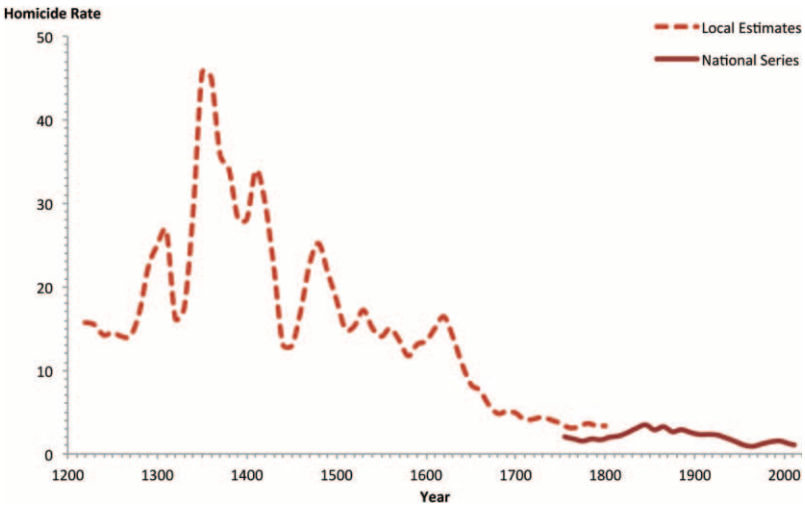

FIG. 5.—European homicide trend, 1200–2010. Source: History of Homicide Database

countries, national series became available only during the 1850s and 1860s. I therefore linked the early decades of the overall series based on fewer countries using a correction coefficient based on the earliest decade for which data from all countries were available.

Figure 6 shows the overall European trend over 800 years that results from the two data series—the series that I use as a reference series in Section IV of this essay. In addition to the long-term declining trend, it suggests a number of fluctuations. For many of them it is unclear whether they represent genuine variations in homicide levels or whether they are due to freak movements in the available data. This is particularly true of the early increase in homicide rates during the second half of the fourteenth century and the various ups and downs in the data until about 1600. Considering that for this period great uncertainties surround the data points, geographic coverage is patchy, and mean estimates are based on relatively few observation points, it is doubtful whether these fluctuations have any substantial meaning. In contrast, the evidence for an increase during the last decade of the sixteenth and the early seventeenth centuries, and the rather rapid decline from about 1620 to 1700, is probably quite robust. Also, two subsequent periods of increasing homicide occurred around 1780–1840 and between 1960 and 1990.

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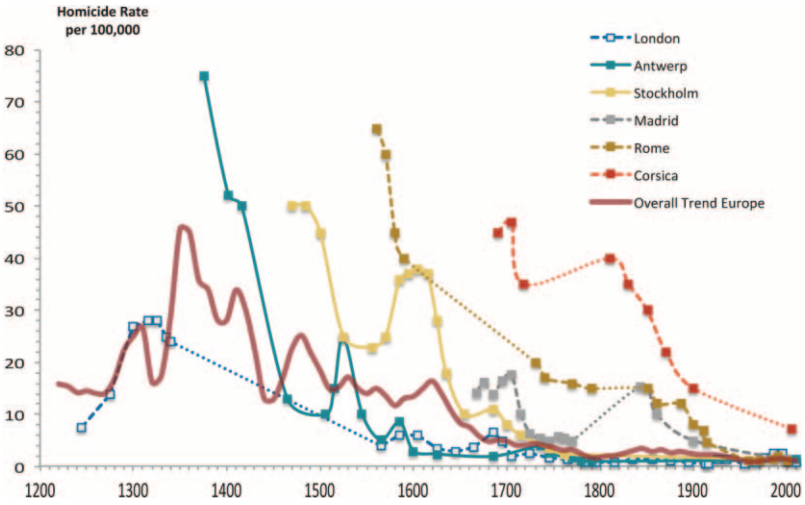

FIG. 6.—European homicide trend and selected local variations, 1300–2010. Source: History of Homicide Database.

The second main message emerging from the updated History of Homicide Database is that the overall European trend should be seen as a latent dynamic that appears to have affected all corners of the continent but that different places had their own trajectories. This is illustrated in figure 6, which shows trajectories for six selected geographic places with extended time series against the common European trend. If we follow these data, London probably was the first city in Europe where homicide declined to levels below 10 per 100,000, possibly as early as the late sixteenth century. Antwerp appears to have followed somewhat later with major declines in the sixteenth century. The next city in the figure to join the decline was Stockholm, where a good series of data suggests a major drop between 1620 and the late eighteenth century. In contrast, homicide rates in Rome remained much higher throughout the eighteenth and nineteenth centuries. Corsica, finally, apparently began a gradual decline only during the nineteenth century but has remained far above the European average to the present day. The pattern for Madrid is unusual. Various estimates for the nineteenth century suggest that Madrid closely followed the southern European pattern of high levels of homicide. However, the earlier series of data based on court records suggest that levels in the

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late seventeenth and eighteenth centuries were only marginally higher than those in the north.

III. Civilizing Offensives and the Decline in Violence

The big decline in homicide was real. It occurred everywhere in western Europe, crossing national boundaries and gradually embodying a joint movement toward equally low rates by the mid-twentieth century. It began at different periods in different locations, roughly following a gradient from the centers of European modernity to the more peripheral areas. It probably started in the late Middle Ages, but certainly gained momentum from the early seventeenth century, preceding other macrochanges such as the Industrial Revolution and the demographic transformation by centuries. It was not smooth. There were booms and busts, some possibly synchronized across geographically distant places since the sixteenth century, some being more local and depending on specific circumstances. Its main component was the decline in intermale violence in public space, although other types of serious violence may have followed a similar path. Its length, ubiquity, and size rank it among the most significant features of European modernity, on a par with other big dynamics such as urbanization, individualization, and state building.

Why did it happen? The most influential theoretical anchor remains Norbert Elias's (1978) theory of the "civilizing process," which links the rise of civilized behavior to the macro-level dynamics of state building and the changing structure of social relations (Linklater and Mennell 2010). The core hypothesis is that European societies over many centuries went through a dynamic whereby average levels of self-control, standards of decency, and disgust for open displays of cruelty tended to increase. Prima facie, this is an attractive starting point for criminologists as lacking self-control and the moral neutralization of violence have been shown to be strong individual-level risk factors for violent behavior (Gottfredson and Hirschi 1990; Piquero, Jennings, and Farrington 2010; Ribeaud and Eisner 2010). Bridging sociological theory, macrotheory, and psychological insight, Elias held that two macrodynamics promoted this change (1978, p. 322): the expansion of the state with its monopoly of violence and the extension of the market economy with its effects on interdependency. In respect of the first factor, Elias argued that the European experience from the early Mid-

dle Ages onward entailed a long-term movement toward an increasing concentration of the legitimate use of force in the state and its institutions. This process started with the transformation of the elites of the knightly warrior societies of the Middle Ages into relatively pacified courtiers, where elaborate manners and intrigue rather than fighting strength came to determine political success (Elias 1983). As the centralization and monopolization of state functions extended over time, more and larger social spaces became relatively free of violent disruptions, leading to a dampening of emotions and a distaste for public displays of cruelty.

Elias's second argument was that self-control flourishes in networks of functional interdependency. It borrows heavily from Enlightenment philosophers such as Adam Smith, Adam Ferguson, and David Hume, who believed that commerce and manufacture promote civility by introducing "order and good government, and with them, the liberty and security of individuals" (Smith 1776, sec. III.iii, p. 8). Interdependence does not necessarily foster affection for a trading partner, but it promotes "diplomacy" and sober "indifference" by making people focus on what matters for a profitable interaction to be continued. Also, it gives actors more opportunities to inflict costs on others by nonviolent means, for example, by withdrawing from an exchange of goods and choosing a different trading partner. This creates incentives for actors to be disciplined and good-mannered, as manifestations of low self-control and being unreliable are poisonous to the maintenance of complex networks.

While Elias assumed that the growth of self-control was due to the unintentional workings of structural forces, other scholars have followed Max Weber's (1982) analysis of the Protestant disciplinary ethos and emphasized the relevance of intentional man-made cultural change in disciplinary techniques. Different terms have been proposed to describe this idea. Many historians working on the change in daily life during the early modern age have found the notion of social disciplining useful. Developed in the late 1960s by the German historian Gerhard Oestreich (1982), social disciplining refers to a set of strategies through which the early modern state sought to discipline, rationalize, and organize its subjects' behavior in order to facilitate well-ordered government and to improve the strength of the army (van Krieken 1990; Ogilvie 2006).

The sociologist Philip Gorski (2003, pp. 32–33) proposed the related

notion of disciplining revolutions. By disciplining revolution, Gorski means the introduction and diffusion of a set of disciplinary techniques and strategies that reorder the relationship between the individual, the community, and the state. His framework distinguishes four types of discipline, namely, self-discipline (individual and normative), correctional discipline, communal discipline, and judicial or institutional discipline. Disciplinary revolutions are then packages of techniques that combine strategies for organizing social control with offensives that aim to modify the behaviors and beliefs of subjects in the direction of higher self-control. While examining the sixteenth- and seventeenth-century disciplinary revolution in the Netherlands and Prussia, Gorski emphasized that the notion of disciplinary revolutions can be generalized to different periods and societies.

Finally, Dutch sociologists working under the influence of Elias have developed the notion of civilizing offensives (Powell 2013). Civilizing offensives are conscious and deliberate attempts by powerful groups to attack behaviors of common people that are considered immoral, licentious, or uncivilized and to promote a life of self-control, temperance, orderliness, and respectability. They aim to change the political economy of prudence and self-control by means of a combination of punishment, monitoring, individual reform, restructuring of daily activities, and moral betterment. Among others, they change standards of manners and courtesy, those rules of daily interaction that "vex or soothe, corrupt or purify, exalt or debase, barbarise or refine us" through their constant, steady, uniform, insensible operation (Burke 1796). Such change is particularly relevant here as many homicides originate in what Wolfgang (1958) called "altercations of relatively trivial origin"—conflicts that arise from signs of disrespect, insults, or improper public behavior, which lead to humiliation or embarrassment.

Civilizing offensives are associated with change in standards of emotional expression. For example, European elites in the seventeenth and eighteenth centuries increasingly regarded manifestations of emotional spontaneity (e.g., in dancing, at carnivals, during sports, in theaters) including expressions of anger as vulgar and disorderly, leading to the launch of a variety of disciplinary and legal measures designed to curb spontaneity (Stearns 2008, p. 20). At the same time, there was an increasing emphasis on the cultivation of an inner-directed and self-reflexive self, within which managing emotions rather than expressing

them became a virtuous ability (Stearns and Stearns 1986; Stearns 2008, p. 25).

In awareness of the risk of oversimplifying a complex historical process, table 6 offers a schematic overview of six main "civilizing offensives" that social historians have described. The first process refers to the courtization of the nobility during the eleventh to thirteenth centuries. Jaeger (1985), for example, describes the rise of courtly ideals during the eleventh and twelfth centuries and interprets them as an expression of the beginning subordination of the nobility by the emerging royal courts. The twelfth and thirteenth centuries also are the period of the transition from a justice system based on private reconciliation and revenge to the development of a "criminal justice" idea that increasingly imposed the compulsory involvement of judicial authorities (Dean 2007).

A second period of intensified strategies to control daily behaviors has been associated with the "new monarchies" of the late fifteenth and sixteenth centuries, whose rise led to the absolutist states. Especially Tilly (1985, 1992) argues that the late fifteenth century experienced an invigorated thrust to monopolize the extortion of protection rent through regular taxes and to bring subjects under tighter control. In respect to the penal climate, this period saw what Lenman and Parker (1980) have termed the judicial revolution, the beginning of a more systematic attempt to expand the reach of a bureaucratic and formalized criminal justice system, manifest, for example, in the abolition of sanctuary protection of perpetrators (Shoemaker 2011).

The period of the late sixteenth and early seventeenth centuries has long been regarded as a turning point in the disciplinary techniques of the European elites. There are two main versions of the argument. In the tradition of Weber (1982), Gorski (2003, p. xvi) argues that the Protestant revolution, especially in its Calvinist version, was pivotal in creating a new model of self-discipline. By refining and diffusing a toolbox of disciplining techniques, Calvin and his followers created a structure of intensive religious governance and control that fundamentally altered the relationship between the individual and the state. Its core technology was observation: self-observation, mutual observation, and hierarchical observation.

Researchers in the tradition of Oestreich (1982), by contrast, hold that the movement toward social disciplining was part of a much broader cultural and ideological change that originated in the Neo-

TABLE 6
Schematic Overview of Major "Civilizing Offensives," Eleventh to Twenty-First Centuries

Period	Core Characteristics	Selected Proponents
Courtization of warriors (11th–13th centuries)	Disappearance of "free warriors" Increasing dependence of nobility Courtliness (modesty, patience, restraint, and elegance) as new ethic God's peace and king's peace limit private retaliation rights Beginning monopolization over legitimate use of force Criminalization of killing, institutionalized death penalty Beginning of state-run criminal justice based on written procedure	Elias (1983), Jaeger (1985)
Early absolutist state (late 15th–17th centuries)	Limitation of power of feudal aristocracy, fight against feuding Centralized taxation Monopolization of protection business Standing army Centralization of judicial powers State punitiveness focused on suffering and pain	Lenman and Parker (1980), Tilly (1992), Ertman (1997)

Social disciplining revolution (mid-16th–18th centuries)	Police ordinances expand state control over daily behaviors Emphasis on frugality, duty, deference, orderliness Confessionalization and church discipline intensify social control and promote conscience and ethic of inner control Fight against disorderly pastimes and behaviors Reformation of the poor, workhouses, orphanages	Oestreich (1982), Hsia (1992), Gorski (1993)
Bourgeois civilizing offensive (1830–1900)	Disciplining of working classes in factories (time and work discipline) Universal schooling and mass conscription armies Professional national police forces "Temperance movement" emphasizes self-control "Rational recreation" promotes civilized leisure activities Ideal of domesticity and respectability promote inner-directed family harmony	Thompson and Longstreth (1988), Wiener (2004), Powell (2013)
Securitization and new culture of control (1980s to present)	Extended use of surveillance technologies More intensive control of antisocial behaviors Enforcement of discipline and propriety Expanding infrastructure of crime prevention and community Initiatives against welfare dependency	Garland (2001)

stoicist movement and deeply changed the behavior of authorities in the direction of an intensified, deeper, more thorough regulation of daily life. By the end of the sixteenth century, the elites of western European towns saw the explosion of social behavior regulations, including Sunday observance; blasphemy; expenditure on weddings, christenings, and funerals, as well as the time spent on them; the upbringing of children; breaches of the peace; begging; almsgiving; and so forth (van Krieken 1990).

The Victorian Age is the next period for which historical research suggests the emergence of a bundle of disciplining technologies that target civility and self-control. For England, for example, Wood (2004) has described the nineteenth-century civilizing process as a self-conscious moral crusade by the English middle classes, supported by bourgeois mentalities, the expansion of state bureaucracies, and the rise of a professionalized police force. It included, among others, the increasing emphasis on respectability as an ideal of masculine identity, the belief in progressive betterment and moral reform of society and individuals, moral entrepreneurs who aimed to eliminate disorderly behaviors and alcohol consumption, and the emergence of a planned professional social control of public space by police officers. As Joseph Kidd, a Victorian journalist and activist of the temperance movement said in 1879, "To be able to rule self and transmit to children an organization [i.e., Victorian England] accustomed to self-restraint and moderation in all things is one of the chief delights and aspirations to the moral nature of a true man" (cited in Smith 1993).

A logical extension of this argument is that the latest in a series of civilizing offensives that bundle technologies of social and self-control occurred in the 1980s and 1990s. Traces of such an idea can be found, for example, in Garland's (2001) analysis of change in patterns of social control since the 1970s. His analyses suggest a confluence of shifts in ideas that can be called a new disciplinary regime. Emphasizing the criminal justice system, he highlights the emergence of a more punitive justice system, increased demands for protection and retribution, extended use of surveillance technologies, more intensive control of antisocial behaviors and enforcement of discipline, and an expanding infrastructure of crime prevention and community safety (also see Tonry 2004). But change in the direction of tighter control was not limited to the criminal justice system. Similar moves toward tighter controls over daily behavior since the 1980s have also been documented for

drunk driving and other controls of traffic behaviors (Voas, Tippetts, and Fell 2000), moves to build more incentives for finding work into welfare benefits systems, an expansion of disciplinary models in schools including zero-tolerance regimes (Hirschfield 2008), and policies emanating from public health strategies in respect of alcohol and tobacco consumption, physical exercise, and sexual behavior.

IV. Correlates of the Long Homicide Decline

The notion of subsequent civilizing offensives implies that the ways in which powerful actors try to shape the daily practice of self-discipline vary over time and that different aspects of social life are targeted in different periods. In the following sections, I examine relationships between trends in lethal violence and selected quantitative indicators of long-term change in social control and self-control. Such an endeavor is becoming possible because social historians generate a growing array of quantitative data that track processes associated with the rise of European modernity (de Vries 1984; De Long and Shleifer 1993; Allen 2001; Buringh and van Zanden 2009; Eisner 2011). The role of such indicators is not to replace in-depth historical analyses. Their function is to provide a frame of data that can inform further analysis and interpretation.

With this purpose in mind, I explore five covariates of homicide rates. Each relates to a facet of social disciplining and self-control that was outlined in the previous section. I start with examining whether the decline in homicide rates among the general population was preceded by an even longer process of declining elite violence between AD 600 and 1800. This is important because the theory of the civilizing process predicts that the taming of warrior elites is necessary (but not sufficient) for the pacification of social interactions more generally (Elias 1978). I then explore the association between homicide trends and a key indicator of change in Europe's punitive regime, namely, the frequency of capital punishments between 1200 and 1800. This matters because the transition from a punitive regime based on public rituals of suffering to one founded on confinement and correction played an essential part in the disciplinary transition of the early modern age (Foucault 1975; Spierenburg 2007*a*). Next, I examine the spread of the book and the growth of literacy from the invention of the printing press in 1453–1900. Arguably, literacy played a vital role in the culti-

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vation of self-discipline and reflexive conscience during this period, and I explore the extent to which the retreat of homicide was associated with the advance of books. Fourth, I consider links between macro-level change in alcohol consumption and homicide, focusing on countries in northern Europe between 1800 and 2000. I interpret alcohol consumption as an indicator that tracks the extent to which the bourgeois civilizing offensive of the nineteenth century was successful in promoting temperance and self-control. Finally, I return to the issue raised by Pinker (2011), namely, whether the up and down of homicide since the 1950s was associated with the loss and reconquest of self-control. Exploring the contents of 5 million English-language books indexed in the Google NGRAM database, I investigate whether one can find traces of a cluster of ideas around self-control and discipline that could have been involved in the decline in violence since the early 1990s.

The analyses are at the descriptive level of plotting trends, supported by bivariate correlations as indications of the strength of relationships. No formal tests of causal relationships are performed. Such tests do not seem adequate in an exploratory analysis of data in which all measures are affected by considerable systematic and unsystematic error, indicators at best indirectly capture processes for which no direct measurement is possible, and we lack good theory that could guide the selection of predictors for which more rigorous tests could be promising.

A. The Pacification of the Elites: 600–1800

In *The Civilizing Process*, Norbert Elias (1978) argued that the development of "courtoisie," the medieval code of refined manners, generosity, and respect among peers, and the wider pacification of society first and foremost require the subordination of local warlords under rulers who successfully assert a monopoly of legitimate violence. The idea is that individuals are more likely to invest in long-sighted behavior, cultivate self-discipline, and engage in cooperation with nonrelatives if they live in a polity where life, limb, and livelihood are protected. In contrast, infighting among political elites, robbery attacks against adversaries, and feuds among bitterly opposed factions propagate the revenge and retaliation mechanisms that are rooted in our evolutionary past (Boehm 1984; Roth 2011), while hindering the cultivation of skills related to long-term planning, cooperation, dispas-

sionate interaction guided by politeness, and empathetic perspective taking. Conceptually, the argument is similar to observations by Rotberg (2003) about the link between criminal violence and state failure. State failure manifest in armed political factions, violent ethnic cleavages, and widespread private protection entrepreneurs leads to explosions of conventional criminal violence while the restoration of legitimate authority that ties elites to compliance with shared rules is a prime precondition for the restoration of order.

But is there any quantitative evidence for a movement toward more stable power structures at the top of the power hierarchy even before the decline in homicide began? There is one indicator that may serve as a defensible proxy, namely, data on the proportion of monarchs whose rule ended prematurely as a result of removal by murder. I recently developed and presented pertinent data (Eisner 2011). They are derived from an analysis of all 1,628 monarchs who ruled one of 34 territorial units across Europe between 600 and 1800. In a first step, continuous lists of rulers were created. In a second step, all cases of alleged violent death were coded and further subdivided into battle death, accident, legal execution, and murder. Multiple sources were used to optimize validity.

The subcategory of regicide—the murder of monarchs—is of particular relevance. It is an indicator of the pacification of the elites because most regicides were not committed by outsiders but by members of the elite who saw a chance to remove an ineffective ruler, perceived their life to be at threat through the machinations of some other faction in the court, or were angered by monarchs who raped, robbed, or killed. Regicides have more in common with modern coups d'état—a good proxy of lacking political stability and failed control over power elites (McGowan 2003)—than with spur-of-the-moment manslaughter. They are best interpreted as cost-effective means for enforced power transition. The assassins had a good chance of providing the next monarch, although they subsequently exposed themselves to an increased risk of being murdered (Eisner 2011).

Despite the small population of just above 1,600 individuals (among whom fewer than one homicide would be expected in contemporary society), the data set has enough statistical power to examine overall trends over time. The reason is that over the entire period, 218 of all rulers were murdered, corresponding to 14 percent of the sample. Calculated as a homicide rate per ruler-year, the risk of being killed

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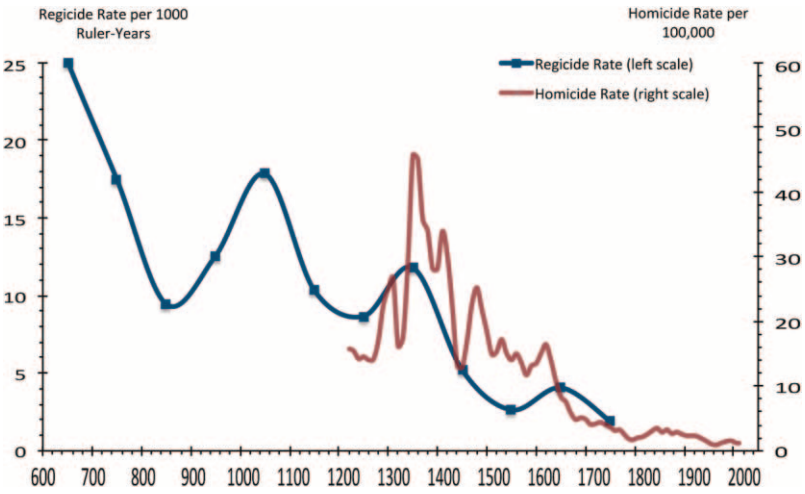

FIG. 7.—Elite violence (600–1800) versus European trend in homicide rates (1250–2012). Source: All series are from the History of Homicide Database.

amounts to 1,003 per 100,000, making "monarch" the most dangerous occupation known in criminological research (for some comparative modern data on occupational homicide risks, see, e.g., Castillo and Jenkins [1994]).

However, the probability of regicide varied significantly over time. Figure 7 shows the long-term trend in European regicide rates by century between the seventh and the eighteenth centuries. The data document a linear long-term trend that takes the average annual occupational risk for a European ruler to be murdered from about 2,000 per 100,000 (i.e., a risk of about 150 per year in office) in the seventh and eighth centuries to about 200 per 100,000 in the eighteenth century. A linear trend regression line is highly significant and accounts for 56 percent of the variance.

For comparison, figure 7 also shows the European trend in homicide rates since 1200. For the period in which the two series overlap, there is considerable similarity in the declining trend. Apparently, as the probability that rulers would be removed by competitors dropped, the mean risk that conventional people would be killed on the streets also declined.

Importantly, however, the regicide series suggests a trend toward

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declining elite violence long before the first written records document the operations of the criminal justice system from around 1200. At this stage, it is unclear whether the quantitative trend in regicides can be generalized to wider trends in levels of violence among the elites, although future research may lead to better data that describe trends in the violent death of elite members during the early and High Middle Ages. But at least it provides initial support for the assumption, suggested by Elias (1978), that the process toward the formation of more stable political units that increasingly claimed a monopoly over the legitimate use of force (e.g., through the criminalization of feuds among the nobility, the king's peace movement, or the gradual elimination of private composition as a way to resolve murder cases) started in the early Middle Ages and was well on its way by the thirteenth and fourteenth centuries (e.g., White 1986; Fletcher 2002).

Whether this process was linked to an increasing commitment to self-control among the elites cannot be shown with the present data. Other processes such as the formalization of succession rules, the tendency to vest kings with an aura of sacral authority and divine rights, and the growing protection of monarchs by professional guards may have been equally important (Eisner 2011). However, the finding is certainly in line with results from contemporary cross-national research that societies with high levels of criminal interpersonal violence tend to be societies in which the right to rule is contested, elites use violent means to secure access to power and resources, and power transfer takes the form of violent removal (Chu and Tusalem 2013).

B. The Vanishing Theatre of Horror: 1200–1800

Foucault (1975) and Elias (1978) saw a transition in the early modern period from a model of punishment based on the primacy of public infliction of pain and suffering to one that uses confinement to promote discipline and fight idleness and villainy. The opposition of these ideal types has been criticized for oversimplifying the historical dynamics, but the scheme remains a useful framework for interpreting the change in penal practice between about 1500 and 1900 (Spierenburg 1987, 1991). An important turning point in this process is the emergence of houses of correction for beggars and vagrants in England and the Netherlands around 1600, which symbolize a new disciplining technology and a changing attitude toward the maintenance of public order and control over the poor. In seventeenth-century Amsterdam,

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the new houses of correction were a major attraction for international visitors, who spread knowledge about the innovative model of disciplinary policy to other parts of Europe (Spierenburg 1987).

Rituals of public executions were probably the most prominent sign of the older disciplinary model (van Dülmen 1990). The public confession, pastoral support provided by confraternities (Terpstra 2008), publication of "Last Dying Speeches" (Sharpe 1985), humiliating processions through large crowds of people, and symbolic mirroring of the wrongdoing and the mode of execution make executions a focal point of a punitive regime that was built on the publicly visible infliction of pain and suffering as a symbol of the repressive potential of the state (Spierenburg 1984).

Serial data on public executions go back to the thirteenth century and are available for a large number of cities across Europe (less is known about capital punishment in rural areas). They were sometimes kept by financial authorities to record payments to the hangman; in other places including Italy, confraternities of volunteers who provided consolation to the sinners kept detailed lists. Owing to their wide availability over long periods of time, execution data are prime quantitative indicators for the rise and fall of a punitive model anchored in the public infliction of suffering and its gradual substitution with a model premised on reform and discipline.

The Homicide Database currently comprises 18 time series, retrieved from primary historical research, on the frequency of executions in various cities and regions. They cover a range of geographic areas including, for example, Rome, Bologna, Venice, and Pamplona in southern Europe; Frankfort, Zurich, Antwerp, and Wrocław/Breslau in central Europe; and the counties of Cheshire and Essex and London in the British Isles. Wherever a meaningful denominator existed, the figures have been standardized to rates per 100,000. However, sometimes the areas from which malefactors were brought to the public executions in the big cities are not entirely clear. Where this was the case, I used the absolute numbers per year and multiplied the series with a constant to bring it roughly in line with the other series. While this standardization makes common trends more easily visible, it means that variation in levels between the series cannot be interpreted.

To illustrate the main European trend, figure 8 shows all series combined without distinguishing between individual locations. Overall, the data suggest very high levels of capital punishments in the High Middle

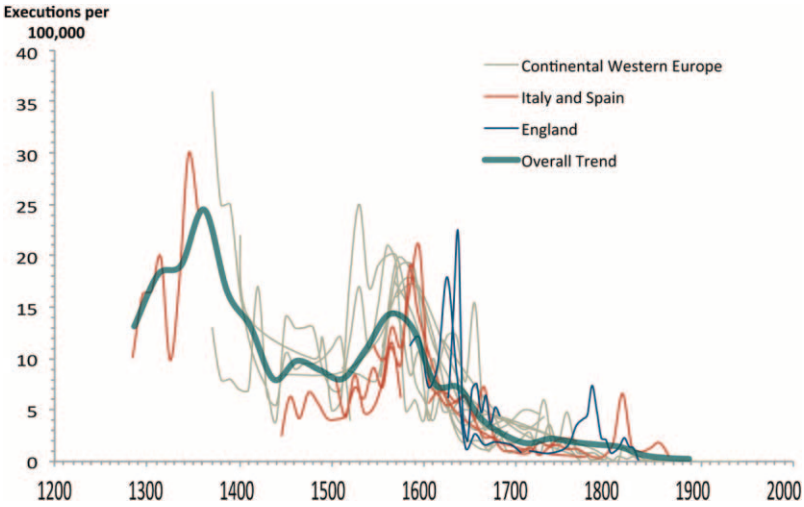

FIG. 8.—Executions in 19 European cities and joint long-term trend, 1200–1900. Series of executions include Mechelen (1370–1800), Antwerp (1400–1690), Augsburg (1545–1806), Breslau (1445–1800), Danzig (1558–1731), Frankfurt (1360–1696), Nuremberg (1503–1743), Zurich (1400–1900), Essex (1620–79), Chester (1580–1709), London (1701–1840), Sweden (1750–1940), Amsterdam (1524–1800), Bologna (1540–1799), Venice (1600–1798), Navarra (1280–1360), Lucerne (1550–1798), and Rome (1500–1870).

Ages and the early modern period. For example, between 1280 and 1360, the small kingdom of Navarra on the Spanish side of the Pyrenees had about 20 executions per year, peaking at around 50 executions in the mid-fourteenth century (Urra 2007). Scholars estimate that the kingdom had some 40,000 hearths, which may correspond to a maximum of 200,000 adults (Lazcano 2005; Urra 2007). This equals an execution rate of at least 10–25 per 100,000. Similarly, van Dijck (2007) estimates that execution rates in late medieval and early modern cities in Brabant (Antwerp, Mechelen, s'Hertogenbosch) fluctuated around 10–20 per 100,000 inhabitants between 1370 and 1570. Average rates of over 10 executions per 100,000 inhabitants seem to have been common—rates that would translate into 32,000 executions annually in the present-day United States or 700,000 executions worldwide.

Data on the common trend in executions suggest a wave-like pattern between the thirteenth and the sixteenth centuries, with a decline between 1350 and 1500 followed by a peak in the late sixteenth century.

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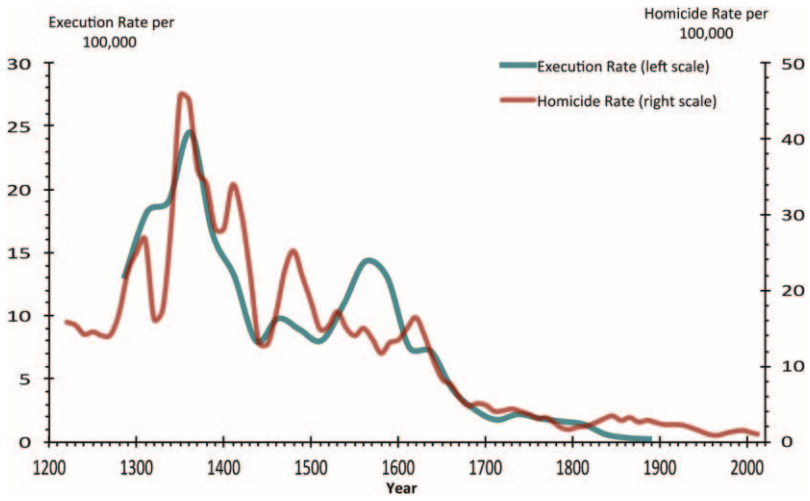

FIG. 9.—European trend in executions versus trend in homicide rates, 1200–1900

However, the very small number of time series before 1450 renders generalizations for the earlier period highly speculative. In contrast, the larger number of series from the mid-fifteenth century onward offers firmer ground for generalizing descriptions. The most outstanding feature is a strong tendency toward a joint decline after about 1590 in most European areas. In Bologna, the peak level of executions occurred in 1580–89; in Rome it was 1590–99; Zurich, Nuremberg, and Augsburg in the south of German-speaking Europe had the peak number of executions in 1575–99; and in Antwerp and Mechelen the peak occurred in the 1560s and 1570s. In contrast, the situation may have been somewhat different in England. The series for the palatinate of Chester and Essex County start only around 1600, but both show an increase in the first decades of the seventeenth century and a pronounced spike around 1630, about 40–70 years later than seems to have been the case in continental Europe.

In figure 9, I project the European trend in capital punishment against the trend in homicide rates. It indicates an astonishingly strong correlation over the period between 1300 and 1800. Both curves show a peak in the late fourteenth century, a possible minor spike in the second half of the fifteenth century, and a long decline in the seventeenth and eighteenth centuries, which seems to have started earlier

for the practice of state-sanctioned hanging and beheading than for criminal homicide. In interpreting this association, one should bear three issues in mind. First, the two groups of data come from different types of sources. It is therefore unlikely that the association reflects shared methodological bias. Second, the spatial coverage of the execution series and the homicide series differs considerably. While most of the execution series relate to Italian, German, and Dutch cities, the homicide series comprise a geographically larger and more varied set of data. Considering this lack of spatial congruity, it may even be more astonishing that the overall patterns are so similar. Finally, it is worth noting that the overlap is not a direct result of murder trials resulting in executions. Across Europe, the death penalty was a common punishment for a wide range of felonies including larceny, robbery, burglary, arson, and witchcraft (Spierenburg 1984; Bellamy 1998). Offenders convicted of homicide typically accounted for only a small proportion of all executions.

The correlated trend between executions and homicide raises several questions that need further inquiry. For one, the shared trend could mean that the declining frequency of executions signals the increasing capacity of early modern governments to gain control over their subjects. Van Dülmen (1995), for example, has suggested that the decline in capital punishments in Germany since the late sixteenth century is largely a result of the drop in actual crime levels, with the authorities gradually gaining control over the social disorder of the seventeenth century. This is not an argument in support of a direct deterrent effect of executions. Rather, it would suggest that the bundle of disciplinary techniques that spread through Europe in the wake of the late sixteenth-century social disciplining offensive gradually brought violent and criminal behavior under control, making executions a less likely event even if the tariff (i.e., the likelihood of capital punishment given a certain crime) had remained constant.

But the similarity in trends could also be seen as evidence that homicide and capital punishment were two sides of the same coin and that their simultaneous decline up to 1800 reflects a more fundamental shift that affected elite attitudes away from approving the spectacle of human beings being debased, tortured, killed, and publicly displayed to large audiences as much as the sense of respectability, frugality, and moderation that influenced increasing segments of the evolving civil society (Spierenburg 1984).

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C. Books and the Reading Revolution, 1450–1900

A theoretical framework that links the long homicide decline to increased self-control warrants indicators of investment in discipline, long-sightedness, and perspective taking. For the early modern period, two such indicators are the spread of books and literacy. They index self-control for several reasons. The rise of the book is intimately linked to the European historical epicenter of self-discipline, the monasteries, in which the mastery over greed (poverty), over physical desires (chastity), and over self-interest (obedience) were core pillars of ascetic life (Lawrence 2001). This was especially so until Johannes Gutenberg's idea of printing hit the market in 1453, which freed the encounter with ideas stored on parchment or paper from the century-old confines of monastic libraries. Also, reading and writing skills were mainly acquired in the schools, the foremost producer of discipline and compliance. This is true even if in some rural areas such as Sweden and Switzerland the spread of literacy largely relied on learning at home (Houston 1988). But schools were not only about providing knowledge. Authorities were convinced that lack of education bred immorality and crime and that schools could keep vice in check by promoting obedience, restraint, and discipline (Graff 1977, p. 245).

Furthermore, literacy was linked to self-control via the contents that readers read. In seventeenth-century Spanish bookshops, for example, popular books would include religious titles such as the *Exercitatorio de la vida spiritual* (An exercise book in spiritual life), liturgical literature, sermons, and editions of the holy scriptures and commentaries, although more practical advice literature and cheap broadsheets were also in high demand (Nalle 1989). Similarly, the Swedish and Scottish literacy campaigns of the late seventeenth and eighteenth centuries were entirely designed to support the reading of the scriptures and the catechism (Houston 1987). Finally, reading and writing are in themselves training sessions in self-control. They require mastery over abilities such as sitting still, fine-motor control of hand movements, self-directed information processing, and training of mnemonic and thinking skills—all of which are core components of self-control. Moreover, for many centuries the acquisition of literacy was a costly investment in human capital (Schofield 1973; Baten and van Zanden 2008). It promised returns in prestige or wealth in the long run only, thus possibly creating a rational incentive for long-sightedness and careful planning.

TABLE 7
Book Production per 1,000 Inhabitants, 1454–1799

	Period						
Country	1454–99	1500–1549	1550–99	1600–1649	1650–99	1700–1749	1750–99
Great Britain	2.0	14.6	27.3	80.0	191.8	168.3	192.0
Ireland	0	0	.1	3.8	14.2	61.7	77.7
Sweden	.2	.8	1.1	39.7	58.5	83.8	208.9
France	3.2	29.9	33.7	52.2	70.1	58.7	117.9
Belgium	4.7	17.7	48.2	33.2	73.6	30.7	44.5
Netherlands	7.9	14.2	33.5	139.0	259.4	391.3	488.3
Germany	4.1	21.2	43.4	54.0	78.7	99.7	122.4
Switzerland	9.3	48.1	78.5	9.3	14.6	14.2	32.3
Italy	6.8	21.3	51.0	42.1	56.3	48.4	86.5
Spain	.9	4.2	4.3	8.8	14.3	18.5	28.3
Poland	0	.2	.5	5.7	6.2	9.9	22.5
Western Europe	3.1	17.5	29.1	40.6	66.7	66.7	122.4

SOURCE.—Data from Buringh and van Zanden (2009).

Buringh and van Zanden (2009) have recently presented an extraordinary series of estimates, based on extensive searches of catalogues and corrections for missing information, on the volume of manuscripts and printed books produced from 600 to 1800. They argue that book production is a core indicator of human capital formation and that it is closely correlated with the spread of literacy across the continent.

Between 1454 and 1800, their estimates on the production of printed books in 50-year intervals distinguish 13 European regions within contemporary boundaries. The data show that the volume of printed books increased about 40-fold across Europe from 3.1 per 1,000 inhabitants in 1454–1500 to 122.4 per 1,000 inhabitants in 1751–1800 (see table 7). Moreover, they found substantial differences in the trajectories between regions. According to their estimates, France, Belgium, Germany, Switzerland, and Italy were early pioneers of the printing press in the sixteenth century but lost relative importance in the seventeenth and eighteenth centuries. In contrast, the two dominating military and economic powers of the seventeenth and eighteenth centuries, the Netherlands and Britain, experienced a fast growth in book production during the seventeenth century. By the second half of the century, they produced more than twice as many books per capita as any other European country, signaling a massive lead in academic and literary book production. Sweden followed suit during the eighteenth century, es-

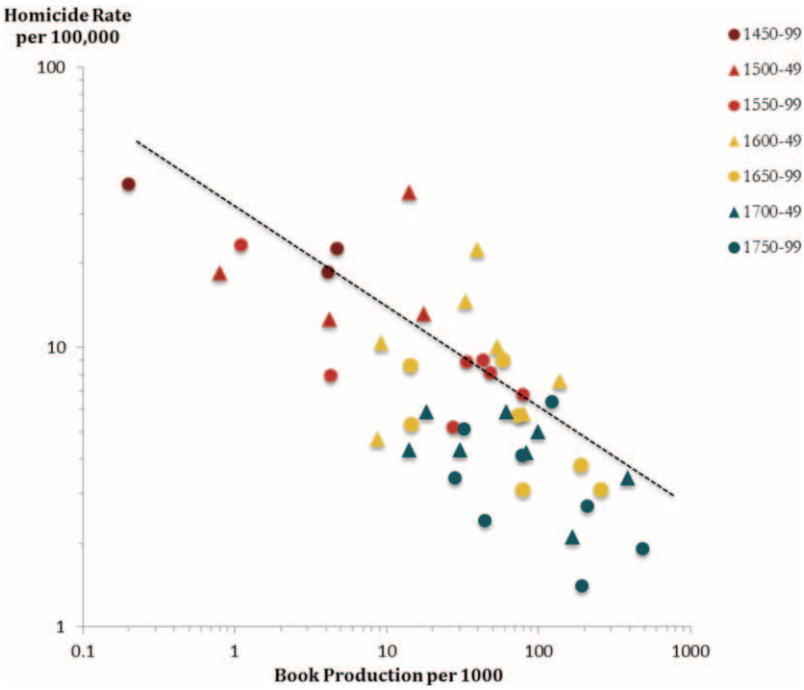

FIG. 10.—Log-log relationship between book production and homicide rates in western Europe, 1450–1800, 50-year periods. Data on book production are based on Buringh and van Zanden (2009). Homicide data are as shown above in table 1. Regression model: HomRate = 22.3 × BookProd$^{-0.345}$; R^2 = 53.7 percent; N = 42.

tablishing itself as one of the major producers of books by the late eighteenth century. In contrast, the economically backward regions of Poland and Spain lagged far behind the European average throughout the early modern period.

The data by Buringh and van Zanden (2009) permit an empirical assessment of the dynamic link between the spread of books and levels of homicide. To examine this association, I matched their 50-year estimates of per capita book production with corresponding estimates from the History of Homicide Database. Forty-two observation points representing eight regions between 1450–99 and 1750–99 have information on both variables, forming the basis for the visualization of the relationship in figure 10. The results are shown in a log-log plot, in which logarithmic scales are used on both the horizontal and the ver-

tical axes. Because the data relate to different time periods and places, I present the findings so that observations for each 50-year time period are coded with a different label.

The data show a strong negative association across all 42 observations. I fitted an equation of the form $y = ax^k$, which represents the linear relationship between the two logged variables, with k representing the elasticity estimate. The findings suggest that every 10 percent increase in book production was associated with a 3.4 percent reduction in homicide rates and that the two variables share almost 54 percent of the variance. The main historical movement suggested by the data is a shift of European societies from the upper-left-hand corner of high homicide and low literacy toward the lower-right-hand corner of high literacy and low homicide, with an evolving cross-sectional association between the two variables. For example, the countries that had moved to the highest per capita book production by 1750–99, namely, England, the Netherlands, and Sweden, had also reached the lowest levels of homicide rates. By comparison, in countries such as Italy and Spain, where literacy and book production lagged behind by the late eighteenth century, homicide rates were considerably higher.

The story of the literacy-homicide link does not end in 1800. From the 1850s onward, relatively continuous estimates of illiteracy rates are available at the national level, usually as part of the national census. They show that illiteracy continued to decline during this period in line with the expansion of compulsory schooling, but with considerable differences between regions. In areas such as Sweden, Denmark, Norway, the Netherlands, Prussia, Switzerland, and Scotland, literacy rates were already above 80 percent in the middle of the nineteenth century and converged to below 5 percent before World War I. In the south and east of Europe, however, very considerable proportions of the population were illiterate in the middle of the century. And although illiteracy fell rapidly in the following decades, countries such as Italy, Spain, Portugal, and Hungary continued to have illiteracy rates above 25 percent around 1910 (Flora and Alber 1983).

To further examine the link between the fall in illiteracy and the decline in homicide rates, figure 11 shows the trajectory of homicide rates against illiteracy rates over subsequent 5-year periods in five selected countries. Arrows indicate the time order of observations to allow the reader to follow the time path within each country.

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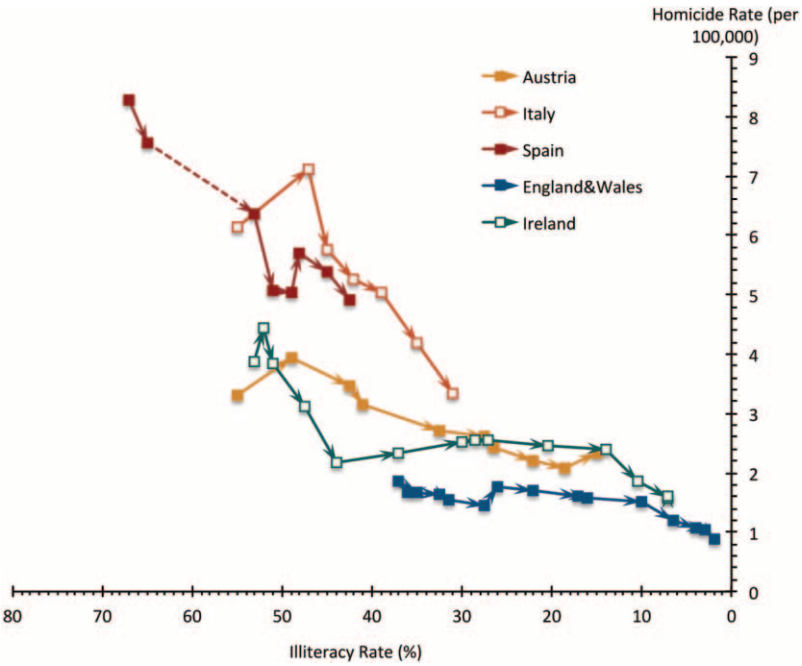

FIG. 11.—Trajectories of literacy rates versus homicide rates over time in five selected countries, 1845–1910, 5-year intervals. Arrows indicate the direction of time, starting between 1845 (England and Wales) and 1875 (Italy) and ending in 1910–14. Source: Homicide rates are from the History of Homicide Database. Illiteracy rates are from 1845 based on Flora and Alber (1983) and UNESCO (1953).

It suggests a consistent pattern of falling homicide rates as literacy rates increased. Furthermore, one may note that the inverse association between literacy and homicide is stronger in the middle range of literacy rates, between 70 and 30 percent, while the association is flatter as literacy rates approach 100 percent. This might be suggestive of the notion that the self-control-enhancing effect of literacy became weaker as the skill became more widely disseminated and literacy ceased to be a valuable capital.

Again, it is important to note that these associations do not demonstrate causation. As literacy rates were monotonically falling in every country during the period from 1850 to 1914, very little can be said statistically about the relationship other than that there was an association in the expected direction over time and that at each specific

time there was considerable cross-sectional correlation between literacy rates and homicide rates. Literacy and book production share the problem of all macro-level indicators in social science research, namely, that they index several theoretically meaningful constructs, and their societal meaning and significance can change over time. If the correlational link with homicide is more than a coincidence, it could reflect the growth of self-control, the rise of modern individualism, the accumulation of human capital, or something else that may be associated with books. Which of these mechanisms was involved cannot be determined on the basis of macro-level indicators alone. In the present world, macro-level differences in literacy rates have not generally been found to be systematically associated with differences in homicide rates, although they were a substantial regional and national covariate in the nineteenth century (e.g., Nivette 2011). This probably underlines the point that macro-level quantitative indicators need to be interpreted in their historical and social contexts.

Despite these limitations, I believe that the findings presented here are the best available quantitative support for the hypothesis that investment in self-control was one of the driving forces behind the decline of homicide rates in Europe during the four centuries from about 1500 until about 1900. The overall decline in homicide rates as well as regional differences in the trajectories track the rise in literacy rates. Areas such as England and the Netherlands, where reading and writing spread earlier, were areas where homicide declined earlier. In areas such as Sweden, where there was a national literacy campaign during the second half of the seventeenth and the first half of the eighteenth centuries, the homicide decline coincided with the expansion of the ability to read the Bible and the Lutheran catechisms. Throughout the nineteenth century there existed a notable correlation, at both national and regional levels, between the diffusion of reading skills and levels of homicide rates. And, finally, the convergence of homicide rates across Europe toward the end of the nineteenth century coincides with the generalization of schooling across almost all areas of at least western Europe. In sum, populations that could read were less likely to have lethal fights and societies where the spread of literacy occurred earlier tended to experience an earlier drop in homicide.

D. Promoting Temperance and Controlling Alcohol Consumption: 1850–2000

Civilizing revolutions are not restricted to techniques that mold people's inner selves. Rather, mindful of the fragility of human self-discipline, their carriers likewise try to curtail the subjects' exposure to temptations and frictions that imperil a virtuous life. To put it in economic terms, disciplining revolutions are also aimed at lowering the demand for self-control by reducing exposure to brothels, taverns, or uncontrolled gatherings of festive crowds. One prime target of such efforts has been alcohol—the big seducer of men that writers from the Middle Ages onward have accused of ruining self-control and breeding lewdness, aggressiveness, madness, and disrespect for authorities (Warner 1997). Or, as the Elizabethan pamphleteer Thomas Nashe (1567–1601) put it, the drunkard "flings the pots about the house, calls his Hostesse whore, breakes the glasse windowes with his dagger, and is apt to quarrell with any man that speaks to him" (cited in Warner 1997, p. 1792).

Attempts to reduce excessive alcohol consumption go back to the Middle Ages. In medieval Augsburg, for example, the city council imposed tavern bans as a kind of antisocial behavior order against men who were known for domestic violence (Tlusty 1994). But the first coordinated attempt at large-scale reduction in excessive alcohol use was associated with the disciplining initiatives of Protestant and Catholic reformers from the late sixteenth century onward (Martin 2009). English Puritans such as Phillip Stubbes in his "Anatomy of Abuses" were vociferous in condemning drinking. Reformers denounced, for example, the traditional "church ales," festivals at which ale was sold to raise money for church expenses and the relief of the poor, as "mere excuses for bullbeatings, bowlings, drunkenness, dancings and such like" (Nicholls 2008, p. 194).

Some evidence suggests that alcohol consumption did decrease in the seventeenth and eighteenth centuries (Martin 2009), but it is impossible to assess its extent and timing with any greater degree of precision. The situation is much better from the mid-nineteenth century onward, when national data become available for a number of countries. I focus here on northern Europe, where temperance movements, fueled by evangelical and utilitarian motives, became a supporting pillar of the drive toward moral betterment between about 1850 and 1930 (Levine 1993; Yeomans 2011). Their target was self-control. Alcohol,

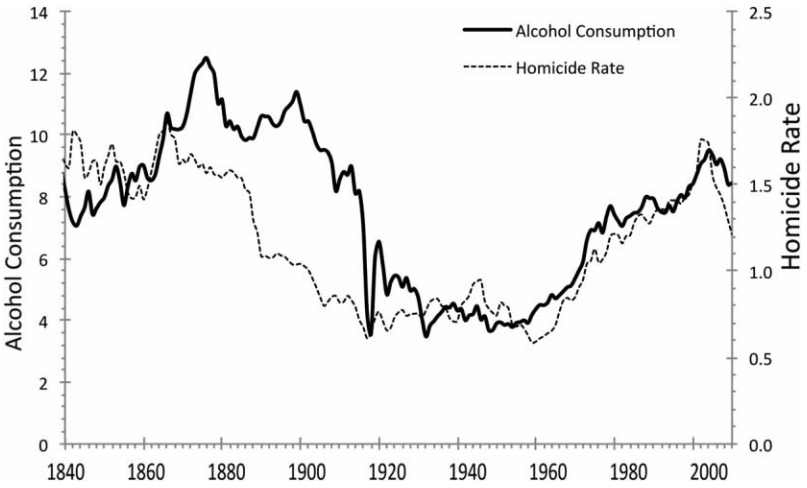

FIG. 12.—Homicide rate and alcohol consumption in England and Wales, 1840–2010. Source: Alcohol data until 1922 are from Wilson (1940). Homicide rates were smoothed with 3-year moving averages.

the argument went, weakened the moral and higher proportions of the brain, produced a "disease of the will," and caused irrational harm both to oneself and to others. Sobriety, thrift, and self-discipline, by contrast, characterized the respectable "true man" who is in full possession of his willpower. Across the Protestant north of Europe these movements were highly influential, helping to shape early public health policies, social welfare policies, and the shifts in public opinion toward an increasing moral denunciation of alcoholic beverages.

Figures 12–15 chart the level of alcohol consumption according to official statistics in Sweden, Norway, Denmark, and England and Wales from the 1840s onward. They show that alcohol consumption fell by at least 50 percent in all four countries between the 1880s and the 1920s. Remarkably, this decline occurred despite increasing spending power and a growth in leisure time due to declining working hours. In Denmark, for example, per capita intake dwindled to less than 4 liters of pure alcohol in the 1930s, about 3 pints of beer per week. There is little doubt that the combination of state control (e.g., the purchasing rationing regime in Sweden from 1917 to 1955) and private moral entrepreneurship was pivotal in achieving this sobering of whole

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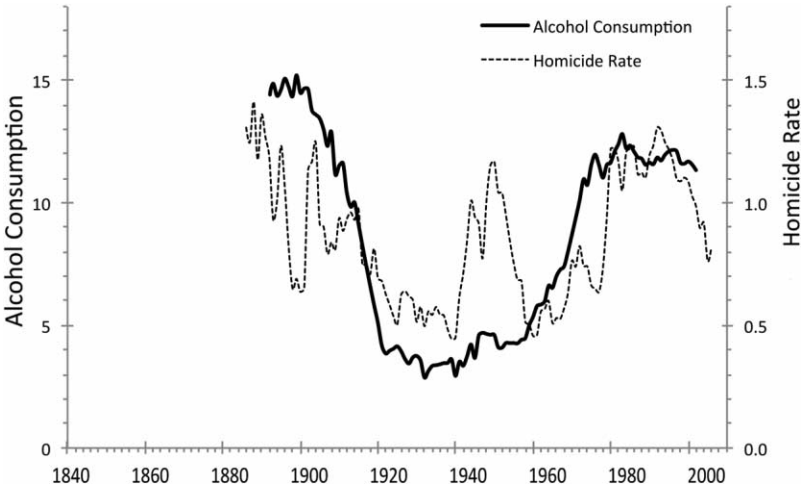

FIG. 13.—Homicide rate and alcohol consumption in Denmark, 1880–2010. Source: Alcohol data: personal communication Jan Bentzen, Aarhus University. Homicide rates were smoothed with 3-year moving averages.

societies. It was closely watched by contemporaries and seen as a success in the promotion of civilized behavior (e.g., Carter 1932). But by the 1930s the temperance movement had lost its momentum, and across northern Europe, levels of alcohol consumption rose steadily until around 1980, when a new plateau of consumption levels was reached, with fluctuations in each country probably reflecting national differences in alcohol policy (e.g., Bentzen, Eriksson, and Smith 1999).

Figures 12–15 also show trends in homicide rates over the periods when data on alcohol consumption are available. They suggest a substantial correlation between alcohol trends and homicide rates in all four countries—most convincingly in Norway and Sweden, where homicide closely tracks the decline in alcohol consumption until the 1940s. But in all four countries, homicide rates went down during the late nineteenth and early twentieth centuries roughly in line with the decline in alcohol consumption, and they increased again during the 1960s and 1970s, when alcohol became more widely available again. The bivariate correlations between the raw series are .59 (Denmark), .62 (Norway), .73 (Sweden), and .69 (England), suggesting a substantial amount of shared variance in the overall trend.

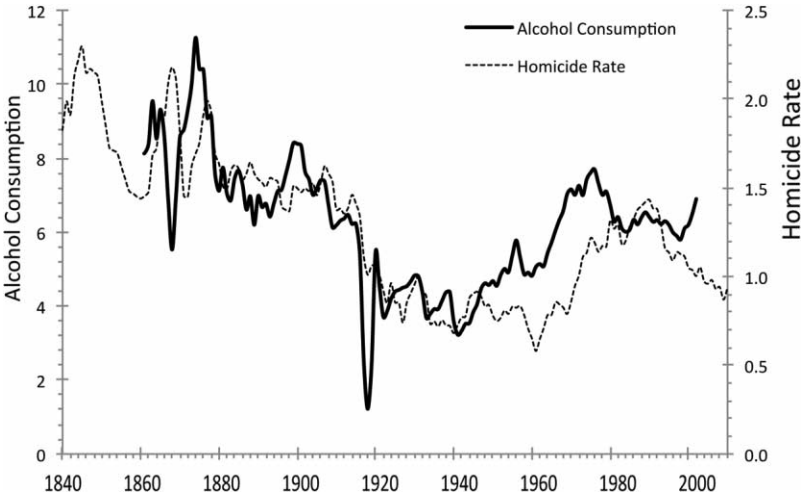

FIG. 14.—Homicide rate and alcohol consumption in Sweden, 1870–2010. Source: Alcohol data: personal communication Jan Bentzen, Aarhus University. Homicide rates were smoothed with 3-year moving averages.

I also examined associations between the first-differenced series, which is a more rigorous test of causal effects. Over the entire time period, they show small correlations in the expected direction for all four countries, ranging between $r = .10$ for England and $r = .16$ for Norway. The positive association disappears when the homicide data are lagged by 1 or 2 years, suggesting that any causal effect is short-term and likely operates within the same year (also see Lenke 1990). However, the issue of whether alcohol consumption has a direct causal effect on homicide is not central to my argument. Rather, my primary interest is in sobriety as an indirect indicator for the success of the civilizing offensives by elites that aimed to change the moral economy of their populations.

Certainly, the Victorian drive to improve self-control was not limited to alcohol. Rather, constraining alcohol use was part of a wider effort to promote self-discipline, perseverance, responsibility, and honesty. In Victorian England, different threads came together under the umbrella term of "rational recreation," a prevention strategy that aimed at clearing the hot spots of unmoral pastimes, especially rowdy and undisciplined street games, and substituting for them pastimes that were re-

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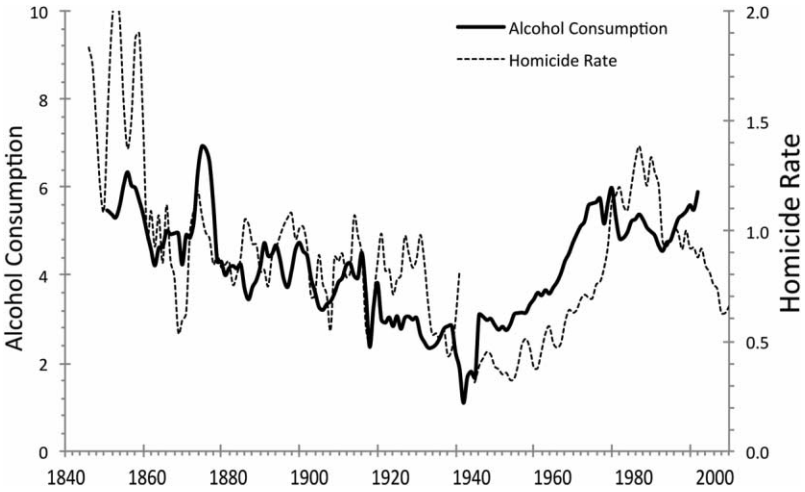

FIG. 15.—Homicide rate and alcohol consumption in Norway, 1850–2010. Source: Alcohol consumption: personal communication Jan Bentzen, Aarhus University. Homicide rates were smoothed with 3-year moving averages.

spectable and morally improving (Bailey 1978). By around 1850, the brutal tradition of prizefighting in open space came to be replaced by the more regulated sport of boxing, which was subject to strict rules and came to be seen as having an educational value in fostering efficient and muscular Christians (Wiener 2004). Approximately in the same period, the medieval game of football, essentially an open-end organized fight of two large groups of villagers around an inflated pig bladder, became sanitized as a rule-bound sport that came to be seen as promoting fair play, self-reliance, endurance, and sobriety (Vorspan 2000).

The decline of alcohol consumption during the period thus should be seen as indexing a wider civilizing offensive that targeted behaviors both in public and at home. It contributed to northern Europe experiencing some of the lowest homicide rates ever recorded in human history between the 1920s and the 1950s. Despite much less effective wound treatment and a considerably larger proportion of young men than today, homicide levels typically ranged between 0.3 and 0.6 per 100,000—roughly a 1 : 100 reduction over medieval levels and substantially less than contemporary rates in Europe would be if medical technology and demographic structure could be held constant.

E. Self-Control Lost and Regained? 1950–2010

I return to the "culture shift" argument set out at the beginning of this essay. Is there evidence for the notion that violent crime exploded in the 1960s because cultural shifts undermined the motivational fabric of self-control and that a reconfigured emphasis on self-control stabilized and then reduced crime since the early 1990s?

Finding quantitative data on this issue is difficult. While time series for economic and social variables proliferated in recent decades, quantitative indicators for cultural change remain scarce. I therefore turn to a new source of data on cultural trends, namely, the Google Books NGRAM corpus (Michel et al. 2011). Launched in 2010, NGRAM is a database of 8 million digitized books published between 1500 and 2008, corresponding to about 4 percent of all books ever printed. The interface allows users to track the frequency of any group of words as a percentage of all words in the corpus over a specified period of time. Its popularity as a source for cultural information has soared recently. For example, Greenfield (2013) used it to track changes in psychological characteristics during the transition from rural to urban society between 1800 and 2000, and Roth (2012) used NGRAM to trace shifts in group identities associated with major fluctuations in US homicide rates during the eighteenth and nineteenth centuries. But can this huge collection of English-language texts help to back up the postulated rise and decline in self-control?

NGRAM has important limitations as a source for cultural indicators. Book genres can be only partly separated, making it impossible to determine how change in the proportion of, for example, science and engineering texts affects the results. Also, it is hard to say what changing word frequencies mean. If the word "disrespectful" became more often used since the late 1980s, does this indicate that people became more disrespectful, that showing respect became more highly valued, or that talking about respect became more fashionable? Finally, Google Books mostly indexes academic work. The focus of our interest, namely, change in popular youth culture, is hence filtered through the vagaries of academic writing, publishers' decisions, and publication delays.

Despite these limitations, the NGRAM viewer is probably our best bet for exploring macro-level cultural change over the past 60 years. I focus on three domains. The first is three groups of words that tap into hedonistic preferences claimed to have been responsible for the

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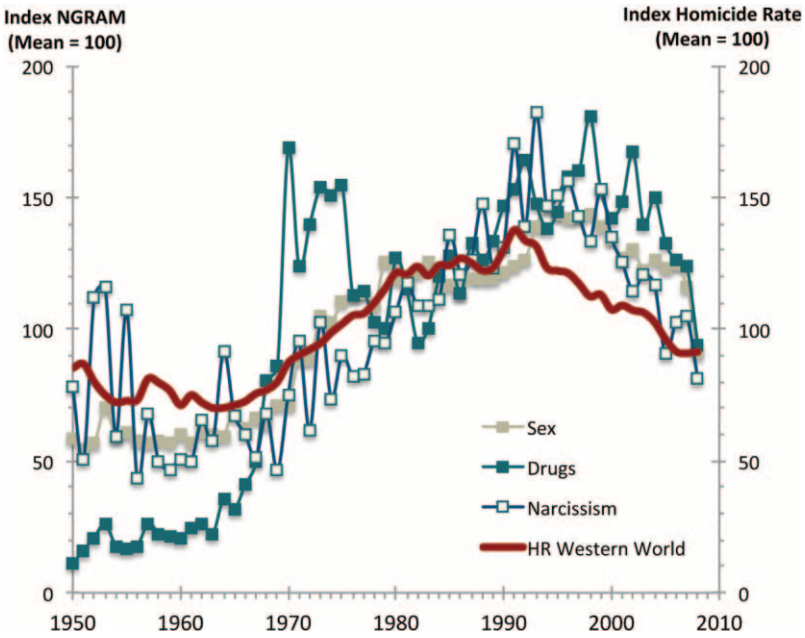

FIG. 16.—NGRAM frequency of "sex," "drugs," and "narcissism" versus indexed homicide rates, Western world, 1950–2008. Lexical entries used in NGRAM search: "drugs": cannabis, marijuana, heroin, cocaine; "narcissim": narcissism, narcissistic; "sex": sex, sexual, sexually.

growth in crime, namely, the occupation with "sex," "drugs," and "narcissism." The second domain is four groups of words that relate to self-control, namely, "shame," "politeness and good manners," "conscientiousness," and "honesty." Finally, I examine the career of three words that represent elements of the new culture of control proposed by Garland (2001), namely, "CCTV (closed-circuit television)," "zero tolerance," and "anger management." All analyses were conducted on the 2013 "English" corpus of NGRAM, the most comprehensive corpus of books published in English.

Figures 16–18 show the trends in the three groups of indicators in comparison with the shared homicide trend across Western societies described in figure 4. The shared trend (rather than the series for the United States, England, or Australia) was chosen because English-language publications continued to have a major influence on cultural trends across most Western societies.

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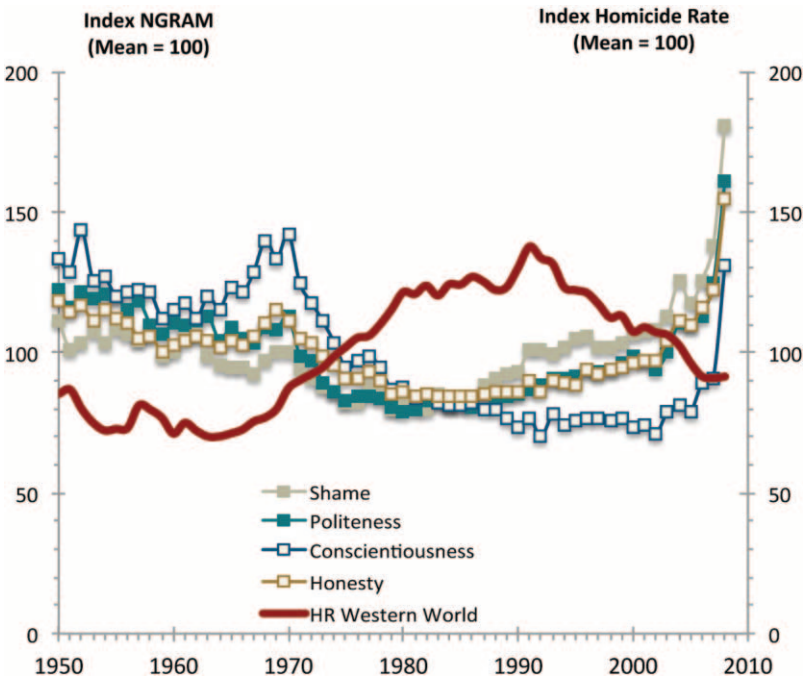

FIG. 17.—NGRAM frequency of self-control-related thematic fields versus homicide rate, Western world, 1950–2008. Lexical entries used in NGRAM search: "shame": shame, ashamed, shaming; "honesty": honesty, honest, trustworthiness, trustworthy, truthfulness, truthful; "politeness": politeness, polite, respectfulness, respectful, thoughtful, manners, etiquette, civility; "conscientiousness": conscientiousness, conscientious, diligent, industrious, self control.

Figure 16 suggests that the three indicators of more hedonistic interests show similar trends. Broadly in line with the culture shift hypothesis, sex, drugs, and narcissist self-interest became increasingly popular subjects in English-language books from the 1960s onward. In the early 1980s, typical book titles that fed the increase included *All about Sex Therapy*, *Sex Tips for Girls*, *Psychoactive Drugs and Sex*, or *Love and Narcissism in Psychoanalytic Practice*. The trend continued until the mid-1990s. But from about 1996 onward, all three topics began to lose importance in the English-language book market. A comparison of these indicators with the homicide trend in the Western world suggests a broadly parallel movement with a good coincidence of the upward turn in the late 1960s and the shift toward declining trends in the early

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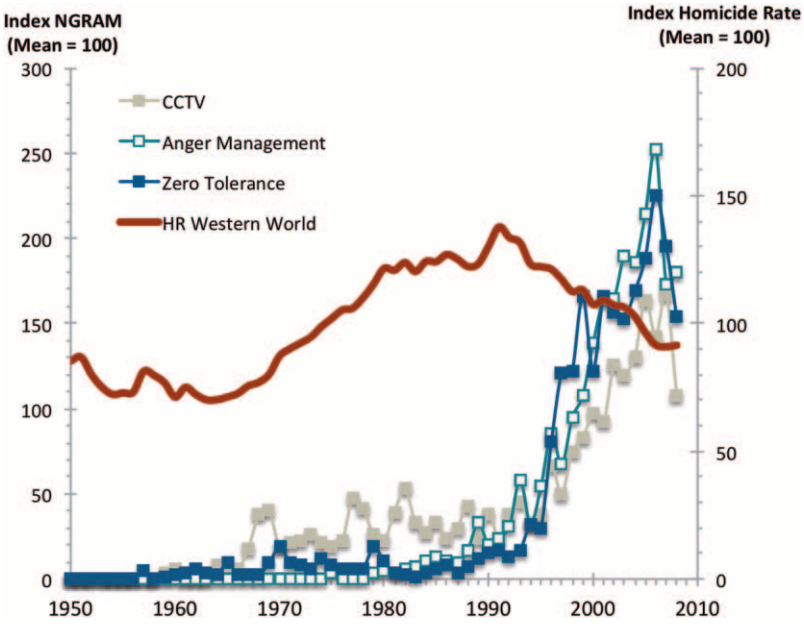

FIG. 18.—NGRAM frequency of "CCTV," "zero tolerance," and "anger management" versus homicide rates, Western world, 1950–2008. Lexical entries used in NGRAM search were CCTV, anger management, and zero tolerance.

1990s. The bivariate correlations with the Western world homicide trend are $r = .74$, $r = .80$, and $r = .85$ for the topics of sex, drugs, and narcissist self-interest as measured in NGRAM, respectively.

Figure 17 shows the frequency of word fields that may be indicative of self-control, namely, shame, politeness, conscientiousness, and honesty. As the arguments brought forth by commentators such as Himmelfarb (1995) and Fukuyama (1999) would lead us to expect, the late 1960s and the early 1970s saw some decline in the frequency of word strings that express preoccupation with the kinds of moral issues and norms of conduct that had been of such concern in the Victorian period. Subsequently, all four indicators essentially follow a long U-shaped curve with a trough roughly in the mid-1980s. Since then, issues related to honesty, shame, and politeness slowly recovered some of the ground they had lost in the early 1970s, with a notable acceleration of interest in self-control-related topics since about 2003. Titles

that relate to these thematic fields around 2005–8 include a fair proportion of popular advice literature such as, for example, *Be Honest and Tell the Truth*, *Becoming a Trustworthy Leader*, *Shameful Behaviors*, *It's Time for Good Manners*, or *Good Manners: A Passport to Success*. Taken together they reflect an increasing preoccupation with exercising what psychologist Roy Baumeister called the "moral muscle of self-control" (Baumeister and Exline 1999). The associations with the trend in homicide rates are in the predicted direction, with bivariate correlations of −.29, −.73, −.84, and −.71 between homicide and shame, politeness, conscientiousness, and honesty, respectively.

1. *New Culture of Control?* The general return of values that emphasize self-control, civility, and moral individualism is one possible explanation for the synchronized decline in homicide across the Western world. But within the explanatory framework of this essay, it is equally important to consider whether the 1990s saw the introduction of an innovative bundle of disciplinary techniques, similar to those that changed social life during the early modern disciplinary revolution and during the Victorian civilizing offensive. To examine this issue, figure 18 shows the frequency of three selected topics related to the new culture of control, namely "CCTV cameras," "zero-tolerance policies," and "anger management" as a therapeutic regime. All three topics were genuine innovations, with respective word strings hardly occurring before 1990. Interestingly, all three topics rose along parallel upward trajectories from around 1992 until 2007, broadly in opposition to the declining trend in serious violence.

Of course, the three topics selected for presentation in figure 18 are only small fragments of the disciplinary mechanisms in modern societies. I hence conducted additional analyses using NGRAM for a range of keywords related to crime-control strategies. The results suggest that a much broader range of techniques that shape the current criminological discussion took off at some stage in the 1990s. This includes, among others, the keywords "DNA profiling," "offender management," "electronic tagging," "curfew orders," "boot camps," "three strikes," "community" and "problem-oriented" policing, "early childhood intervention," "evidence-based prevention," and "violence prevention." These thematic fields are at best tenuously related to each other. But in conjunction they seem to signal a broad underlying swing toward a new disciplinary paradigm.

So what do these data tell us about the link between cultural shifts

away from and then back toward self-control, and trends in violent crime rates? Assuming that the shown indicators are crude, but roughly correct, measures of change in moral climate, the findings lend themselves to three conclusions. First, they suggest a drift toward more hedonistic expectations during the 1960s, 1970s, and 1980s and a return of more traditional preoccupations during the 1990s and 2000s. This is in line with the "culture shift" argument proposed by observers such as Fukuyama (1999) and Pinker (2011). The amplitude of the swings was moderate, and changes were gradual rather than abrupt. Maybe this is an artifact of the source used, however. The themes covered in NGRAM capture change as seen through the eyes of adult academics and publishers, whose decision-making processes may delay and smooth out more significant change in popular culture.

Second, the indicators suggest a broad link between culture shifts and change in homicide rates since World War II, although the indicators of culture change do not track specific turning points in violent crime. This does not mean that the inverse correlation between the rise and fall of crime and cultural interest in self-control was purely coincidental. Rather, it probably suggests that the shifts in values, expectations, and themes that characterized the cultural history of the Western world since the 1950s should be seen as a kind of long-term background radiation that affected the longer trends in crime levels rather than the specifics of short-term variation and differences between countries.

Third, I note a good correspondence between the beginning of the crime decline in the 1990s and the diffusion of the three indicators of a new culture of control, namely, CCTV surveillance, zero-tolerance policies in policing and schools, and a focus on anger management as a self-control-based therapeutic strategy (fig. 18). Their increasing popularity is part of a broader bundle of disciplinary topics that were booming in the 1990s, which include aspects of technical surveillance, more effective formal social control, and early and evidence-based prevention and risk-focused intervention. This probably supports the plausibility of claims that securitization (Farrell et al. 2011) and a new culture of control (Garland 2001) played a role in bringing about the change in crime trends during the early 1990s.

From the long-term perspective that I have taken in this essay, this should not come as a surprise. If the conclusion from the analyses presented here is that a combination of wider cultural shifts with more

specific innovative technologies of outer social control (e.g., CCTV cameras) and inner control (e.g., anger management as just one manifestation of self-control-focused intervention strategies) contributed to the turning point in the early 1990s, then the constellation would be somewhat similar to that of the early seventeenth-century disciplinary revolution and the Victorian assault on crime and vice around the mid-nineteenth century.

2. *Additional Explorations.* One limitation of NGRAM is that it remains unclear whether change observed at the level of words used in books bears any relationship to beliefs and preferences in the general population. This would require survey data over long enough periods. Currently, I have found only one set of data with repeated measurements that reflect wider change in values and beliefs related to parenting. The largest opinion poll organization in Germany, the Allensbach Institute for Public Opinion Research, has produced a series of survey data on parenting values from 1967 to 2010 (Petersen 2011). Over more than 40 years representative samples of the population were asked which values they consider particularly important for helping their children in their later life. Three items are particularly important here as they directly bear on self-control, namely, "politeness and good manners," "doing work diligently and properly," and "being thrifty in money matters." These questions were asked to representative samples of the general population, and they were not specifically about parenting practices, but about general goals thought to be important in life. I therefore believe that they are best interpreted as broader measures of value change than as more proximal measures of actual parenting.

Figure 19 shows the average proportion of respondents who did not agree to any one of these items. It suggests that in Germany the tendency to reject self-control values as being important in life increased substantially between the mid-1960s and the early 1990s. In contrast, since 1990 the data suggest a tendency for larger proportions of respondents to endorse values that are arguably associated with self-control. The change in trends is broadly similar to findings reported by Collishaw et al. (2012) on parenting values in the United Kingdom, based on large nationally representative surveys that study tracked changes in parental practices that are likely to be related to self-control. The study found that between 1986 and 2006, parental expectations

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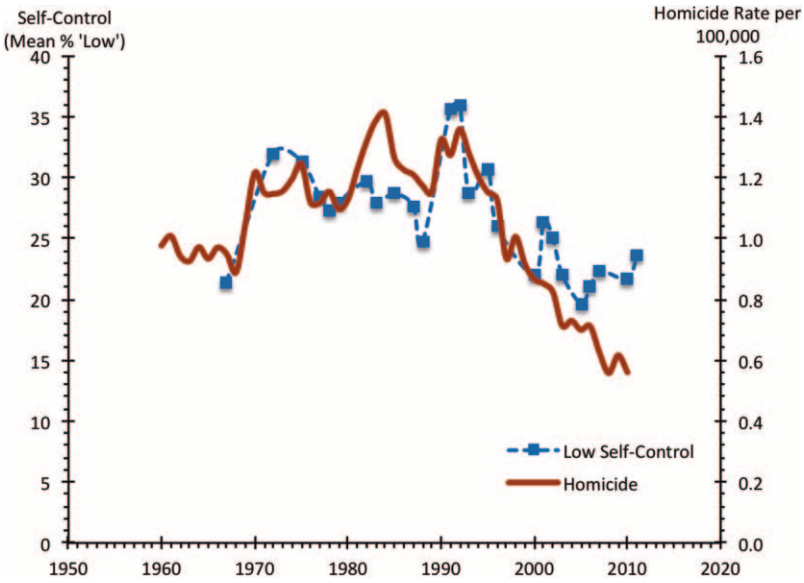

FIG. 19.—Promoting "self control" as a parenting value in Germany and mean homicide trends in German-speaking countries. The "low self-control" score is based on three items, namely, importance of promoting "politeness and good manners," "doing work diligently," and "being thrifty and saving money," mean percentage not agreeing to these items. Source: Parenting values: Petersen (2011). Homicide rates are the unweighted average for Germany, Austria, and Switzerland.

about "being polite to parents" and "doing homework" had increased significantly.

Figure 19 also shows the average annual homicide rates in Germany and the neighboring (mostly) German-speaking countries Austria and Switzerland. The data suggest a close association between change in "self-control" as a public value and variation in homicide rates. The bivariate correlation is $r = .80$.

As always, such associations do not demonstrate causal impact. Also, the lack of similar indicators for other countries makes it impossible to say whether trends in homicide rates are more generally associated with change in the extent to which politeness, diligence, and thriftiness are emphasized as broad values in the general population.

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V. Conclusions and Outlook

It is not merely a scientific embarrassment for criminology that we still barely understand why homicide rates have declined consistently across the Western world over the past 20 years. Understanding why the decline occurred could also be a critical achievement. It might provide clues about how to make declining trends happen in the future. This is especially so if one assumes that all major violence declines, in all places, at all times, are triggered by similar universal mechanisms and that at least some of these mechanisms are due to man-made policies (irrespective of whether they are intended to reduce violence) rather than to anonymous social forces.

In this essay, I focused on the longest, biggest, and best-documented drop in interpersonal violence, namely, the long European homicide decline between the late Middle Ages and the mid-twentieth century, which according to the evidence presented here comprised a drop in lethal male-to-male fighting by about 99 percent. More specifically, I examined whether it is possible to go beyond a mere description of the decline and to move toward a testing of theoretical assumptions represented by macro-level quantitative indicators.

To achieve this goal, I focused on presenting various indicators that are linked to the notion that over the centuries Europe saw a series of civilizing or disciplining offensives, each of which changed the political economy of social and self-control. They can be interpreted as a hierarchy of requirements needed to promote pacified behavior in a society. Its foundation is the establishment of a state where members of the elite do not kill each other, where entrepreneurs who seek profits from protection rents are kept in check, and where at least some level of the rule of law is available to common citizens. A second layer, represented here by the indicator of capital punishments, is a criminal system that is rule-bound, not cruel and predictable. A third layer consists of disciplining policies that intervene in daily life and channel behaviors, especially in public life, into being more regulated and norm-accepting. The Victorian "rational recreation" movement with its links to temperance and alcohol control was an example. A fourth layer consists of the resources that support the formation of conscience and self-control as an inner moral muscle, exemplified here by the diffusion of reading and writing abilities.

I have reiterated throughout this essay that the display of correlated curves is not sufficient to make any claims for causal mechanisms. And

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it may be necessary to state it again here. But I believe that the data presented here open up a range of possibilities for further empirical inquiry. In particular, I believe that the continuing development of an ever denser set of indicators on the economic, social, cultural, and political dynamics of Europe over the past centuries will bring us to the stage where we can subject theoretically based hypotheses on the long-term development of interpersonal violence to meaningful, more rigorous empirical tests. It is quite possible that measures of interpersonal violence will turn out to index important behavioral change that is intimately linked to (and predictive of) the rise of modern society.

Much more could be done, of course, beyond further improving the scope and quality of historical homicide data. For example, national biographies in various languages would lend themselves to the construction of comparative quantitative indicators about political violence among elites over long periods of time. Similarly, the early modern wave of social disciplining has left a mass of traces in the shape of ordinances and other behavioral regulations, whose trend over time could be examined.

Finally, the long-term perspective adopted here brought forth some evidence in support of the hypothesis that the decline of homicide in the Western world over the past 20 years shares some important characteristics with earlier declines. In particular, the early 1990s, on top of the broader pendulum swing back toward a higher emphasis on self-control, was characterized by emergence of a bundle of disciplining techniques similar to the social disciplining technologies of the late sixteenth and early seventeenth centuries or the Victorian civilizing offensive.

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QUERIES TO THE AUTHOR

q1. Au: Your article has been edited for grammar, clarity, consistency, and conformity to journal style, including issues of hyphenation and capitalization. The Chicago Manual of Style is followed for matters of style and Webster's Dictionary for spelling. Please read the article to make sure that your meaning has been retained. Journal style is to avoid a lot of italics for emphasis. May be used for terms that are defined. If any italics have been removed that change your meaning, they will be restored. Note that we may be unable to make revisions that conflict with journal style or create grammatical problems.

q2. The word "comprise" tends to connote the entire composition of an entity. In those cases in which I think only parts of entities are meant, I have changed the word to "include" or some other similar term. If I have mistaken any, feel free to point them out.

q3. In table 4: Journal style does not use italics in tables, so I have added a sentence to the table note explaining what the italics meant. Also, you have a fn. d but there is no callout in the table that refers to that note. Please specify where or else we will delete the note. Also, in the sentence below, you mention 1750–99, but the table uses 1751–1800. Please specify which you want.

q4. Do you perhaps mean "riddled with" instead of "ridden by"?

q5. Perhaps "hardly any"?

q6. 100 times lower is not logically valid. If the rate is 1,000, 100 times lower would be 100 times 1,000, or 100,000 lower, or a negative number. So perhaps you could state this as 100 times higher in the 14th century or else one one hundredth (or 1%) of the rate in the 14th century.

q7. Page no. of quotation from Burke (1796)?

q8. You didn't mention table 7 anywhere, but I think it should go here. If you prefer different wording, please note it.

q9. Is there a publisher for this yet?

q10. This seems to be a journal article. If that is true, then the title should be in quotation marks and the journal name in italics and the usual style for vol. and issue.

q11. Should this title be Clio y Crimen?

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q12. Is PhD thesis part of the title of the thesis?

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