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TRIAL BY BATTLE

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# Trial by Battle\*

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## Abstract

For over a century England's judicial system decided land disputes by ordering disputants' legal representatives to bludgeon one another before an arena of spectating citizens. The victor won the property right for his principal. The vanquished lost his cause and, if he were unlucky, his life. People called these combats trials by battle. This paper investigates the law and economics of trial by battle. In a feudal world where high transaction costs confounded the Coase theorem, I argue that trial by battle allocated disputed property rights efficiently. It did this by allocating contested property to the higher bidder in an all-pay auction. Trial by battle's "auctions" permitted rent seeking. But they encouraged less rent seeking than the obvious alternative: a first-price ascending-bid auction.

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“When man is emerging from barbarism, the struggle between the rising powers of reason and the waning forces of credulity, prejudice, and custom, is full of instruction.”

—Henry C. Lea, *Superstition and Force* (1866: 73)

## 1 Introduction

Modern legal battles are antagonistic and acrimonious. But they aren’t *literally* battles. Disputants don’t resolve conflicts with quarterstuffs. Their lawyers don’t fight to the death. This wasn’t always so. For over a century England’s judicial system decided land disputes by ordering disputants’ legal representatives to bludgeon one another before an arena of spectating citizens. The victor won the property right for his principal. The vanquished lost his cause and, if he were unlucky, his life. People called these combats trials by battle.

To modern observers trial by battle is an icon of medieval backwardness. Montesquieu called it “monstrous” (1748 [1989]: 563). The institution’s barbarity seems equalled only by its senselessness. As Richard Posner put it, “trial by battle” is one of those “legal practices that no one defends any more” (1988: 858).

Almost no one. This paper defends trial by battle. It examines trial by battle in England as judges used it to decide property disputes from the Norman Conquest to 1179.<sup>1</sup> I argue that judicial combat was sensible and effective. In a feudal world where high transaction costs confounded the Coase theorem, trial by battle allocated disputed property rights efficiently.

Trials by battle were literal fights for property rights. I model these trials as all-pay auctions. Disputants “bid” for contested property by hiring champions who fought on their behalf. Better champions were more expensive and more likely to defeat their adversaries in combat. Since willingness to pay for champions was correlated with how much disputants valued contested land, trial by combat tended to allocate such land to the higher-valuing disputant.

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<sup>1</sup>I don’t consider trial by battle as England’s criminal justice system it. Nor do I consider trial by battle in England’s courts of chivalry where judges used it to decide cases involving affronts to honor, treason, and criminal acts committed abroad. See Russell (1980b) on judicial combat in criminal appeals. See Russell (2008) on judicial combat in courts of chivalry. For classic treatments of the variety of single combats and their history in England and elsewhere see Selden (1610), Gibson (1848), and Nielson (1891). For examples of judicial duels outside of England in cases unrelated to land disputes, see Howland (1901).

This “auction” permitted rent seeking. But it encouraged less rent seeking than the obvious alternative: a first-price ascending-bid auction. Further, unlike these auctions, trial by battle converted part of its social cost into social benefits: judicial combats entertained medieval spectators.

My analysis explains how a seemingly irrational legal institution—trial by battle—is consistent with rational, maximizing behavior. It illuminates why this apparently inefficient institution played a central role in England’s legal system for so long. Most important, it demonstrates how societies can use legal arrangements to substitute for the Coase theorem where high transaction costs preclude trade.

Economists have said nothing about trial by battle.<sup>2</sup> Schwartz, Baxter, and Ryan (1984), Posner (1996), and Kingston and Wright (2009) discuss duels of honor.<sup>3</sup> These are distinct from and, except for the fact that they involve two combatants, unrelated to judicial duels, which I consider. Duels of honor were private, unsanctioned, and often legally prohibited battles waged to redress insults or transgressions of honorific norms. They weren’t trials used to decide property rights in legal disputes. Trial by battle is also distinct from and unrelated to battles between nations’ armies fought by a single soldier from each side. The former was a judicial procedure for allocating disputed land. The latter was a diplomatic procedure for reducing war’s cost.

This paper is most closely connected to two strands of literature. The first uses rational choice theory to understand unusual legal institutions. Friedman (1979) was among the first contributors to this literature. He considers the economics of legal institutions that stateless people in medieval Iceland used to create social order. Posner (1980) explores the economics of legal systems in primitive societies. Leeson (2007a, 2009a, 2009b) examines the economics of 18th-century pirates’ legal institutions. He also considers the legal arrangements that warring hostiles created along the 16th-century Anglo-Scottish border (Leeson 2009c).<sup>4</sup>

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<sup>2</sup>There are two exceptions to this: Clark (2007) briefly acknowledges trial by battle. He restates the conventional wisdom that it was inefficient. Tullock (1980a) mentions trial by battle in passing. He uses it to mock the modern adversary system of dispute resolution. Zywicki (2008: 44) endorses Tullock’s view that trial by battle was pure waste (though not Tullock’s analogous criticism of the modern adversary system): “The trial by battle, of course, is a classic rent-seeking interaction, as there is no social surplus generated by resolving disputes in that manner.”

<sup>3</sup>Volckart (2004) considers feuding in late medieval Germany.

<sup>4</sup>Leeson (2007b, 2008) examines private legal arrangements that precolonial Africans used to support

Most recently, Leeson (2010) analyzes the law and economics of medieval judicial ordeals.

The second strand of related literature explores the economics of European legal traditions. Hayek (1960), La Porta et al. (1998), Glaeser and Shleifer (2002), and Djankov et al. (2003) consider how legal institutions diverged in England and continental Europe in the Middle Ages and how these institutions influenced property rights in those places. I consider how a key legal institution found throughout Europe before that divergence influenced property rights in England: trial by battle.

## 2 *Duellum*

The Norman Conquest introduced trial by battle (*duellum*) to England.<sup>5</sup> Until 1179 it was England's only trial procedure for deciding land ownership disputes.<sup>6</sup> In the 11th and 12th centuries evidence of contested property's "true" owner was in short supply. There was witness testimony. But disputants could find persons who would swear to their cause's rightness whether they were right or not. There were also land charters. But disputants could forge charters claiming ownership just as they could arrange fraudulent witness testimony.

Without useful evidence, judges couldn't accurately identify disputed land's "real" owner. So they pretended to divine that owner's identity from judicial combat instead. Trial by battle's ostensible justification was as simple as it was absurd: God favored the rightful disputant's cause. So he would favor that disputant's cause in a physical fight.

Despite its supposedly superstitious underpinnings, trial by battle had secular origins (Russell 1980a: 112). Further, unlike unilateral ordeals, superstition wasn't important to trial by battle's operation or ability to produce socially desirable results (Bartlett 1986; Leeson 2010). As I describe below, judicial combat's productivity rested firmly in earthly logic.

Trial by battle's basic form in property cases in the 11th and 12th centuries remained

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cooperation without government.

<sup>5</sup>*Duellum* was also called *bellum*, for instance in Domesday Book.

<sup>6</sup>There are a few exceptions. The law limited judicial combat to cases involving land worth at least 50p., disallowed combat between disputants of widely different status, and exempted some towns were exempt from battle (Russell 1980a). Also, in the earliest property challenges, demandants offered to prove by body or ordeal, suggesting that in principle the latter was an option.

similar in the 13th century. Our detailed descriptions of some of this form's aspects are from still later trials. However, their general features are applicable to trial by battle's heyday.

A demandant (plaintiff) challenged a tenant's (defendant's) right to land by asserting his right to it before a court.<sup>7</sup> The demandant pled by offering to prove his right on his champion's body.<sup>8</sup> Consider the demandant's plea in a case from 1198 (Russell 1959: 243):

Matthew, the son of William, sought against Ralph of Wicherle and Beatrice, his wife, a wood and other land at Ellenthorpe as the right and dowry of his wife, Emma, whereof the said Matthew was seised as of right and dowry in the time of King Henry by taking the issues thereof from wood, timber and pasturing pigs to the value of 5/4d; and this he offered to prove against him by his freeman Utling, who offered to prove this against him as the court should adjudge as of his sight, or by another if any ill should befall him.

The tenant pled by denying the demandant's claim and offering his own champion as proof:

Ralph and Beatrice came and denied the right and seisin of the said Matthew by a certain freeman of theirs, Hugh of Floketon, who offered to deny this by his body, or by another.

If the court didn't know the rightful disputant's identity, it

adjudged that there should be a battle between [their champions]. The pledges of Hugh (defending) were Ralph his lord and Robert, the son of Payn. The pledges of Utling were Matthew, the son of William, and Robert of Cove. A day was given to them on the coming of the justices into those parts.

In theory the law required the demandant's champion to be a witness to his right to the disputed land. The champion had to claim that he observed the demandant's ancestor's seisin. Alternatively, he could claim that his deceased father observed it and instructed him to defend the demandant's right.

In practice demandants hired champions anyway. A tenant could object to the demandant's champion on the grounds that he was hired. But "professional champions were so frequently used that the courts paid no attention to this particular objection." So tenants

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<sup>7</sup>Judges heard land cases in seignorial courts, county courts, and royal courts.

<sup>8</sup>The action for challenging another's right to real property was called a "writ of right." Sometime in the mid-12th century, no one could initiate a real property dispute without seeking and receiving such a writ from the king (Watkin 1979: 45).

didn't bother. "There appears to be no recorded case relating to land where one of the parties objected to the other's champion solely on the ground that he was hired for the occasion" (Russell 1959: 257).<sup>9</sup> In 1275 judges dropped the charade. The law abandoned the requirement that demandant champions be witnesses.

The law never even theoretically restricted who tenants could use as champions. Unlike demandants, tenants could also choose to fight in person. Though they almost never did. Later law eliminated this choice. It required tenants to use champions too.

After the disputants pled, the judge asked the champions if they were prepared to wager battle. To show they were, the champions passed him a glove with 1d. in each of its fingers. The judge then gave a day when the champions would fight. Two men from each disputant's side pledged to attend.

On the appointed day the champions came to the designated arena and swore oaths affirming their principal's rightness in the cause. They also promised they hadn't concealed charms on their bodies or resorted to sorcery. Eleventh- and 12th-century arenas were makeshift. Later ones were more elaborate and specially constructed for the purpose. Sixteenth-century records describe the "lists" as (Russell 1983a: 126):

an even and level piece of ground, set out square, 60 feet on each side due east, west, north and south, and a place or seat for the justices of the bench was made without and above the lists, and covered with furniture of the same bench in Westminster Hall, and a bar made there for serjeants-at-law.

Before battle began, the presiding justices made an announcement forbidding spectator interference. The justices' injunction before a 17th-century combat conjures images of a deadly tennis match:

The justices command, in the Queen Majesty's name, that no person of what estate, degree, or condition that he be, being present, be so hardy to give any token or sign, by countenance, speech, or language, either to the prover of the defender, whereby the one of them may take advantage of the other; and no person remove, but will keep his place; and that every person or persons keep their staves and their weapons to themselves; and suffer neither the said prover nor defender to take any of their weapons or any other thing, that may stand either to the said prover or defender any avail, upon pain of forfeiture of lands,

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<sup>9</sup>Russell (1959: 243) suggests that the earlier in the period one goes, the more likely it was probably the case that demandant champions were genuine witnesses.

tenements, goods, chattels, and imprisonment of their bodies, and making fine and ransom at the Queen's pleasure.

The demandant's champion could win trial by battle in two ways: killing his adversary or forcing him to submit. A champion submitted to his opponent by uttering "craven." The tenant's champion could win in a third way: pushing a stalemate until nightfall. Battle began before noon. Justices adjudged the tenant's champion victorious if he remained standing when the stars appeared.

The victorious champion won the contested property right for his principal. The presiding judges concluded the trial by publicly ordering the disputed land to his principal's possession and announcing his principal's good title (Russell 1983a: 127):

The King to the sheriff, greetings. I command you that, without delay, you give possession to X of [description of land], concerning which there was a suit between him and Y in my court; because such land is adjudged to him in my court by battle.<sup>10</sup>

Champions' post-trial fate depended. If both survived, the winner enjoyed the glory of victory and an improvement in his reputation as a hired thug. The loser was less fortunate. He paid a £3 fine for perjury and "lost his law;" the judges declared him infamous. He could never again bear witness in another's legal dispute.

## 3 A Theory of Trial by Battle

### 3.1 Sticky Property Rights

When transaction costs are zero, legal systems can rely on private bargaining to allocate disputed property rights efficiently (Coase 1960). Since transaction costs aren't zero, how judges allocate disputed property rights matters. How much it matters varies in proportion to transaction costs' height. If transaction costs are low, it's relatively unimportant who judges assign disputed property rights to: transaction costs typically permit exchange to move rights to persons with more valuable uses for them.<sup>11</sup> If transaction costs are high, it's

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<sup>10</sup>This announcement concluded a 13th-century trial by battle.

<sup>11</sup>Even if transaction costs are zero, there's still some benefit of judges assigning disputed property to higher-valuing users. If disputants know the legal system allocates contested rights this way, they have an *ex ante* incentive to use their property in the way that maximizes its social value.

very important who judges assign disputed property rights to: transaction costs typically preclude Coasean exchange.

High transaction costs make property rights “sticky.” They prevent markets from reshuffling rights to higher-valuing users. When rights are sticky, if judges get initial allocations “wrong,” disputed property rights get stuck in lower-valuing users’ hands. Thus the higher transaction costs are, the more concern a legal system interested in efficiency will show for getting initial allocations “right.”

Land rights in Norman England were near the extreme end of the transaction cost of trade spectrum. They were sticky. Anglo-Norman legal institutions therefore showed great concern for assigning disputed property rights to the higher-valuing user.<sup>12</sup> Trial by battle was that concern’s result.

The feudal system made Anglo-Norman land rights sticky.<sup>13</sup> That system created a chain of lord-tenant relationships extending downward to the lowliest tenant who held his tenement of some lord, but of whom no lowlier tenant held of him, and extending upward to a baron or great lord, a tenant-in-chief who held of the king.

The chain of land holders that constituted feudal property arrangements created third parties with direct interests in tenants’ land-related decisions. Those decisions threatened to impose large externalities on them. Among the most important such decisions were those relating to land’s alienation.

Alienation had two forms: substitution and subinfeudation. Substitution replaced a link in the feudal chain. Subinfeudation created a new link it.<sup>14</sup>

A tenant who substituted his land sold his spot in the feudal chain to someone else. That buyer purchased the land rights the tenant previously enjoyed—the lord’s protection, the ability to support himself by the land, and so on. He held of the tenant’s former lord.

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<sup>12</sup>Officially, the Anglo-Norman period closed with the end of Stephen I’s reign in 1154. The Angevin period followed it. Thus trial by battle in the years I’m concerned with (1066-1179) overlapped both periods. Despite this overlap and the resulting technical inaccuracy, for want of a better term, when I refer to Norman England or Anglo-Norman legal institutions, I’m referring to England during the period 1066-1179.

<sup>13</sup>Technically, it’s incorrect to speak of land ownership in the context of feudal relations. One should speak of land tenure and holding or seisin. Tenant ownership doesn’t emerge until the late 12th and early 13th centuries. I discuss this development below. References in my discussion to land ownership, buying/selling land, and so on should be understood to refer to land tenure/holding and the buying/selling of tenures/holdings.

<sup>14</sup>For a good summary of substitution and subinfeudation and the problems alienation created, see Baker (2002).

The buyer also purchased the obligations of performing the services of holding that land the tenant previously had—knight's fees (or service), work, produce, and the duty to pay other feudal incidents, such as "aids" and "relief." A tenant who subinfeudated his land sold some portion of his tenement to a buyer but remained a tenant of his lord. This made him the buyer's lord and the buyer his lord's sub-tenant.

The third parties with the strongest interest in alienations were the alienor's heirs—the would-be successors of his holding—and his immediate lord. Subinfeudation threatened these individuals' interests in alienated property. A tenant might subinfeudate his land for an upfront payment and small service from the buyer. When he died, all his heir was entitled to was the small service his buyer owed.

Further, that service might be the performance of some duty the subinfeudator owed as a service to his lord. The subinfeudator's concern was the buyer's ability to make the upfront payment rather than his ability to perform the service. However, since the buyer's failure to perform for the tenant could affect the tenant's ability to meet the service he owed his lord, subinfeudation could injure the lord's interest.

Subinfeudation could also injure the lord's interest by precluding his claim to escheat. If a tenant died and no heir was forthcoming, or if the tenant committed a felony, or failed to appear in his lord's court, his property fell to his lord. By inserting a tenant below him through subinfeudation, the subinfeudator could enjoy this right instead.

Substitution posed similar problems. If a tenant substituted his holding, his heirs' interest in that land was ordinarily extinguished. Land he sold was land his heir couldn't inherit. If a tenant sold his holding to a less reliable or competent person, his lord suffered. The lord became less likely to receive the service owed him attached to that holding. An old tenant who sold his property to a young person also damaged his lord who would now have to wait longer to enjoy escheat.

If a tenant granted his property to a religious house, the injury his lord suffered was still greater. Such grants relieved the new holder, such as a church or monastery, of the obligation to render the services the former tenant owed his lord. Churches and monasteries usually held land in alms. The only services they were obligated to provide were spiritual ones, typically prayers for the granting tenant and perhaps his lord.

To prevent alienors from injuring their heirs and lords, a strong norm developed in Norman England, bolstered in some areas by formal law, requiring tenants to get their heirs' and lords' consent to alienate land.<sup>15</sup> This norm was flexible. For instance, if the lord's, tenant's, and heir's interests were clearly aligned, receiving explicit consent to alienate was usually unnecessary. In contrast, if a tenant sought to grant his land to the Church, consent was mandatory: the lord exercised veto power over the tenant's desire to alienate.<sup>16</sup>

Feudal property arrangements created a host of externality problems. Thus they required rules of consent governing land alienations. But these rules had an unfortunate side effect: they dramatically increased the transaction costs of trading land, stifling its reallocation. “[M]ultiple consents required from people with diverse standards and concerns retarded the use of land as an economic asset” (Palmer 1985: 387). They made Anglo-Norman property rights in land sticky.

## 3.2 Violent Auctions

When property rights are sticky, it's important for the judicial system to allocate disputed rights to the higher-valuing disputant. But judges have a problem: they don't know which disputant values the disputed rights more. Trial by battle was Norman England's solution to this problem. It was a medieval demand-revelation mechanism that identified the higher-valuing disputant and allocated disputed land rights to him.

The Anglo-Norman legal system used trial by battle to hold “violent auctions” for contested land. In these “auctions” legal disputants “bid” on contested land by spending on champions who literally fought for property rights on their employers' behalf. Better champions were more likely to win these combats.

The best developed reputations for their skill in the arena. Thirteenth-century champion William of Copeland's name preceded him. It was known far and wide, from Yorkshire to Somerset. “The mere sight of him was enough to scare any tenant who might have considered

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<sup>15</sup>Feudal property arrangements created another externality problem relating to land alienation: a lord's decision to alienate his property could injure his tenant who the alienation would place under a new lord (“attornment”). Some restrictions also developed to regulate this problem. For instance, a tenant couldn't be forced to do homage to a new lord who was his enemy.

<sup>16</sup>The Church—itsself a large land owner—had its own rules governing land alienations. To alienate Church land, a landholder required the prelate's and chapter's consent. See, Cheney (1985).

countering his challenge.” Copeland’s contemporary, Robert of Clopton, “was [also] in great demand as a champion” in the early 13th century (Russell 1959: 259, 246).

Because they were in greater demand, better champions commanded higher prices. The Abbot of Glastonbury paid 13th-century champion Henry of Fernberg £20 to battle on his behalf in a property dispute. The terms of Fernberg’s contract stipulated partial payment when he wagered battle, another part before he fought, and the rest if he struck his opponent but once in the arena. An evidently inferior 13th-century champion, John of Smerill, commanded less than half this amount for agreeing to battle for William Heynton. His contract paid him only £8 if he defeated his opponent and nothing if he failed to land a blow (Russell 1959: 254).<sup>17</sup>

In contrast to the medieval land market, the champion market was fluid. Champions switched allegiances before battle, reshuffling themselves into the service of the higher bidder. They were happy “to desert to the other side if the inducement was sufficiently great” (Russell 1959: 254-256).

Hiring a superior champion wasn’t the only way for medieval disputants to “bid” on disputed land. They could also hire more champions. Only one champion fought. But purchasing multiple champions—especially the better ones—shrank the other disputant’s choices, leaving him fewer and inferior options.

In 1220 a demandant named Cliveden contested the right to a parcel of land then under the tenancy of fellow named Ken. Ken hired four champions, one of them the redoubtable William of Copeland. Similarly, in a case of contested fishing rights between the Abbot of Meaux and the Abbot of St. Mary’s of York, Meaux hired seven champions “at great cost.” Meaux was attempting to “monopolise the market” for professional battlers to “compel the other Abbot to employ a second-rate champion” (Russell 1959: 246, 255).

To see how trial by battle’s violent auctions affected contested property’s allocation, consider two medieval Englishmen, Eustace and Osbert. Eustace goes before the king’s court and claims that the farmland Osbert occupies is his. Osbert denies Eustace’s claim. Both offer to prove their right on their champion’s body. Property rights in land are perfectly

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<sup>17</sup>Hiring champions, even under a contract as advantageous to the employer as the one Heynton negotiated, always required some upfront expense. For example, Heynton had to put up a parcel of his property to collateralize his promise to pay Smerill if Smerill won.

sticky: the transaction cost of trading it is prohibitive. Whoever the legal system awards the farmland to will be its permanent holder.

The court doesn't know who the farmland truly belongs to. It orders trial by battle. There are two champions available for hire: Fernberg and Smerill. Fernberg has a reputation as a great fighter. Smerill doesn't. Both champions sell their services to the highest bidder.

Eustace is a more productive farmer than Osbert. So he values the contested land more. Eustace is therefore willing to pay more for Fernberg's services than Osbert. He hires Fernberg, leaving Osbert with Smerill.<sup>18</sup> The combat's probable outcome is Fernberg's victory. Eustace, the higher-valuing user, wins the property right. Trial by battle has used a violent auction to reveal the higher-valuing user's identity and to allocate the contested land to him. It has substituted for the Coase theorem where sticky property rights prevented trade from allocating contested farmland efficiently.

## 4 Rent Seeking

Trial by battle's violent auctions not only encouraged the efficient allocation of disputed property rights. They encouraged less rent seeking than one might expect. Violent auctions' proceeds accrued to champions. That gave champions (and complicit demandants) an incentive to rent seek. The better ones could encourage unscrupulous demandants to initiate fraudulent claims, challenging ownership to land the demandant knew wasn't his. Without data on medieval disputants' champion expenditures, it's impossible to measure the extent of such rent-seeking under trial by battle. But indirect evidence suggests rent seeking wasn't

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<sup>18</sup>In the same way that liquidity constraints can prevent markets and ordinary auctions from allocating resources to higher-valuing users, they could also prevent trial by battle's violent auction from doing so. Two factors ameliorated this problem in 11th- and 12th-century England. First, credit markets existed in 11th- and 12th-century England and liquidity constrained persons seeking to hire champions could avail themselves of these markets if necessary. Second, and more important, such persons could rely on the financial support of their lords. Indeed, their ability to do this likely obviated the need to resort to official capital markets in most cases. Lords often had financial interests in their tenants' land remaining in their tenants' hands (and in their tenants' holdings swelling). For example, a tenant's ability to satisfy the service(s) he owed his lord depended on his productivity. Thus, if a less productive (and therefore lower-valuing) but richer person challenged a lord's liquidity constrained tenant's holding, it was in his interest to help his tenant finance a superior champion. In fact, defending one's tenants in legitimate legal disputes was considered part of a lord's obligation per his feudal "contract" with his vassals. On credit markets in medieval England see, Koyama (2010a, 2010b).

exorbitant.

Citizens could and occasionally did hire champions on retainer. At least one English king hired a champion this way. He paid his champion 3d. per day whether he used the thug's services or not. Champion Thomas of Bruges managed to sell his services on retainer as well. However, champion retainers were uncommon. "[M]ost people" came "to terms with an available champion only when litigation was imminent" (Russell 1959: 253, 254).

The infrequency of champions on retainer suggests that property disputes weren't ubiquitous. Most people didn't feel their land rights were so insecure as to warrant the employment of a permanent champion to defend them. If rent seeking had been rampant, illegitimate land disputes would've been rampant too. Perpetually threatened by the specter of fraudulent demandants and eager to perpetrate fraudulent claims of their own, most people would've found it worthwhile to keep their champion of choice at his ready in their permanent employment. The fact that they didn't is reassuring.

There are other reasons most medieval Englishmen may have found it unprofitable to keep champions on retainer. Many people may have been unable to afford retained champions though they would've liked them. Alternatively, the supply of quality champions may have been very elastic, precluding the need to have a stable of champions on retainer since citizens could procure them easily on the spot market when the need arose.

Still, it's reasonable to expect to find a large number of retained legal representatives under a legal system in which people feel that their property rights are constantly threatened by rent-seeking litigiousness or in which rampant rent-seeking opportunity gives them an incentive to behave litigiously themselves. The rarity of retained champions in medieval England therefore suggests that rent seeking under trial by battle wasn't rampant.

This helps resolve a puzzle that trial by battle's violent auctions pose: Why didn't Norman England's legal system use "ordinary" auctions—the first-price ascending-bid variety—to auction contested property rights to disputants instead?<sup>19</sup>

Because ordinary auctions would've encouraged more rent seeking than violent ones. As

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<sup>19</sup>A sealed high-bid auction produces the same total spending as a first-price ascending-bid auction (see Hirshleifer and Riley 1992: 373). Thus violent auction's rent-seeking superiority to "ordinary auction," which I derive below, applies equally to the sealed high-bid auction, which one might consider an equally obvious alternative to trial by battle's violent auction.

in violent auctions, auction proceeds accrue to someone in ordinary auctions.<sup>20</sup> Who they accrue to depends on the auction's arrangement. There are two obvious recipients: the loser and the legal system. Both arrangements encourage rent seeking.

If auction proceeds accrue to losers, individuals have an incentive to initiate baseless legal disputes to extort current owners. If proceeds accrue to the legal system, say to the king, or to the judges, officials have an incentive to permit and create fictitious property conflicts. A judge or other official may encourage a citizen to fraudulently challenge an existing landholder's claim, offering some of the auction proceeds in exchange.

To see why trial by battle's violent auctions encouraged less rent seeking than ordinary auctions would, consider two risk-neutral legal disputants, a demandant,  $D$ , and a tenant,  $T$ .  $D$  values the disputed land  $v_D$ .  $T$  values it more:  $v_T > v_D > 0$ . Disputants know their own and each other's values. Judges don't. They require some demand-revelation mechanism to identify the higher-valuing disputant.

The amount that legal disputants spend to influence contested land's legal assignment measures the resources flowing to parties with an interest in instigating illegitimate land disputes and thus their incentive to rent seek. In an ordinary auction this amount equals the contested property's value to the lower-valuing disputant:  $v_D$ .  $T$  knows that if he bids less than this,  $D$  will outbid him. If he bids  $\varepsilon > 0$  more,  $D$  drops out.  $T$  wins the auction. He spends  $v_D + \varepsilon$  to do so.

Trial by battle is different. Its violent auction is equivalent to an imperfectly discriminating all-pay auction with asymmetric valuations.<sup>21</sup> In such an auction contestants make expenditures to improve their probability of winning some prize that has a different value to each of them. These expenditures are equivalent to "bids" for the prize. Each contestant pays his bid. His probability of winning the prize depends on how much he spends to win it compared to the other contestant.

*Ceteris paribus*, the more a contestant spends to win the prize, the more likely he is to

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<sup>20</sup>Friedman's (1999) excellent paper, which points to the inefficiency of efficient punishments, is closely related to this. He makes the point that with an efficient punishment, the cost borne by the punished is captured as a corresponding benefit by someone else. This is both what makes the punishment efficient, but also what may make it inefficient in that this situation creates an incentive for the benefit's recipient to seek rents. Using auctions to allocate disputed property rights is analogous.

<sup>21</sup>For example, see Nti (1999) who models a rent-seeking contest with asymmetric valuations.

win it and vice versa. The auction is imperfectly discriminating because neither contestant wins the prize with certainty as long as the other contestant spends something to win it too. The higher spender is more likely to win. But it's possible for the lower spender to "upset" him.

In trial by battle's violent auctions the contestants are the legal disputants contesting each other's right to a piece land,  $D$  and  $T$ . The prize is the land, which they value  $v_D$  and  $v_T$ , respectively, where  $v_T > v_D > 0$ . The disputants bid by spending on champions who fight in the arena for their employer's right.  $D$  and  $T$  spend  $d > 0$  and  $t > 0$  on champions, respectively, to improve their chance of winning the contested land. They make their expenditures simultaneously and independently. Expenditures on champions and the land's value are in the same units.

Intuitively, two factors determine how much a disputant will be willing to spend to win the contested land, and thus the probability that he wins it, in such an auction: how much he values the contested land and how much his adversary values it. *Ceteris paribus*, a disputant will be willing to spend more to win contested land that he values more and vice versa. So his optimal spending level depends partly on his valuation of the land. *Ceteris paribus*, a disputant will also be willing to spend more to win contested land when his adversary spends more to win it and vice versa. His optimal spending level is his best response to his adversary's spending level. When his adversary spends more, he must spend more himself to buy the same chance of winning. So a disputant's optimal level of spending on champions also depends partly on his adversary's level of spending. And that depends partly on his adversary's valuation of the land.

To calculate how much disputants' spend to influence contested land's legal assignment under trial by battle, I must first determine how much each disputant bids for this land in a violent auction in equilibrium. Tullock's (1980b) contest success function describes each disputant's probability of winning that auction given his and his adversary's expenditures on champions.  $D$ 's probability of winning the contested land under trial by battle is

$$\rho_D(d, t) = \frac{d^\alpha}{d^\alpha + t^\alpha}. \quad (1.1)$$

$T$ 's probability of winning is

$$\rho_T(d, t) = 1 - \rho_D(d, t) = \frac{t^\alpha}{d^\alpha + t^\alpha}. \quad (1.2)$$

$\alpha > 0$  is the mass effect (aka decisiveness) parameter. The return to spending on champions is constant:  $\alpha = 1$ .

$T$ 's expected profit of trial by battle is

$$\pi_T(d, t) = \frac{v_T t}{d + t} - t. \quad (2.1)$$

$D$  maximizes

$$\pi_D(d, t) = \frac{v_D d}{d + t} - d. \quad (2.2)$$

$T$ 's first-order condition, which describes his profit-maximizing level of spending on champions, is

$$\frac{\partial \pi_T}{\partial t} = \frac{v_T d}{(d + t)^2} = 1. \quad (3.1)$$

$D$ 's first-order condition is

$$\frac{\partial \pi_D}{\partial d} = \frac{v_D t}{(d + t)^2} = 1. \quad (3.2)$$

$T$ 's second-order sufficiency condition, which guarantees an interior maximum, is

$$\frac{\partial^2 \pi_T}{\partial t^2} = \frac{-2v_T d}{(d + t)^3} < 0. \quad (4.1)$$

This is satisfied since  $v_T > 0$ ,  $d > 0$ , and  $t > 0$ .  $D$ 's second-order sufficiency condition is

$$\frac{\partial^2 \pi_D}{\partial d^2} = \frac{-2v_D t}{(d + t)^3} < 0. \quad (4.2)$$

This is satisfied since  $v_D > 0$ ,  $d > 0$ , and  $t > 0$ .

Taking the ratio of (3.1) and (3.2) gives

$$\frac{t}{v_T} = \frac{d}{v_D}. \quad (5)$$

Solving for  $d$  and substituting into (3.1) gives  $T$ 's optimal spending on champions:

$$t^* = \frac{v_T^2 v_D}{(v_D + v_T)^2}. \quad (6.1)$$

Solving for  $t$  and substituting into (3.2) gives  $D$ 's optimal spending on champions:

$$d^* = \frac{v_D^2 v_T}{(v_D + v_T)^2}. \quad (6.2)$$

Comparing (6.1) and (6.2) we see that  $t^* > d^*$ . The tenant spends more on champions than the demandant. This reflects the crucial feature driving trial by battle's tendency to allocate contested land to the user who values it more: that user is willing to spend more on champions to win it.

Using (1.1) and (1.2) to compare the disputants' equilibrium probabilities of winning the contested land given their optimal expenditures on champions, we see that  $\rho_T > \rho_D$ . The tenant's probability of winning the contested property right is higher than the demandant's. This reflects trial by battle's allocative efficiency: violent auction tends to allocate disputed land to the higher-valuing user.

How much more likely the higher-valuing user is to win the contested right depends on how much more he spends on champions relative to his adversary. That depends on how much more he values the contested property. Examining  $t^*$  we see that when  $T$  values the disputed land much more than  $D$ , he's willing to spend much more on champions. Thus he's much more likely to win the contested property right. Violent auction's allocative efficiency is highest when the gap between the disputants' valuations is largest.

With (6.1) and (6.2) I can calculate total spending on champions and thus rent seeking's social cost under trial by battle:

$$t^* + d^* = \frac{v_T v_D}{v_D + v_T}. \quad (7)$$

Since  $v_T > v_D > 0$ , and  $\forall v_D > 0 : \frac{v_T v_D}{v_D + v_T} < v_D$ , the amount legal disputants spend to influence a violent auction's outcome is less than the amount they spend to influence an ordinary auction's outcome. Thus the incentive to rent seek under trial by battle is also less.

Trial by battle encourages rent seeking ( $\frac{v_T v_D}{v_D + v_T} > 0$ ). But it encourages less rent seeking than an ordinary auction ( $v_D > \frac{v_T v_D}{v_D + v_T} > 0$ ).<sup>22</sup>

Examining (7) we see that, similar to the way that trial by battle’s allocative efficiency grows as disputants’ valuations diverge, its “rent-seeking superiority” also grows as this happens. Disputants spend less to affect the judicial system’s property rights assignment when the difference between their valuations of those rights is larger (and when, holding this difference constant, disputants’ valuations are lower).

Violent auctions are “rent-seeking superior” to ordinary auctions. But ordinary auctions are allocatively superior to violent auctions. Trial by battle tends to allocate contested property to the higher-valuing disputant. But for any positive amount of spending on champions by the lower-valuing disputant, that disputant wins trial by battle with a positive probability.

In contrast, ordinary auction assigns contested property to the higher-valuing user with a probability of one. It discriminates perfectly: the higher bidder always wins. The legal system therefore faces a tradeoff in deciding whether to use violent vs. ordinary auction.

Which auction mechanism is superior depends on which one’s total cost is lower: ordinary auction’s larger rent-seeking cost plus its zero allocative-inefficiency cost, or violent auction’s smaller rent-seeking cost plus its larger allocative-inefficiency cost. That depends on the relationship between disputants’ valuations of the disputed land.

Violent auction’s allocative-inefficiency cost is the probability that trial by battle assigns contested property to the lower-valuing disputant,  $\rho_D = \frac{d^*}{d^* + t^*}$ , times the social value lost when this happens,  $v_T - v_D$ . Substituting disputants’ equilibrium expenditures on champions, this is

$$\frac{v_D^2 v_T}{v_D^2 v_T + v_T^2 v_D} (v_T - v_D). \quad (8)$$

From (7) we know that violent auction’s rent-seeking cost is  $\frac{v_T v_D}{v_D + v_T}$ . So violent auction’s

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<sup>22</sup>One might wonder whether trial by battle’s violent auction is also rent-seeking superior to a first-price (i.e., perfectly discriminating) all-pay auction—another alternative auction England’s judicial system might have resorted to. If disputants’ valuations are sufficiently far apart, it is. Disputants’ total spending to influence the legal system’s allocation of contested rights under a first-price all-pay auction is  $v_D \left[ \frac{v_D + v_T}{2v_T} \right]$  (see Hillman and Riley 1989). So violent auction is rent-seeking superior if  $v_T < \frac{v_D}{\sqrt{2}-1}$ .

total cost is

$$\frac{v_T v_D}{v_D + v_T} + \frac{v_D^2 v_T}{v_D^2 v_T + v_T^2 v_D} (v_T - v_D). \quad (9)$$

Ordinary auction's allocative-inefficiency cost is zero. Its rent-seeking cost is  $v_D$ . So ordinary auction's total cost is  $v_D$ .

Violent auction is therefore superior to an ordinary one when

$$\frac{v_T v_D}{v_D + v_T} - \frac{v_D^2 v_T}{v_D^2 v_T + v_T^2 v_D} (v_T - v_D) < v_D \Rightarrow v_D > \frac{v_T}{2}. \quad (10)$$

Violent auction's allocative and rent-seeking efficiency improves when the gap between disputants' valuations of contested land is larger. But as the lower-valuing disputant's valuation falls, so does ordinary auction's rent-seeking cost. Because of this, trial by battle's relative superiority rises when the gap between disputants' valuations grows. As long as the lower-valuing disputant values the contested property at least half as much as the higher-valuing disputant, trial by battle's violent auction is socially superior to an ordinary one.

## 5 Predictions and Evidence

My theory of trial by battle generates several predictions. The evidence supports them.

### 1. *Most trials by battle are settled.*

Under trial by battle disputants bid on disputed property rights by spending on champions who fight for these rights in the arena. Once both disputants know who their adversary has hired, and thus has a good idea about what he spent on the trial, battle is unnecessary. At this point both parties know the trial's probabilistic outcome. They can save time and expense by settling their dispute instead.

Thus my theory predicts that disputants should've settled most trials by battle. In fact, it predicts that disputants should've always settled unless they had sufficiently different assessments of their champions' comparative skill, or bargaining itself proved too costly, and thus bargaining broke down.

Even in this case my theory predicts that disputants may settle. The course of combat may reopen the possibility of settlement by clarifying the probabilistic winner's identity. A

disputant who stubbornly clings to an unrealistic settlement price before battle may become less stubborn if the course of combat shows his champion significantly less likely to win than he once thought. As long as the victorious champion's identity isn't a forgone conclusion, a mutually beneficial bargaining range that permits settlement exists. Disputants have an incentive to settle until battle is over.

The evidence on settlement under trial by battle supports this prediction. "Determination of the issue by battle actually fought out . . . was . . . a rare exception, in the writ of right." The usual course of events involved the disputant "mak[ing] the best compromise he could at the last moment before the judicial combat" (Pollock 1898: 240).<sup>23</sup> Consider the settlement that two disputants made in the reign of Henry II—after their champions entered the arena but before combat commenced (van Caenegem 1991 No. 598: 639):

This is the concord by fine of combat before Thomas Noel, Sheriff in the county of Stafford, between Godfrey de Shobnall and Juliana de Shobnall concerning the half hide of land which Juliana claimed by writ of the lord king to hold from the abbot of Burton. The aforesaid Juliana received one acre of the land in seisin and the rest of half a bovate of land remains to Godfrey for the rest of his life for the service due Juliana, and for the foresaid Juliana's concession the foresaid Godfrey gave her twenty shillings. After the foresaid Godfrey's death Juliana shall have that land in fee and heredity for herself and her heirs. And the aforesaid Godfrey swore in the county court of Stafford that he would invent no trick or wicked contrivance through which Juliana herself or her heirs could lose this inheritance. Witnesses of this business are: Robert, the priest of Stapenhill, Ralph fitz Ernald, David de Caldwell, Philip de Burgh, Hugh Bagot, William de Samford and several others and the whole court.<sup>24</sup>

In another 12th-century case battle commenced. But the exhausted champions stopped fighting. When they did their principals settled. This battle was fought in the earl of Leicester's court. The demandant was a churchman, Prior Robert. The tenant was a knight named Edward (van Caenegem 1990 No. 316: 265):

[A]fter many blows between the champions . . . they both sat down [and] as neither dared attack the other peace was established as follows: the said Edward did homage for [the land] to the said prior and should hold it by hereditary right against yearly payment of 19s.

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<sup>23</sup>Disputants paid a fee to the king when they settled.

<sup>24</sup>"Fine" here means "agreement."

The prior got the worse end of this deal. It turns out that “the champion of Edward had lost his sight in the fight.” But this “was unknown to the prior and his men.” Surely they could’ve driven a better bargain if they’d known.

Historian of trial by battle M.J. Russell (1980a: 129) has identified 598 cases in England between 1200 and 1250 that mention trial by battle. Disputants actually waged battle in only 226 of these cases, or 37.8 percent of the time. Champions only fought in 123 of these cases, or 20.6 percent of the time.<sup>25</sup> These data suggest that disputants settled trials by battle nearly 80 percent of the time. Russell suggests that if more case data were available, this percentage would fall to somewhere between 75 and 66.6 percent. However, this doesn’t account for the fact that disputants settled some proportion of cases in which champions clashed mid-fight. Accounting for these cases would increase the percentage of trials by battle settled rather decrease it.

Even taking Russell’s lower-most bound of 66.6 percent, the evidence suggests that medieval English disputants overwhelmingly settled under trial by battle. “[I]t is abundantly clear that trial by battle in civil cases did from an early time tend to become little more than a picturesque setting for an ultimate compromise” (Pollock 1912: 295). “[B]attles were often pledged but seldom fought” (Russell 1959: 245).

## *2. The legal system limits trial by battle’s social cost.*

According to my theory, trial by battle is the product of the Anglo-Norman legal system’s concern with allocating disputed property rights efficiently where feudal property arrangements made property rights sticky. If that legal system was in fact concerned with efficiency, it should’ve conducted trial by battle’s violent auctions as cheaply as possible.

The evidence supports this prediction. There were two ways the Anglo-Norman legal system could minimize trial by battle’s social cost: by lowering its procedural cost and by converting what cost remained into social benefit. It did both.

Trial by battle’s largest potential procedural cost was human: maimed and murdered

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<sup>25</sup>82 of these cases were criminal. 38 were civil. 2 were uncertain. Unfortunately, Russell doesn’t provide an analogous breakdown of criminal and civil cases for the 598 total. This would provide a more precise idea about what was happening in land disputes, which is the case I’m concerned with. Still, the logic behind settling in criminal cases tried by battle is the same. So these figures provide a reasonable estimate of the frequency with which disputants settled land disputes under judicial combat.

champions. Anglo-Norman law limited this cost by regulating how violent violent auctions could be. Champions didn't fight with lances on horseback. They didn't even fight with swords. The law required combat with far less lethal weapons: *baculi cornuti*.

*Baculi* were short clubs. Sometimes they were horn tipped. But the basic variety was no more than a wooden stick. The law also instructed champions to carry bucklers—small shields. When the judicial system ordered trial by battle, it didn't order champions to slay one another.<sup>26</sup> It ordered them to club one another while wearing protective gear.<sup>27</sup>

Trial by battle's "submission rule" limited combat-sustained damage still further. Recall that one way a champion could lose judicial combat was through acquiescing to his opponent. "[I]f one of the contestants was faring badly, he could surrender by crying 'craven'" (Russell 1959: 245). Trial by battle needn't come to a bloody end. Because of the submission rule, in the vast majority of cases there was no reason it would. And the evidence suggests it rarely did: "death very seldom ensued from these civil combats" (Gilchrist 1821: 32). Russell (1980a: 124) has found only a single case in which a champion died in a land dispute tried by battle.

The legal system significantly limited trial by battle's procedural cost through combat rules. But it couldn't eliminate that cost. Injuries and even deaths remained possible. Further, like all trials, trials by battle cost something to hold and administer.

The legal system minimized this remaining cost by converting part of it into social benefit. It made trials by battle public spectacles—a form of entertainment for medieval citizens. In later judicial combats, stands surrounded the lists so eager spectators could enjoy the justice system in action. Evidently trials by battle were popular enough and well-enough attended events to require rules prohibiting the crowd from becoming unruly. Recall the presiding justices' public pronouncements against spectator noise or interference. Medieval Englishmen found entertainment value in watching champions fight for property rights. The judicial system capitalized on this by making these fights public events.<sup>28</sup>

Given the evidence considered above that disputants overwhelmingly settled trials by

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<sup>26</sup>On the accoutrements of judicial combat, see Russell (1983b).

<sup>27</sup>For instance, see Truman (1884: 33).

<sup>28</sup>The judicial system doesn't seem to have charged citizens for the pleasure of taking in a trial. This is sensible. Charging would've reintroduced legal officials' incentive to rent seek.

battle, a question arises: When disputants settled, what happened with the throngs of anxious spectators eagerly anticipating a good brawl? Many settlements happened before the disputants' champions made it to the arena. But others happened just before the hired thugs were to bang it out, when the spectators were already gathered and primed.

The presiding justices ensured that spectators weren't disappointed in these cases. They ordered the champions to put on a show fight to satisfy the combat-craving crowd. When "[t]he parties agree at the last moment" before battle, "the judges call on the champions to strike a blow or two, 'the King's stroke,' for sport . . . and the public, we hope, think the show was good enough without any slaying" (Pollock 1912: 295; see also Pollock 1904: 105).

### *3. Trial by battle in land disputes declines as the transaction cost of trading land declines.*

When the transaction cost of trading land is high, and thus property rights in land are sticky, it's important that judges' initial assignments of contested land go to higher-valuing disputants. Trial by battle is a costly way to ensure that judges assign contested land "correctly." But given property rights' stickiness, which precludes disputants' ability to reallocate land when judges' initial allocation is incorrect, that cost is outweighed by a still larger benefit. Trial by battle is efficient.

When the transaction cost of trading land is low, and thus property rights in land are fluid, things are different. In this case society can rely on the Coase theorem to reallocate land to higher-valuing users if judges' initial allocation of contested property is wrong. Trial by battle's demand-revelation and allocation mechanism is unnecessary. It imposes a cost without a corresponding benefit. Trial by battle is inefficient. Thus my theory predicts that England's legal system should've abandoned trial by battle for deciding land disputes when the transaction cost of trading land fell significantly.

The history of trial by battle's decline in English land disputes supports this prediction. In the second half of the 12th century Henry II introduced important legal changes in England—the so-called Angevin reforms.<sup>29</sup> These changes mark the birth of the English common law and the beginning of feudalism's end in England (see, for instance, van Caenegem 1958-1959, 1973; Milsom 1976; Palmer 1985a). In this period traditional feudal property arrangements declined significantly and, with them, so did the transaction cost of trading land.

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<sup>29</sup>For a discussion of some of these reforms, see Biancalana (1988).

In the years leading up to 1175 the feudal tenant wasn't a proper owner of the land he occupied. He was a kind of part owner of his tenement. But because of alienation consent requirements, his lord and heirs were part owners of it too. "Both lord and tenant's (eventual) heir shared with the current tenant the power of granting the land" (Palmer 1985: 383). Tenant alienation threatened to impose externalities on his lord and heirs. So formal and informal legal rules gave these parties power over land's disposal. Alienation depended on their consent.

Between 1175 and 1200 lord and heir consent requirements to alienate land largely disappeared. Tenants became much closer to owners in the modern sense of that term, undermining feudal property arrangements. Maitland points to two reasons for this disappearance (Pollock and Maitland 1959). First, primogeniture was established. By protecting the presumptive heir's inheritance against his siblings, primogeniture rendered his consent overly damaging to his siblings' interests. So the heir consent requirement withered. Second, the 12th century's last quarter witnessed a jurisdictional shift in land disputes away from seigniorial courts, which were biased toward lord interests, and into royal courts, which were more favorable to tenant interests. Royal courts were prone to uphold alienations made without lord consent. So the lord consent requirement withered too.

Milsom (1976) points to different reasons for the demise of land alienation consent requirements during this period. He suggests that the assizes of novel disseisin and mort d'ancestor, introduced in 1166 and 1176 respectively, prevented lords from ousting new tenants who held their tenements by virtue of old tenants' alienations that lords hadn't consented to. This undermined the lord consent requirement and gave tenants an increasing proprietary interest in their tenements.

Thorne (1959) argues that the consent requirements for land alienation eroded between 1175 and 1200 because a homage-warranty bar emerged.<sup>30</sup> During these years the law evolved to view homage and the attendant obligation to warranty as hereditary. Because homage barred a legal challenge against an alienee and his heirs, this development barred alienors' heirs (who inherited alienors' homage) from contesting alienees' and their heirs' right to alienated land. In the case of land alienated free of service (for example, given to a church),

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<sup>30</sup>On the homage-warranty bar, particularly as it developed in the 13th century, see Bailey (1945).

for which homage wasn't given or received, the alienor's obligation to warranty the land, which similarly became hereditary, likewise barred his heirs from legally challenging the alienee or his heirs.

The homage-warranty bar made tenants more-or-less owners of their tenements.<sup>31</sup> As tenants came to have stronger ownership claims in their tenements, their lords came to have weaker ones. This led the lord consent requirement to erode since that requirement only made sense when the legal system saw lords as having a significant ownership interest in their tenant's holdings requiring protection.

Historians disagree about the relative weights we should assign to each of these late 12th-century legal changes in affecting the demise of lord and heir consent requirements for land alienations. But they agree that "both [of] these restrictions disappear in the last quarter of the twelfth century." "[B]y the end of the twelfth century" a tenant "no longer requires the consent of his lord or of his heir in dealing with [alienating his land] and thus restraints formerly existing fall away" (Thorne 1959: 194, 209). "Between 1176 and 1220" tenants gained the "rights . . . to sell securely without the participation of anyone but . . . himself and the purchaser" (Palmer 1985: 385).

Examining land charters' language before and after this period evidences this important change. In the before period, charters granting land to the Church contain the names of the alienating tenant's potential heirs. These individuals witnessed and consented to the alienation. They documented this by including their names in the charter. "But after the first half of Henry II's reign, in the third quarter of the century, the names disappear as does even the notation of consent" (Thorne 1959: 206). Alienation occurs without it.

Consent requirements' erosion significantly lowered the transaction cost of alienating land. Thus between 1175 and 1200 we observe a great increase in land's alienability. Henry II's legal changes made English land rights significantly less sticky. Through them "[l]and had been changed from a relatively frozen asset to a relatively liquid asset" (Palmer 1985: 382, 385). For example, in 1200 England's peasant land market emerged (Brooke and Postan 1960). "The picture of the thirteenth century which has emerged from recent scholarly investigation is clear and undisputed. That century was, in all respects, an age of . . .

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<sup>31</sup>In further support of Thorne (1959), see White (1974).

intensified exchanges” (Miller 1971: 2). This was especially true for land.

As my theory predicts, during these years England moved significantly away from trial by battle in land disputes. As quickly as the legal system eroded consent requirements and the transaction cost of trading land declined, it departed from using trial by battle to decide land disputes.

The legal system departed from trial by battle in land disputes in 1179 at the Council of Windsor. That council introduced the grand assize as an alternative to trial by battle in real property cases. The new law gave tenants an option: a tenant who didn’t want judicial combat to decide his land dispute could put himself on the judgment of his countrymen instead. The grand assize consisted of twelve knights of the shire. It replaced trial by battle with trial by jury.

The grand assize option proved immensely popular. Some tenants chose to defend their land in trials by battle. But the majority opted for a jury trials. Judges continued to order trials by battle in land disputes in the 13th century. But they became increasingly rare. Jury trial took over. The Council of Windsor marks the beginning of trial by battle’s end in land disputes. This decline closely parallels the beginning of the end of feudal property arrangements and, with them, the end of sticky land rights.

In 1290 England introduced the statute *Quia emptores terrarum*. That statute prohibited subinfeudation and abolished what vestiges remained of the lord consent requirement for land alienations. It laid the legal groundwork for unfettered alienation and a fluid market for real property.

This same time marks the end of trial battle’s end in land disputes. By the 13th century’s close, judicial combats were antiquated curiosities. They were so rare that contemporaries recorded them in great detail (Russell 1980a: 127). From the 14th century forward land rights were unstuck. And trials by battle in land disputes were dead.<sup>32</sup>

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<sup>32</sup>Though England didn’t formally abolish trial by battle until 1819.

## 6 Concluding Remarks

My analysis of the law and economics of trial by battle leads to several conclusions. First, trial by battle wasn't "monstrous" unless allocating disputed property rights to higher-valuing users is "monstrous" too. That's what judicial combat did: it created a mechanism for deciding land disputes that tended to allocate contested land to the higher-valuing disputant. Disputants "bid" on contested property in violent auctions by hiring champions. Better champions cost more and were more likely to win. So disputants who valued contested property more were more likely to receive it.

Trial by battle's "monstrosity"—the spectre of physical fights for property rights—reflects the Anglo-Norman legal system's attempt to generate information about which potential user of a contested right valued that right more in a context in which the alternative to that spectre was still more costly: ordinary auctions. Both trial by battle's violent auctions and ordinary ones encourage rent seeking. But trial by battle encouraged less. It also converted part of its social cost into social benefit by providing a valued service to medieval citizens: entertainment. Trial by battle's senselessness is directly proportionate to the senselessness of economizing behavior. For an economist that means trial by battle wasn't senseless at all.

Second, trial by battle highlights how societies can and do use legal arrangements to substitute for the Coase theorem where institutional barriers confound that theorem's logic. When the transaction cost of trade is low, property rights are fluid. Private bargaining tends to reshuffle rights into efficient hands. When the transaction cost of trade is high, property rights are sticky. This prevents efficient reshuffling. In this case how judges assign disputed property rights matters greatly. Since property rights tend to stick where they're first assigned, it becomes important for judges to determine who the higher-valuing disputant is and to allocate the rights to him. Even a relatively costly mechanism that achieves this goal is efficient. It prevents even larger costs that result from property residing permanently in lower-valuing users' hands. Trial by battle was Norman England's mechanism for this purpose.

Finally, trial by battle didn't die because England became less barbaric. It died because England became a lower transaction cost economy. Just as violent auctions substituted for

the Coase theorem in a world of sticky property rights, the Coase theorem substituted for trial by battle in a world with significantly more fluid property rights. In that world lower transaction costs of trade permitted markets to allocate land to higher-valuing users. It became less critical for the legal system to ensure that disputed rights' initial allocation was efficient. Because of late 12th-century legal reforms that unstuck land rights, in the late 12th century the judicial system could afford to move away from trial by battle and toward more "enlightened" trial methods, namely trial by jury. When judicial combat became an unnecessary cost England abandoned it.

This has important implications for how we understand the process of legal systems' evolution. It suggests that legal systems' evolution is less about a process whose course follows the trajectory of enlightened thinking and more about a process whose course follows the trajectory of the transaction cost of trade. When this cost rises, the relative price of relying on "sophisticated" judicial institutions rises too. Legal institutions become more "primitive" in the sense that we tolerate more costly (and less seemly) judicial procedures for identifying and allocating property to higher-valuing users. When the transaction cost of trade falls, so does the relative price of relying on sophisticated judicial institutions. The reverse happens: legal institutions become less primitive. Society acts enlightened because it has become cheaper to do so.

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