The Deadliest of Games: A Model of the Duel

Eliane Catilina[¤]   Robert E. Wright[y]

March 12, 2002

Abstract

Recent historical research indicates that ritualistic dueling had a rational basis. Basically, under certain social and economic conditions, individuals must ...ght in order to maintain their personal credit and social standing. A model of the duel, therefore, can be constructed. We model the duel as a two–players sequential game. This paper shows that the optimal strategy of each player depends upon the value of three parameters, namely, "cost of ...ghting," "cost of shame", and "value of courage."

Keywords: Duel, Noncooperative game, Subgame Perfect Nash Equilibrium.

[¤]Williams School of Commerce, Washington and Lee University, Lexington, VA- 24450. email: catilinae@wlu.edu. From September 2002 Eliane will be join the faculty of the Department of Economics, American University, Washington DC.

[y]email: rewright@virginia.edu. Address:104 Rouss Hall, Department of Economics, University of Virginia, Charlottesville Va 22903, USA.

1 Historical Background

The Vice President of the United States ...red his pistol. The bullet found its mark, the abdomen of a political foe, a former Secretary of Treasury and the father of American capital markets. The unfortunate target, Alexander Hamilton, lingered before expiring. The assailant, Aaron Burr, did not go to jail; he returned to the nation's capital to preside over the United States Senate. The year was 1804. Just two years later, a future President of the United States, Andrew Jackson, took a bullet to the chest from just eight paces away. Bleeding profusely, but still on his feet, Jackson took deliberate aim at his opponent, ...red, and destroyed him. Jackson too evaded jail. Those two deadly assaults, and thousands of others like them, were either legal or at least publicly sanctioned; they were duels between gentlemen of equal social standing, not the actions of rogues or brigands (Holland 1997).

Duels, highly ritualized, often mortal confrontations between two principal combatants, seem to the modern eye, and indeed to the eyes of many anti-dueling contemporaries, to be barbarous, irrational a¤airs. For example, Victorian era Virginian Robert Reid Howison called dueling a form of private war that "originated in the wicked vindictive passions and propensities of fallen human nature." Only when the "Kingdom of Christ shall be established in all hearts," he argued, will dueling cease (Howison, 1924). Similarly, many Canadians saw dueling as heathen and barbaric (Morgan, 1995:558). The fact that most duels seemed to be fought over trivial matters, "the drop of a hat" in the words of one scholar, further damns the institution to the realm of the irrational (Holland, 1997). Dueling, in other words, at ...rst seems to be more the realm of moralists, historians, philosophers, psychologists, or perhaps sociobiologists, than of economists. Indeed, until now, game theorists have ignored dueling, in sense of pursing a model to investigate the motivation to engaging in a duel.[1]

A closer examination of the duel, however, exposes its rational core. For all intents and purposes, dueling has ended, yet no one is under the impression that a religious revival, or a fundamental change in human nature, caused the institution's demise. Interestingly, the twentieth-century's most barbarous ...gure, Adolf Hitler, vigorously opposed dueling (Combs, 1997). If one of history's most depraved humans opposed dueling, causative factors other than human depravity must be at play!

Duels, in short, stemmed from con‡icts over resources, sometimes tangible resources, like land, lucrative government o¢ces, market share, or women (Morgan, 1995: 535-536), but usually intangible ones. The intangible nature of the resource con‡ict underlying most duels has long obscured the root cause of this otherwise

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[1] There exists many game theoretic models that deal with dueling. However, unlike in our model, in these models a "duel game" is a timing game in which players have a gun and decide the right moment to ...re a shot. Research on games of timing have been done by many researchers. See, for example, Blackwell (1948), Restrepo (1957), Kurisu (1983) Radzik (1988). For a survey on this literature see Kurisu (1991).

inexplicable explosion of violence. In the best recent treatments of dueling, Greenberg (1990) and Morgan (1995) demonstrate that duelists sought to defend their "honour." Other scholars (Billacois, 1990; Keiser, 1990), as well as contemporaries (Anon., 1830), have made similar claims. Greenberg and Morgan, however, persuasively argue that honor was not a meaningless term or an ambiguous catch-all; it essentially meant creditability, even creditworthiness. Honor, Morgan notes, was synonymous with financial responsibility (543). Gentlemen did not shoot each other over trivial matters; they fought when they were accused of lying, or of presenting a false face to the public. Seemingly bizarre behavior, like gently tugging on a political or commercial opponent's nose, was a major offense because it symbolized an effort to unmask a liar. Seen in this light, duels over seemingly trivial matters, like an offhand statement about the potential authenticity of P.T. Barnum's "Feejee Mermaid," take on a more rational cast.

Dueling thrived when and where credit markets were highly personal in nature, like early modern Europe, colonial America, the antebellum South, and late nineteenth century Mexico. Where credit markets were more impersonal and formalized, like the postbellum North, Nazi Germany, and much of the globe today, dueling seems like an irrational aberration. Where financial intermediaries make most lending decisions, borrowers' objective financial situation is paramount. Economies of scale and relatively low transaction costs allow modern lenders to rely on credit histories, revenue statements, and balance sheets to screen loan applicants. Personal credit markets, however, made much more subjective decisions based more on outward appearance than financial fact. "Gentlemen," were more likely than non-gentlemen to receive loans from personal lenders.

All men, like all businesses, needed credit. Southern gentlemen, for example, often possessed tremendous assets, usually very illiquid ones, but also tremendous liabilities (Breen, 1987). Like banks short on cash reserves, Southern gentlemen could not suffer any attack on their credit, lest their liability holders make repayment demands that could not be met. None other than Thomas Jefferson was a lifelong bankrupt who adroitly stayed a step ahead of his creditors by borrowing from Peter to pay Paul (Sloan, 1985). Personal creditors would lend to gentlemen when banks would not; Jefferson's disdain for banks may be linked to that fact.

A man who lost his honor, who was no longer a gentleman, would no longer be worthy of credit. His personal fortune was thus jeopardized as he might be forced to sell assets at unpropitious times in order to meet the demands of his liability holders. Attacks upon his honor, therefore, were hardly trivial affairs; they struck at the very heart of his business and personal fortune. A man who would face death because of a few words would rightly be called a fool, it so too might a man who allowed a few words to destroy his livelihood.

Duels, after all, were emotional, but not passionate, affairs. They were not barroom brawls or spontaneous gunfights. They were, instead, very calculated events that might take place days, weeks, or even months after the initial affront. Typically,

one party accused another of being a liar, coward, a "Byronic youth," or otherwise unworthy of the title of gentleman, i.e. uncreditworthy (Howison, 1924: 238). The accused party then discussed the situation with trusted friends to decide if the accusation was damaging. If put forth by a social inferior, it clearly was not, and the exchange would end. Under usual circumstances, a poor man could not judge the creditworthiness of a rich man, most believed, and in such a case dignifying the accusation with a response was not considered prudent. If the accuser was another gentleman, however, negotiations had to commence. Working through an agent, the accused sought to persuade the accuser to withdraw, modify, or explain away his damaging comments[2] If the accuser refused, the accused had to decide whether to su¤er the attack on his honor and credit or to challenge the accuser to duel (Anon, 1830:75). The accuser was now on the hot plate. If he refused the challenge, he would e¤ectively dishonor himself by tacitly admitting his accusations to be false. He would have admitted that he was a liar, a man unworthy of credit. Sometimes the public physically attacked men who refused to duel; other times, they merely abused with words and public postings proclaiming him a LIAR, a COWARD, and a SCOUNDREL (Morgan, 1995:549-550). If he accepted the challenge, somebody's blood was almost certain to be spilled.

The challenged chose the weapons, time, and place of the encounter. Other rules, such as the distance between the shooters, the number of shots allowed, and other details, were drawn up, signed, and sealed. Even at this point, third parties sought, often vainly, to di¤use the situation. Often the best a friend could do was to act as the combatant's "second," essentially a referee charged with ensuring that the contract was ful...lled and that this deadliest of games was fairly played.

As far as anyone can tell, the chance of surviving a duel was 50 percent. Sometimes both men walked o¤ the ...eld unscathed. Sometimes, however, both men died, like when Virginians William Thornton and Francis Conway slaughtered each other in 1817 at "Alum Spring Rock," near Fredericksburg (Howison, 1924:234). In most recorded cases, though, one man left the ...eld alive and the other dead or dying. Although colleges occasionally expelled students for dueling (Richmond Examiner, 9 April 1803), most duelists faced no sanctions, legal or social, for their actions. Juries routinely allowed the few duelists who were brought to trial o¤; they apparently took the defendants' claims of "self-defense" seriously (Morgan, 1995:529). Elsewhere, principals and seconds, often the only witnesses to the duel, argued that deaths and injuries were "accidents" (Piccato, 1999).

Duelists followed elaborate rules designed to keep the contests as fair as possible.

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[2]For example, R.O. Grayson, the agent of William & Mary College student Peyton Smith, attempted to convince J.P. Holmes, whom Smith had publicly called a "Dd Fool," to admit that he and Smith were too drunk for any of their comments to be taken seriously. Holmes, after consultation with friends, demurred, demanding that Smith admit that he had lied. Grayson "remonstrated that such admission was without the power of any man"; such an admission would ruin Smith's business career before it began. Soon thereafter, Holmes killed Smith in a duel (Evans, 1935).

If the contest seemed lopsided, the duel could be called off or terms of peace rapidly concluded. Legend has it, for example, that when challenged to a duel Abraham Lincoln chose cavalry sabers, as was his right. The challenger immediately recognized that the gangly former woodcutter would make short work of him. He promptly settled for Lincoln's rather dubious claim that he had meant nothing "personal" when he called the challenger a smelly, foolish, liar (Holland, 1997). Most combatants, however, fought it out with single shot, smooth bore pistols. They were hardly the most accurate or reliable firearms ever devised. Through repeated practice, one could develop some skill with them, but hitting the target remained to a large extent a function of luck and nerve under fire. It was also possible to survive a direct hit from such a weapon, as Andrew Jackson did. Duelists in many areas, including late nineteenth century Mexico, tended to eschew more modern firearms as too accurate and deadly (Piccato, 1999). Duels were supposed to occur between equals; where skill mattered, equality was lost, and dueling became mere gunfighting, as in the "Wild West."

The honor, and hence the creditworthiness, of the winning duelist was upheld and even enhanced. Accusations against his character, even if correct, were erased. The winner of a duel had shown himself to be a manly, courageous leader, capable of defending his property, by force if necessary. Who better to trust with one's money? With high political office? The loser lost his life. That was a small price to pay, however, to maintain one's honor and credit. The man who should have dueled, but did not, was the biggest loser of all. He kept his life, but for many it was hardly a life worth living. His social status and credit gone, such a man, a mere coward in the eyes of the community, could expect little in the way of public life – no awards, no offices, and no respect. According to one historian, in both America and Europe "it was political suicide to suffer an affront without challenging, or to decline a challenge" (Holland, 1997). In nations as diverse as Prussia and Mexico, avoiding a duel was, in the words of another expert, "a social death sentence" (Piccato, 1999). This explains why lawmakers who tried to sanction duelists did so by banning participants, combatants and their seconds, from public office, by extracting huge fines from them, or by condemning them to gibbeting – death followed by public rotting of the body (Greenberg, 1990:67). The idea was to make the expected cost of dueling the same as the expected cost of not dueling – loss of honor, wealth, and life itself.

Such laws, however, never worked to prevent dueling until public sentiment shifted and allowed prosecutions for the crime. Public sentiment shifted when dueling no longer made rational sense, when institutional credit markets supplanted personal ones. Banks and other financial intermediaries do not care if their borrowers are liars or scoundrels, just as long as they fulfill their loan contracts. They prefer that their debtors live, at least until their mortgages are paid in full. In such a world, dueling begins to look absurd. Dueling died quickly in the North, where financial intermediation was much more advanced than in the South. As early as 1820, Northerners like Mordecai Manual Noah ridiculed dueling as "false honour."

Noah noted, wrongly, that Southerners fought over sneezing "too loud" and other "trivial causes" (New York National Advocate, 12 November 1819). Even at this early date, some in the commercializing North could no longer see the credit implications underlying most duels.

If challenging someone to a duel was a rational behavior in some circumstances, then it should be possible to model it. No one, to our knowledge, has yet done so, probably because economists tend to stress present-day issues. Of course, if we are correct, under the right circumstances dueling could return.

2   The Model

This game is played by two (until proved otherwise) honorable men. Player 1 (the accuser hereafter), makes an accusation against the honor of player 2 (the accused hereafter). The game starts after this o¤ense is made and the interaction between the two players is set as a three stages game which runs as follows.

stage 1 (The withdraw stage): The accuser decides whether or not
to withdraw the accusation.
stage 2 (The challenge stage): After observing the accuser's action in
stage 1, the accused decides whether or not to challenge the accuser to a duel.
If there is no challenge, and consequently no duel, the game ends in stage 2.
Otherwise, nothing happens until stage 3.
stage 3 (The acceptance stage): If the accused poses a challenge, the
accuser has to decide whether or not to accept the challenge.
The game in its extensive form is shown in ...gure 1.

The Strategy Space   The accuser is called upon to play in three di¤erent information sets, namely information set $1; 3; 5$ (see ...gure 2a). Information set 1 correspond to the initial node. In this information set the accuser has two possible actions. Let A_1 be the set of actions available in information set 1, such that:

$$A_1 = \text{fwithdraw, not withdrawg}$$

The information sets 3 and 5 are represented by the two single nodes in stage 3. The accuser has two possible actions in each information set in stage 3: Let A_3 and A_5 be the sets of actions available in information set 3 and 5 respectively, such that

$$A_3 = A_5 = \text{faccept, not acceptg}$$

Player 2, the accused, moves on stage 2 only and has two information sets, information set 2 and 4 (see ...gure 2b). There are two possible actions in each information set. Thus, we can de...ne $A_2 = A_4$ as the set of actions available to player 2 such that

$$A_2 = A_4 = \text{fchallenge; not challengeg}$$

We are now left to discuss players' strategies. A strategy space is a complete description of the actions taken by each player at each information set if he/she is called to play there.

The strategy space of player 1, the accuser, is given by

$$S_1 = \{s_1, s_2, \ldots, s_8\}$$

where $s_i = (a_{11}, a_{13}, a_{15})$ such that $i = 1, \ldots, 8$ and $a_{11} \in A_1$, $a_{13} \in A_3$, $a_{15} \in A_5$ are the actions availables to player 1 in information sets $1, 3,$ and 5 respectively. The extensive description of the strategies is given bellow:

$s_1 = $ (withdraw, accept, accept)
$s_2 = $ (withdraw, accept, not accept)
$s_3 = $ (withdraw, not accept, accept)
$s_4 = $ (withdraw, not accept, not accept)
$s_5 = $ (not withdraw, accept, accept)
$s_6 = $ (not withdraw, accept, not accept)
$s_7 = $ (not withdraw, not accept, accept)
$s_8 = $ (not withdraw, not accept, not accept)

Similarly, the strategy space of player 2, the accused, is

$$S_2 = \left\{ s_1^0, \ldots, s_4^0 \right\}$$

where $s_j^0 = \{a_{22}, a_{24}\}$ such that $j = 2, 4$ and $a_{22} \in A_2$, $a_{24} \in A_4$ are the actions taken by player 2 when he reaches information set 2 and 4 respectively. The extensive description of the strategies is as follows:

$s_1^0 = $ (challenge, challenge)
$s_2^0 = $ (challenge, not challenge)
$s_3^0 = $ (not challenge, challenge)
$s_4^0 = $ (not challenge, not challenge)

The Payoff Duelers incur in a cost $c = \{\underline{c}, \overline{c}\}$ for dueling and this cost depends on the outcome of the duel. The cost is $\overline{c}$ if the dueler dies and $\underline{c}$ if the dueler survives such that $0 < \underline{c} < \overline{c}$. It is assumed that duelers die or survive with equal probability. Thus, the expected cost of dueling is

$$\frac{\underline{c} + \overline{c}}{2} = c^{\ast}$$

and this information is common knowledge among players.

The ex-ante (before the accusation) value of these honorable men's lives is[3]

$$V_H > 0$$

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[3] Hereafter, whenever we refer to the value of a man we will be talking about his (or his family's) creditworthiness.

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If a gentleman is dishonored (that is, if an accusation is made against his honor or if he falsely accuses someone) the value of his life is reduced by μ - the "cost of shame" - such that $0 < μ \cdot V_H$: Hence, the life of a dishonored man is worth

$$V_D = V_H - μ$$

Once oﬀended, a man may restore his honor (that is, his creditworthiness) by challenging the accuser to a duel. The role of a duel is twofold, to restore the honor and possibly to increase the value of a gentleman's life. It will be assumed that the value of an honored and courageous man is higher than the one who, although honored, has never displayed such courage. Thus, if the accused challenges the accuser the accused's payoﬀ is:

$$V_C = V_H - μ + C$$

where $C > μ$ is the "value of courage" and V_C is the gross value of a courageous man. C and μ constitute a common knowledge among players.[4]

If the accuser accepts the challenge he also proves to be a courageous man. In this case, the payoﬀ of each player is[5]

$$V_C^¤ = V_H - μ + C - c^¤$$

where $c^¤$ is the "cost of dueling" and $V_C^¤$ is the net value of a courageous man.

In the accuser's payoﬀ, μ accounts for the cost of being said to be dishonored for making a false accusation.[6]

The accused can challenge the accuser even if the accusation is withdrawn. However, if the accusation is withdrawn and the accused decides not to challenge, the value of both gentlemen remains as before, that is V_H: It will be assumed that what happened was nothing but a misunderstanding.

We also have to consider the case in which the accuser does not withdraw the accusation and the accused does not challenge to a duel. If the accused does not ...ght for his honor he is considered a dishonored man and the value of his life is V_D: As for the accuser nothing change and the value of his life is V_H:

Solving the game We solve this game by backward induction to ...nd the set strategy pro...les that constitute a subgame perfect Nash equilibrium.

We start solving subgames that begin with player 1, the accuser, deciding whether or not to accept the challenge (see ...gure 3a). We will refer to these subgames as the post-challenge subgames.

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[4] $C > μ$ means that courage always oﬀsets any oﬀense made against someone's honor.

[5] Recall that oﬀenses are taken seriously if and only if it comes from another honorable man.

[6] The assumption here is that, once the accused challenges the accuser and the latter accepts the challenge, nobody will ever know if the accusation is true or false. However, both players compensate the decrease in the value of their lives (μ) by demonstrating that they are courageous men.

In the Nash equilibria of these subgames, the accuser plays "accept" if and only if

$$V_C^* > V_D$$
$$V_H - \mu + C - c^* > V_H - \mu$$
$$C - c^* > 0$$

that is, if there is a net positive gain for being courageous. The accuser plays "not accept" if the net gain is non-positive, that is if

$$C - c^* \leq 0$$

We now proceed to solve the two subgames that begin with the accused deciding whether or not to challenge the accuser. We call these subgames the post-withdraw subgames.

For simplicity's sake let us focus on the case in which $C - c^* > 0$ and so the accuser accepts[7] to duel in the post-challenge subgames: Solving the post-withdraw subgames we have that, in the left-hand side subgame (…gure 3b shows the reduced game), the accused challenges the accuser if

$$V_C^* > V_H$$
$$V_H - \mu + C - c^* > V_H$$
$$C - c^* > \mu$$

that is, if the net gain for dueling is positive and strictly greater than the "cost of shame." The accused plays "not challenge" if

$$C - c^* \leq \mu$$

that is, if the net gain for dueling, though positive, is less than or equal to the "cost of shame."

Thus, in the Nash equilibrium of this subgame; asssuming that $C - c^* > 0$; the accuser plays "accept" and the accused plays "challenge" if $C - c^* > \mu$ otherwise plays "not challenge."

Solving the subgame on the right-hand side (see …gure 3b), we have that the accused challenges the accuser if and only if

$$V_C^* > V_D$$
$$C - c^* > 0$$

that is, if there is a net positive gain for dueling. The accused plays "not to challenge" if

$$C - c^* \leq 0$$

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[7] The procedure to solve the game when $C - c^* \leq 0$ is similar and thus omitted.

Thus, in the Nash equilibrium of this subgame, the accuser plays "accept" and the accused plays "challenge."

Finally, we solve the subgame that starts in the initial node and corresponds to the whole game (see ...gure 3c for the reduced form game). Using as an example the case where $C_i c^{\alpha} > 0$, which implies that the accuser accepts the challenge (post-challenge subgames) and the accused challenges the accuser (post-withdraw subgames) we have that the accuser is indi¤erent between playing ("withdraw" or "not withdraw").

The Nash equilibria of the above subgame correspond to the subgame perfect Nash equilibrium of the whole game. Thus, there are two subgame perfect Nash equilibria, if $C_i c^{\alpha} > 0$ namely, (i) the accuser withdraws the accusation, the accused challenges the accuser and the accuser accept the challenge; (ii) the accuser does not withdraw the accusation, the accuser challenges the accuser and the accuser accept the challenge.

If $C_i c^{\alpha} \cdot 0$, the accused does not accept the challenge in the post-challenge subgames. Thus, in the post-withdraw subgame, the accused challenges the accuser if and only if

$$V_c > V_H$$
$$C > \mu:$$

As we have de...ned earlier in this paper that the above inequality always hold, the accused will always accuser in the post-withdraw subgame.

As we can see from the above example, the equilibria of the duel game depend on the parameters $C; c^{\alpha}$ and μ. The complete set of equilibrium pro...les is as follows.

Proposition 1 Let $\frac{3}{4} = (S_1; S_2)$ be the set of equilibrium pro...le that constitute a subgame perfect Nash equilibrium of the duel game, where S_1 is the equilibrium strategy played by the accuser and S_2 the equilibrium strategy played by the accused. Thus, in any Subgame Perfect Nash Equilibrium

(a) $\frac{3}{4} = ((\text{withdraw,accept, accept}); (\text{challenge, challenge}))$ and $\frac{3}{4} = ((\text{not withdraw,accept, accept}), (\text{challenge, challenge}))$ are the equilibrium pro...les if and only if

$$C_i c^{\alpha} > \mu$$

(b) $\frac{3}{4} = ((\text{withdraw, accept, accept}); (\text{not challenge, challenge})$ is the unique equilibrium pro...le if and only if

$$0 < C_i c^{\alpha} \cdot \mu$$

(c) $\frac{3}{4} = ((\text{withdraw, not accept, not accept}),(\text{challenge,challenge}))$ and $\frac{3}{4} = ((\text{not withdraw, not accept, not accept}),(\text{challenge,challenge}))$ are the equilibrium pro...les if and only if

$$C_i c^{\alpha} \cdot 0$$

Proof. The proof is straight forward and thus is omitted. ■

In the outcome of the duel game we have that in (a) both players have the incentive to duel as the value of their lives after the duel will be greater than they were before ($V_C^\sharp > V_H$) regardless the outcome of the duel. The accused will challenge the accuser even if the latter withdrawls the accusation. Hence, the accuser will accept the duel even if he had withdrawn the accusation when he had the opportunity to do so. In this speci...c case, the "cost of dueling" is su¢ciently low compared to the "value of courage."

In (b), players have no incentive to duel as $V_H > V_C^\sharp$. In other words, the "value of courage" is not high enough compared to the "cost of dueling" ($c^\sharp$) . However, if a challenge is made, the accuser must accept otherwise he would be considered a dishonored man and $V_H > V_C^\sharp > V_D$:

It seems as though the duel should be avoided as a highest payo¤ is granted when players do not ...ght. The accuser can avoid the duel by withdrawing the accusation and the accused by not challenging the accuser. Thus, in this case there is no duel and the payo¤ of both players is V_H:

The outcome in (c) is by far the most interesting. In this case the "cost of dueling" is su¢ciently high compared to the "value of courage." Hence, both players would be better o¤ if they do not duel as $V_C^\sharp < V_D < V_H$: It implies that, if challenged, the accuser - a rational player - will never accept the duel. Knowing that, the best move for the accused is to challenge the accuser. By doing so, at no cost as the duel does not occur, the accused not only restores his honor but is also considered a courageous man (after all, he restores his honor by defying someone to duel when the cost of ...ghting is terribly high!). Thus, the accused payo¤ is $V_C > V_H$. The payo¤ of the accuser, now a dishonored man, is $V_D < V_H$: The outcome of the game does not change whether the accuser withdrawls the accusation or not in the begining of the game.

A high "cost of ...ghting" or, alternatively a low "value of courage," implies that a man does not necessarily need to be honorable to be successful.

3   Concluding Remarks

Heretofore, game theorists have been interested in the mechanics of dueling, i.e. strategies about when to shoot. Here, we model the pre-engagement decisions leading up to the actual combat. We are able to create a model because the classic gentlemen'ss duel was a very rational a¤air, not a spontaneous outburst of violent emotion. Basically, gentlemen made calculated decisions about whether to engage in a form of limited, private war. Although some duels were fought over tangibles resources, like beautiful women and lucrative o¢ces, most duels centered around "honour," a cultural code word for creditworthiness. Our three stage, two-players sequential model describes each logical step of the decision-making process. The model matches the historical circumstance quite well. Dueling was common where credit markets were

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personal, and hence more oriented on outwards appearances and less oriented on the examination of audit …nancial statements, the monitoring of restrictive covenants, and other modern techniques for limiting information asymmetry. In personal markets, courage and honor were strong signal of creditworthiness, making the "value of courage" and the "cost of shame" high enough to induce men to risk their lives.

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