

Siblicide and Seniority

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This article uses samples of siblicide from Canada, Great Britain, Japan, and Chicago to explore the possible relevance of seniority in siblicide. The tendency for the killer to be the younger party was especially true of cases in which victim and killer were same-sex adults and, especially, brothers close in age. The older party was much more likely to be the killer when one or both were children, but this tendency is adequately accounted for by the changing age-specific likelihood that one will commit a homicide at all. Only the Japanese data set contains information on actual birth orders, which were not demonstrably related to the likelihood of either killing or being killed by a sibling. An analysis of the Canadian data suggests that the rate of siblicide is unaffected by the age difference between siblings. The substance of lethal sibling conflicts is discussed in the light of these results, case descriptions, and literature on nonlethal sibling conflict.

*This article concerns homicidal violence between siblings and the possible relevance of seniority. Some authors use *fratricide* as a gender-neutral term for all sibling homicides, but others restrict its use to its literal meaning, namely, the killing of brothers. Thus, like Underwood and Patch (1999), we will use the unambiguous and etymologically appropriate, gender-neutral, term used by*

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students of nonhuman animal behavior (e.g., Mock & Parker, 1997): "siblicide."

In *Born to Rebel*, a widely discussed treatise on birth-order effects, Sulloway (1996) proposed that fratricides (i.e., siblicides) would prove to be committed primarily by firstborns, on the following grounds:

From a Darwinian point of view, predictions can be made about the most likely targets of fratricide. Because firstborns tend to reproduce first, later-borns have more to lose by committing homicide against an older sibling. A younger sibling's inclusive fitness will be enhanced by any offspring produced by older siblings. If a younger sibling kills an older sibling, this act may endanger the survival prospects of nieces and nephews already born to the older sibling. If there is a difference in fratricide rates by birth order, the prediction must be that firstborns are more fratricidal. (p. 437)

The limited evidence that Sulloway (1996) was able to find supported this expectation: "I have collected a variety of newspaper reports on the subject of fratricide. Although my informal survey is relatively small, every instance I have encountered involves an elder sibling killing a younger sibling" (p. 437). Sulloway went on to describe four U.S. examples, three involving prepubertal children as both killer and victim and the fourth involving two adult sisters.

More systematic evidence does not support Sulloway's (1996) hypothesis. Marleau and Saucier (1998) used Statistics Canada's database of all homicides known to Canadian police forces since 1974 to test Sulloway's proposal and disconfirmed it. In fact, the siblicidal party was the younger of the two in a slight preponderance (56%) of the cases: between 1974 and 1995, 117 Canadians killed younger siblings and 148 killed older siblings (two-tailed $p = .065$ by sign test). Apparently, no comparable analysis has been published for other countries, but it is unlikely that the contrast between Marleau and Saucier's data and the cases cited by Sulloway reflects a difference between Canada and the United States. Ewing (1997) provided descriptions of 16 U.S. siblicides gathered, like Sulloway's sample, from news reports. The killer was older in 8 cases and younger in 7; victim and killer in the final case were 68-year-old twin sisters. Moreover, there was a clear difference between cases involving children and those involving only adults:

The elder was the killer in all 6 cases in which one or both siblings were children 15 or younger, but in the other 10 cases, in which both were adults, seven killers were younger than their victims and only two were older (plus the case involving twins). In the 7 fratricides in which victim and killer were both adult males, the younger brother was the killer 6 times, the older only once.

Nevertheless, although the hypothesis that fratricides are committed mainly by firstborns has been disconfirmed, related questions about the relevance of seniority in siblicide remain unanswered. Might Sulloway's (1996) hypothesis be upheld if we considered only cases in which the protagonists were prepubertal children, as they were in three of his four examples? And if we interpret siblicide as the tip of the iceberg of sibling conflict, could we predict effects of other variables in addition to seniority within the sibling dyad? Might sibling conflict and hence siblicide vary, for example, as a function of one's specific birth order (firstborn, etc.), of the age gap between siblings, and of the various gender combinations?

In this article, we use national data from Canada, Great Britain, and Japan as well as city-level data from Chicago to further explore these issues.

DATA SOURCES

Data pertaining to each of the 255 siblicides known to have occurred in Canada between 1974 and 1990 were extracted from Statistics Canada's Homicide Survey, a victim-based archive of data on all homicides known to Canadian police forces.

Data pertaining to each of the 89 siblicides known to have occurred in England and Wales from 1977 to 1990 were derived from a similar archive maintained by the British Home Office.

Data pertaining to 45 siblicides that occurred in Japan in the early 1950s were obtained from a study report issued from the judicial Research and Training Institute, Japan, containing detailed descriptions of 780 homicide cases closed in 1955. These represent an apparently random sample of the roughly 3,000 homicides per annum that were reported to Japanese police in the early 1950s. Unlike the other data sets in this article, these cases comprise a partial sample rather than a complete set of all cases

known to have occurred in a particular time and place, and the sample is restricted to killings committed by adults over 18 years of age. However, there is otherwise no reason to suppose that the sample is unrepresentative as a result of any sort of selection bias.

Data pertaining to each of the 212 siblicides known to have occurred in Chicago between 1965 and 1994 were obtained from the records of the Chicago Police Department (CPD). Data on all homicides investigated by the CPD in this 30-year period are archived in the public-access Chicago Homicide Dataset (e.g., Block & Christakos, 1995); two of the present authors (Wilson and Daly) were participants in the construction of this archive and read primary police materials at the CPD on all family homicides.

Why U.S. National Data Are Unsuitable for These Analyses

Underwood and Patch (1999) found that the Supplementary Homicide Reports (SHR) compiled by the U.S. Federal Bureau of Investigation contain information on almost 200 purported siblicides annually. Thus, this archive would appear to be a rich source of data for analyses such as those presented in this article. Nevertheless, we elected not to use SHR data because several lines of evidence indicated that they contain an unacceptable incidence of omissions and coding errors.

One such indication is the high incidence of missing cases and miscodings found in prior assessments of the SHR's validity (e.g., Langford, Isaac, & Kabat, 1998; Wiersema, 1987). Of more specific relevance to the present study, we find that the 1974-to-1992 public-access SHR data set contains 133 cases in which a victim-killer relationship code of brother or sister is inconsistent with the relevant party's sex. The average victim-killer age disparity in these 133 cases exceeds 15 years, suggesting that many of them were not actually siblicides, but all that can be concluded with certainty is that the cases are somehow miscoded. Most important, we compared SHR codes to the information in CPD files (their ostensible source) for a 15-year sample of Chicago homicides, with the following results. Police files indicate 115 siblicides in 1976 to 1990, but only 65 of these (57%) were correctly coded in the SHR data archive with respect to victim-killer relationship and the age and sex of both parties. Thirty-four cases (30%) could not be matched

TABLE 1
Incidence of Siblicides Perpetrated by Younger Versus Older Siblings in Four Data Archives

	<i>Killer is Younger</i>	<i>Killer is Older</i>	<i>Killer is Younger (%)</i>
Canada (1974-1990)	139	113	55.2
England & Wales (1977-1990)	51	24	60.0
Japan (early 1950's)	21	24	46.7
Chicago (1965-1994)	118	89	57.0

to an SHR entry, presumably because they were either missing altogether or were not coded as siblicides. Another 14 siblicides (12%) could be matched but were miscoded in the SHR with respect to one party's age; in 5 of these 14 cases, the error was such as to reverse seniority between victim and killer. In addition, the SHR contained 13 putative siblicides that apparently do not correspond to any siblicide in Chicago police files.

RESULTS

Are Siblicide Perpetrators Generally Older or Younger Than Their Victims?

The data in Table 1 replicate and extend the generality of Marleau and Saucier's (1998) conclusion: Overall, there is a slight preponderance of cases in which the younger sibling killed the older. Not included in the table are 12 cases in which the victim's and killer's ages were identical: 3 in Canada, 4 in Britain, and 5 in Chicago. In each of these 12 cases, the protagonists' status as twins was verified from police reports as genuine (i.e., not a coding error).

In each of the four data sets, victim and killer were both males in the majority of cases (see Table 2). Beyond this simple predominance of men, however, it is also noteworthy that same-sex cases (brother killed brother and sister killed sister) are more numerous in all data sets, except that from Japan, than would be expected, given the proportionate representation of women and men as both killers and victims, if killer's sex and victim's sex were

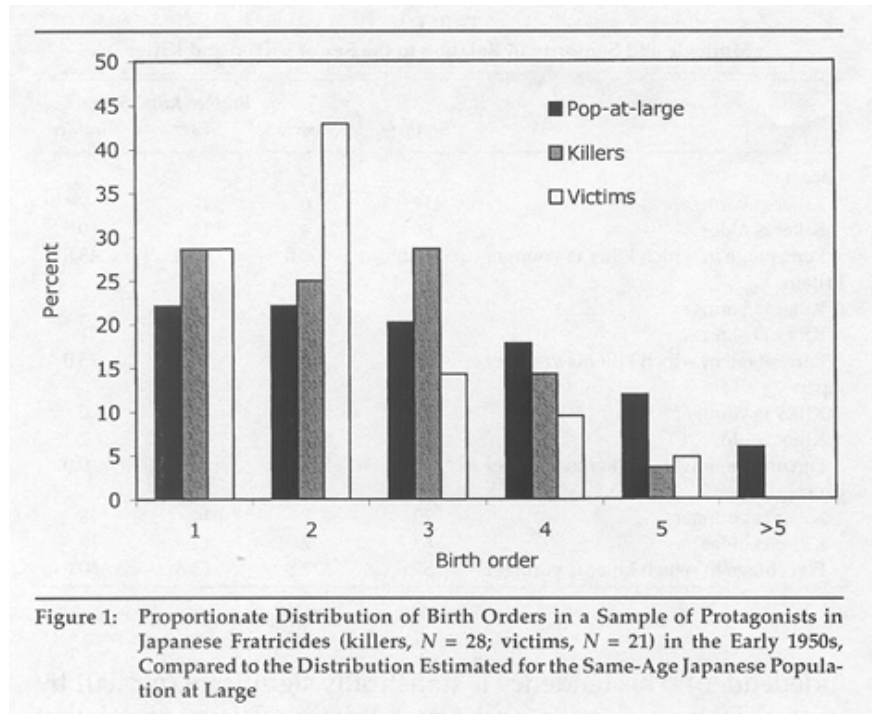
TABLE 2
Siblicide and Seniority in Relation to the Sex of Victim and Killer

	<i>Brothers</i>	<i>Sisters</i>	<i>Brother Kills Sister</i>	<i>Sister Kills Brother</i>
Canada				
Killer is younger	114	6	12	7
Killer is older	86	4	14	9
Percentage in which killer is younger	57.0	60.0	46.2	43.8
Britain				
Killer is younger	38	7	3	3
Killer is older	18	3	12	1
Percentage in which killer is younger	67.9	70.0	20.0	75.0
Japan				
Killer is younger	19	0	2	0
Killer is older	20	0	2	2
Percentage in which killer is younger	48.7	-	50.0	0.0
Chicago				
Killer is younger	79	7	14	18
Killer is older	63	2	12	12
Percentage in which killer is younger	55.6	77.8	53.8	60.0

independent. This tendency is statistically significant ($p < .001$ by χ^2 test) in both Canada and Great Britain. This suggests that siblicide is indeed a manifestation of sibling rivalry, which is more intense within than between sexes, as is true of potentially lethal competitive rivalry more generally (e.g., Daly & Wilson, 1990; Polk, 1994). The data also suggest that the tendency for the killer to be the younger party is more pronounced in same-sex cases than in opposite-sex cases, although this contrast is significant ($p < .01$ by χ^2 test) only in the British data set. The tendency for the killer to be the younger sibling may also be more pronounced in rivalries between sisters than between brothers (see Table 2), but such sororicides were too infrequent for this trend to be statistically significant in any one data set.

Actual Birth Order

The Japanese data set is unique in that it contains information on the actual birth orders of 28 offenders and 21 victims. The median ages of these killers and victims were 25 and 28 years old, respectively, from which we may surmise that their mothers were



born around or before 1900. From the Vital Statistics of Japan, we can extract data on the numbers of children ever born to women in cohorts born during that period, from which we can derive an approximate distribution of the birth orders of young adults with siblings in the 1950s. Figure 1 portrays this distribution for the population at large and for the 28 killers and 21 victims of known birth order.

The distributions are not significantly different. It appears that firstborns are slightly overrepresented as killers, in keeping with Sulloway's (1996) hypothesis, but they are similarly overrepresented as victims. Moreover, so are second borns and, in the case of killers, third borns as well. It is likely that even these slight tendencies for low birth orders to be overrepresented and high birth orders underrepresented in fratricides reflect a recording bias, deriving from the strong tradition of primogeniture. In other words, the cases in which birth order information is lacking may be disproportionately those involving later borns; in one such case, for example, it was noted only that there were seven brothers

and sisters in total and that both the victim and the killer were younger brothers. In sum, these data provide no support for the proposition that one's exact birth order is strongly related to the likelihood either of killing or of being killed.

Cases Involving Children

Sulloway's (1996) hypothesis was based on the consideration that older siblings had higher "reproductive value" (expected future reproduction) than younger ones in the environments in which the human social psyche evolved; the resultant asymmetry in the two parties' expected contributions to one another's inclusive fitness constitutes a reason why sentiments may have evolved to be such that older siblings are valued more highly than younger ones. However, this argument applies only in childhood, because it is only then that such an asymmetry in reproductive value is generally to be expected; at older ages, the expected future reproduction of the younger party is likely to be greater. This reasoning suggests that Sulloway's hypothesis might yet be upheld if we consider only siblicides involving children.

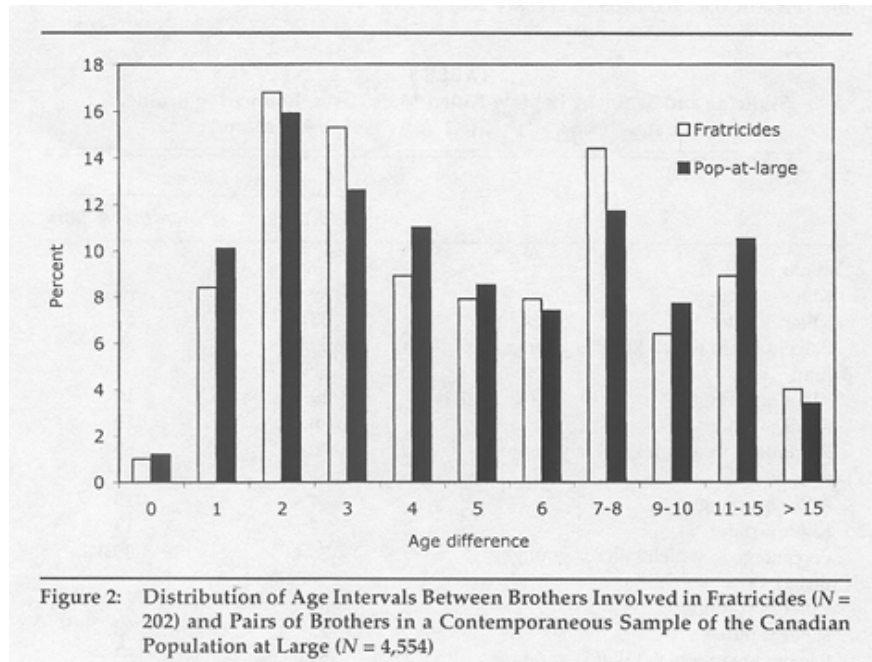
Despite the fact that three of Sulloway's (1996) four examples involve children, such cases are in fact relatively rare: one or both parties was a juvenile less than 14 years old in only 9.9% of 252 Canadian, 3.5% of 85 British, and 4.8% of 207 Chicago siblicides. (The Japanese data set is restricted to cases involving adults.) In these cases, unlike those in which both parties were adults, the great majority of killers were indeed older than their victims: 21 of 25 in Canada ($p < .001$ by sign test), 3 of 3 in Britain, and 9 of 10 ($p = .01$) in Chicago. This implies, of course, that when both parties were adults, the preponderance of younger killers was even larger than in Table 1: 59.5% of 227 adult-adult siblicides in Canada, 62.2% of 82 in Britain, and 59.4% of 197 in Chicago.

Thus, Sulloway's (1996) prediction appears to be upheld within the specific subset of cases to which its theoretical rationale best applies, namely, those in which one or both protagonists were children. However, this result would lend substantial support to Sulloway's reasoning only if it were specific to sibling (or perhaps other kin) relations; after all, the likelihood that one will kill anyone increases with age in late childhood and adolescence, and if

the age relationships of homicides involving unrelated youngsters mimic those in siblicides, then invoking the peculiarities of the sibling relationship would appear to be superfluous. To assess this possibility, we selected cases in which (a) the victim and killer were unrelated, (b) one or both was younger than 14 years of age, (c) they were not the same age, and (d) their ages differed by less than 10 years. (The last criterion was added to exclude cases in which the age difference was not comparable to that in the siblicides.) The result was that the older party was the killer in 53 of 59 Canadian cases (90%), 51 of 57 British cases (89%), and 88 of 107 Chicago cases (82%). These percentages are similar to those reported above for siblicides involving children, casting doubt on the hypothesis that an asymmetry of mutual valuation resulting from an asymmetry in reproductive value explains the tendency for older children to kill their younger siblings more often than the reverse. The fact that older children kill more often than younger children, period, is apparently sufficient to explain the degree to which siblicide in childhood is asymmetrical with respect to seniority.

Siblicide in Relation to Age Disparity

One variable that might be expected to affect the incidence or intensity of sibling conflict is the age difference, which corresponds, in the case of siblings of successive birth order, to the mother's birth interval. There are both theoretical and empirical reasons for proposing that successive births within about 3 years or less come "too soon" from the perspective of the toddler (Blurton Jones & daCosta, 1987; Dunn & Kendrick, 1982; Mock & Parker, 1997). In the ancestral societies in which the human mind evolved, both effective contraception and substitutes for mother's milk were unavailable, children typically nursed for many months, and birth intervals were apparently on the order of 3 to 6 years. Siblings who are close in age have more similar needs than if they are at different developmental stages and are likely to experience more intense competition for parental attention and other resources; according to Cicirelli (1995), siblings whose ages differ by less than 2 years quarrel more as coresiding children than those whose ages differ somewhat more.



For these reasons, we thought it interesting to assess whether siblicide varies as a function of age disparity. To answer this question, we need data on the distribution of age intervals between sibling pairs in the relevant population at large. Such data have apparently not been compiled, but we were able to compute an estimate of the distribution of age differences of pairs of Canadian brothers born in the same decades as those involved in fratricides on the basis of reproductive history self-reports from a national probability sample of women interviewed in Canada's 1991 General Social Survey. Figure 2 portrays the observed distributions of age differences for these 4,554 pairs of brothers in the population at large and for the 202 Canadian male-kill-male siblicide cases. The two distributions are virtually identical, indicating that the age difference between brothers is not, in fact, an important source of variability in the risk of fratricidal conflict.

The age interval between brothers may not be completely irrelevant, however. The data in Table 3 suggest that the tendency for the killer to be the younger brother may be stronger when ages are close; this trend is not statistically significant in any one data set, but it characterizes the three largest data sets.

TABLE 3
Siblicide and Seniority in Male-Killed-Male Cases, Comparing Brothers
Whose ages Differed by 1 to 3 Years Versus 4 or More Years

	<i>Age Difference</i>	
	<i>1 to 3 Years</i>	<i>More than 4 Years</i>
Canada		
Killer is younger	49	65
Killer is older	33	53
Percentage in which killer is Younger	59.8	55.1
Britain		
Killer is younger	19	19
Killer is older	8	10
Percentage in which killer is Younger	70.4	65.5
Japan		
Killer is younger	4	13
Killer is older	7	13
Percentage in which killer is Younger	36.4	50.0
Chicago		
Killer is younger	36	43
Killer is older	25	38
Percentage in which killer is Younger	59.0	53.1

DISCUSSION

Why are fratricides often perpetrated by younger brothers? Several of the case descriptions provided by Ewing (1997) suggest that siblicide was the culmination of a power struggle in which a younger sibling may have resented an elder's presumption of authority or other perquisites of seniority. For example, a 26-year-old man killed his 38-year-old brother after the latter temporarily moved into the younger man's home and responded violently when asked to leave, and an 18-year-old man beat his 20-year-old brother to death with a baseball bat after "frequent quarrels" about "who was in charge in their father's absence" (Ewing, 1997, p. 116). In another case involving two brothers who "had moved back in with their father and often quarreled about sharing household duties" (Ewing, 1997, p. 116), a 38-year-old man shot his 41-year-old brother and then himself after the elder insisted the younger was incapable of performing menial labor without supervision. Still another case in which two of three middle-aged brothers ended up dead was precipitated when the eldest began shooting

at family members for disposing of possessions that he had stored in the home that they all shared with their elderly mother; in this case, the violence was initiated by the eldest, but it appears that the crux of the conflict was again about younger brothers' defiance of an elder's presumption of entitlement or authority. This case also illustrates the fact that an initial aggressor may become a homicide victim, so that the proportion of fratricides in which the eventual killer was younger is not necessarily the proportion in which the younger initiated the violence.

The preponderance of younger killers was more pronounced (and became statistically significant) when analysis was restricted to cases involving two adults; cases involving children, by contrast, were overwhelmingly perpetrated by older siblings. These patterns support the notion that siblicide is the tip of the iceberg of "normal" sibling violence as described, for example, by DeKeseredy and Ellis (1997). Cicirelli (1995) cites some evidence that among young children, physical aggression against siblings is perpetrated mainly by the older, more powerful child but that this changes after puberty, and Straus (1974) found that significantly more young adults professed to have used physical force against an older sibling within the preceding year than against a younger sibling.

The large data archives from Canada, Great Britain, and Chicago contain only sparse information on motives, but our reading of the richer descriptions in the Chicago police files tell a story that is similar to the cases described by Ewing (1997), albeit with a somewhat heavier emphasis on disputes over money. There were five male-male fratricides in 1988, for example, of which four evidently arose from refusals to lend or give money, whereas the fifth was perpetrated by a 38-year-old man whose 26-year-old brother refused to help him kill two rivals (hence a case deriving from a younger brother's defiance of an elder's presumption of authority, even though the younger brother was the victim); similarly, the lone female-female case in that year concerned unpaid debts.

The Japanese cases, which occurred in the early 1950s when traditional Japanese culture was relatively unaffected by Western influence, may manifest some cultural differences from the Canadian, British, and U.S. cases. It is possible, for example, that the failure of the Japanese fratricide sample to exhibit any tendency

for younger adult brothers to kill their elders more often than the reverse, as was found in the other samples, reflects a genuine difference in the magnitude and legitimacy of elder sons' authority, but these cases are too few for these differences in proportions to be significant. In any event, there are indications in the judicial characterization of motives that friction over authority and status within the family was relevant to the Japanese fratricides, as it is to those elsewhere. Most cases were attributed to the victim's chronic abuse of his position within the family: In 33 of the 45 Japanese cases, the victims allegedly had long histories of family violence, excessive drinking, and expending family moneys while earning none, and in a further 5 cases, it was the offender who was violent and dissipating family property. In 2 other cases, the eldest brother was reported to have killed a younger brother specifically in response to manifestations of disrespect, whereas another case involved a dispute over family inheritance. Finally, there were 4 cases in which the homicide was allegedly a result of mental disorder or incompetence of the victim. In general, although the available case materials are not sufficient for extensive qualitative analysis and comparison, it would appear that the same themes of conflict over familial property, authority, and entitlement that are prominent in Western nations are prominent in Japanese siblicides too.

These issues can also lead to fratricide in other, very different societies. The Bison-Horn Maria of India, for example, were tribal farmers with a tradition of primogeniture, such that the eldest son inherited the family farm and his younger brothers inherited little or nothing. A sample of 107 homicides described by Elwin (1950) includes 8 fratricides. In one exemplary case (Elwin's Case 49), the eventual killer leased land from his elder brother after their father's death and tolerated arbitrary rent hikes and even eventual eviction, but when the land-holding elder brother refused to let him collect his possessions after the eviction, he exploded and killed his tormentor with an ax. Citing such conflicts, Daly and Wilson (1988) offered a somewhat different perspective than Sulloway's (1996) on the possible evolutionary underpinnings of fratricide, noting that although genetic relatedness indeed favors the evolution of sibling solidarity, other considerations that are associated with kinship may work against it: "Intense sibling rivalry is an ironic consequence of kin solidarity. It is precisely

because property is held familiarly that brothers are likely to be one another's foremost rivals" (p. 30).

Daly and Wilson (1988) illustrated this point by reviewing evidence from a few small samples of fratricides in tribal societies such as the Bison-Horn Maria, plus a 1-year sample of seven Detroit cases, all suggesting that fratricides result from disputes over property and money. This discussion did not address the question of whether senior or junior brothers are more often the aggressors, except to remark that it is perhaps unsurprising that fratricide seems to be an especially serious problem in those few societies in which "ultimogeniture," that is, inequitable inheritance favoring the youngest son, is normative. This may be the only situation in which older brothers are especially likely to be the aggressors in potentially lethal fraternal violence. More commonly, it is the older brother who has privileged status and the younger who may be motivated to overturn the familial power structure.

Sulloway (1996) notes that Cain slew his younger brother Abel in one famous version of the primordial fratricide, but this story is actually exceptional in the fact that it was the younger Abel who was favored and therefore resented. A much more common scenario, in both mythology and history, is one in which the elder is privileged, envied, and slain. Dardanus, the son of Zeus and Electra, killed his elder brother Iasion to usurp his kingdom and become the founder of the Trojan line. In *Beowulf*, King Herebeald is murdered by his younger brother Haethcyn. The Iranian tale *The Valiant Rustom* ends with the hero's murder by a treacherous younger brother (who Rustom fortuitously manages to kill with his dying arrow), and the Japanese epic *The Exploits of Prince Yamoto* begins with Yamoto killing his overbearing older brother. Royal succession by fratricide occurred in fact as well as in myth. Aethelred became king of Saxon Britain, for example, by murdering his older half-brother Edward, and many similar cases could be cited. The resources that are contested in the fratricide cases recorded in contemporary police files are more likely to be the price of a bottle of wine than a kingdom. In either case, however, it appears that the immediate provocation is only part of the story and that it is frequently the older brother's presumption of authority and entitlement that fuels violent resentment in the younger. On the basis of the investigative files and judicial reports

that we have read, we hypothesize that this sort of conflict predominates even in those fratricides in which the older brother is the eventual killer, but more research using detailed case descriptions is still needed to determine the incidence of different conflict typologies and their relative prevalence in different cultures.

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