

THE GENESIS OF LIABILITY IN ANCIENT LAW

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ABSTRACT: This paper considers the emergence and evolution of punitive and compensatory remedies in ancient law. I describe how ancient practices of retaliation gradually evolved, through four general phases, into rules requiring victim's compensation. I suggest that the Biblical *lex talionis* ("eye for an eye ... life for a life") and similar rules that emerged in other ancient legal systems triggered an important change in the ancient law of wrongs, marking the end of a system of retaliatory justice and the emergence of a system based on victim's compensation. The paper addresses four related questions: (1) Why was a single limit of 1:1 to talionic penalties introduced across all categories of wrongdoing, replacing older customary practices which had different multipliers according to the circumstances of the case? (2) In the presence of imperfect enforcement, did the 1:1 limit to retaliation result in under-deterrence? (3) Why did the practices of literal talionis rapidly fall into disuse after their written formalization? and (4) Were the *kofer* and blood-money payments made under a threat of literal retaliation likely to generate over-extraction from the wrongdoer and excessive deterrence?

"The first cruelties are exercised for themselves: thence springs the fear of a just revenge, which afterwards produces a new series of cruelties, to obliterate one another."

(Michel de Montaigne, *Essays*, I. 27)

"Thou shalt give life for life, eye for eye, tooth for tooth, hand for hand, foot for foot, burning for burning, wound for wound, stripe for stripe."

(Exodus 21:23)

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Today, the desire to punish a wrongdoer and obtain restitution from him appears deeply rooted in human nature. Yet, ancient legal systems gave primary weight to the punishing of the offender, and only secondarily addressed the notion of compensating the victim. This recurring characteristic of the ancient law of wrongs has led some legal historians to suggest that the early absence of a clear distinction between criminal and civil remedies stemmed from a pervasive lack of awareness about the different roles played by punishment and compensation. However, this argument has been shown to be mistaken on both exegetical and historical grounds.² Posner (1980) suggests, for instance, that compensation was not a feasible alternative to retaliatory sanctions in early legal systems: with their very limited wealth, wrongdoers simply could not compensate their victims.³

In this article, I offer a different explanation for the transition from retaliation to compensation in early legal systems. I suggest that formalized norms of retaliation were a necessary bridge between the state of nature (unregulated retaliation in kind) and compensatory legal remedies.

Sections 1 and 2 of this paper compare the dynamics of retaliation under the two regimes, showing that the 1:1 limit introduced by the *lex talionis* solved a dynamic instability problem. Under the oldest practices of retaliation (with talionic multipliers greater than one⁴), an involuntary disturbance of the original peaceful equilibrium, if misperceived by at least one group, could trigger a medium-term feud with considerable dissipation of wealth. No rational departure from the peaceful equilibrium would be expected under this legal regime, but involuntary shocks to the peaceful relations could prove very costly. The *lex*

² See, e.g., Daube (1947).

³ According to Posner (1980), it was not until a later stage of economic development that wrongdoers could offer satisfaction to their victims by means of compensation rather than by suffering retaliatory punishment.

⁴Most commonly, the early practices of unregulated retaliation imposed punishment that tended to be much more severe than the harm done. The degree of reaction varied greatly from case to case. Symbolic references are found in Genesis 4:15; 4:23-24 and in Proverbs 6:13. Most symbolic statements refer to a seven-fold retaliation, a symbolism that conveys the idea of fullness in retribution. But compare II Samuel 12:13-18 where the “four lives for a life” rule is applied to the case of David’s murder of Uriah.

talionis introduced an upper limit of 1:1 to the measure of legitimate retaliation, thus minimizing the overall cost of crime and prevention. Section 3 of this paper suggests, with the aid of historical evidence, that the *lex talionis* represents an important stepping stone in the process of evolution from punitive to compensatory remedies. Specifically, the assignment to the victim's clan of a well-defined right to impose a talionic sanction created the conditions for Coasian bargaining and the gradual evolution of a system based on voluntary compensation. I appeal to basic economic intuition and some historical evidence to explain this important, and yet enigmatic, link in the early history of the law of wrongs.⁵

Section 4 examines the transition from a system of blood-money paid under the threat of retaliation to a system of fixed pecuniary penalties. Blood money, originally offered as a substitute for literal talionis and accepted at the sole discretion of the victim, later became compulsory. Eventually, a system of fixed prices for specific wrongs became customarily established. Such pecuniary penalties often produced optimal deterrence while minimizing enforcement costs.

FROM PUNISHMENT TO COMPENSATION IN ANCIENT LAW

Legal historians generally identify four phases in the historical evolution from a system of retaliation to one based on victim's compensation. Virtually every step in this process of evolution is rich with intriguing paradoxes. The four phases are commonly identified with reference to their most salient feature, namely: (1) the original absence of generally agreed-upon rules regarding the punishment of wrongs ("discretionary retaliation"); (2) the gradual emergence and articulation of a rule of proportional retaliation ("*lex talionis*" or "regulated retaliation"); (3) the commodification of the punitive entitlement, enabling the wrongdoer to buy out the victim's retaliatory right with pecuniary compensation ("blood-money"); and (4) the gradual replacement of *lex talionis* and blood-money with a system of fixed pecuniary penalties ("fixed penalties").

⁵In my related paper (Parisi, 1997), I consider the transition from communal to individual responsibility under a collective ownership regime. I explain the decline of communal responsibility as an effect of the exacerbation of common pool and free rider problems associated with an increase in group size and wealth. The findings of the two papers are closely intertwined, shedding new light on the economic nature of early liability rules.

The transition from discretionary retaliation (“stage 1”) to rules of fixed proportional retaliation (“stage 2”) is in many respects puzzling. A single talionic multiplier is imposed in almost all cases, setting a limit of 1:1 as the maximum penalty for a crime. The limit is generally applicable and independent of the level of social undesirability of the crime and the probability of detection of the wrongdoer. The generality of the 1:1 constraint, however, had several advantages over the discretionary imposition of retaliatory penalties. Contrasting the dynamics of the two legal regimes shows that the Biblical *lex talionis* introduced a stabilizing constraint in the (otherwise unstable) dynamics of discretionary retaliation.

The transition from fixed proportional retaliation (“stage 2”) to victim’s compensation (“stage 3”) is yet more intriguing. Legal historians and Biblical scholars noted that the early practices of retaliation fell into disuse very rapidly once they were legitimized and clearly formalized in the early codifications. Legal historians have attempted to resolve this contradiction on exegetical grounds.⁶ These exegetical explanations beg the question of why, once legalized and regulated, the practices of physical retaliation tend to disappear. There are too many regularities across ancient legal systems to believe that this transition was merely accidental. I suggest that the disappearance of physical retaliation can be explained by revisiting this important chapter of legal history through Coasian lenses.

In the final stage (“stage 4”) of this process of evolution, punishment is no longer a disposable endowment of the victim, and pecuniary penalties become fixed. I suggest that the subsequent separation of the compensatory and punitive functions of the law of wrongs originates from this creation of a fixed system of pecuniary penalties.

⁶ See, for example, Daube (1947), examining the possibility that the “eye for an eye” formula was interpolated to mean the “value of an eye for an eye,” to reflect the evolving practices which allowed wrongdoers to offer ransom by means of blood money.

1. Retaliatory Sanctions Prior to the Lex Talionis

Early notions of punitive justice are embedded in the ancient practices of indiscriminate personal revenge. In this sense, Biblical scholars insightfully describe the practices of retaliation as a form of “revenge traveling towards justice”.⁷

Legal historians have often observed that, in the absence of a commonly recognized judicial or religious authority and lacking a commonly accepted rule of law, the interaction between early groups was governed by the most elementary law of nature: what one group could do to another, the other could do back to it, subject to the limits of their relative strength. This relationship based on force permeated the interaction between clans in early societies.⁸ Indeed, probably all human societies followed practices of retaliation at one stage or another.

During this stage, retaliatory practices undertaken in the absence of a commonly accepted rule could be very severe. The measure of retaliation – left to the discretion of the victim’s clan (subject to its strength) – was generally greater than the harm suffered. The Biblical sources contain several references – mostly symbolic and, occasionally, in the form of historical narrative – to the severity of early retaliatory practices. Most commonly, the symbolic statements refer to a seven-fold retaliation, or multiples thereof, to convey the extreme severity of the victim’s reaction.⁹ The historical narratives also contain references to more moderate cases of four-fold¹⁰ and two-fold¹¹ retribution.

In this early phase of discretionary retaliation, there were no formal or

⁷ See Blau (1916, p. 4).

⁸ With the limits imposed by the international laws of war, this basic rule still characterizes the relationship between sovereign authorities.

⁹ Symbolic references are found in Genesis 4:15; 4:23-24 and in Proverbs 6:13.

¹⁰ II Samuel 12:13-18

¹¹ Genesis 9:5. According to Sulzberger (1915, p. 33) this rule contains the doctrine of double blood-guilt. The first vindication is against the perpetrator of the crime; the second against the whole community of the wrongdoer, whose responsibility was to prevent the crime or, at least, to punish it internally.

legal controls on the victim's behavior. The early customs of retaliation granted the victim some degree of discretion over the severity of the punishment imposed on the wrongdoer. The early conceptions of retaliatory justice, however, often imposed qualitative limits on punishment. Retaliation contained the idea of punishment in kind – captured by the etymology of the word *talio* (retaliation) from the word *talis* (equal in kind) – without imposing any limit to the measure of punishment. In other words, the early norms of retaliatory justice required “kind for kind” without imposing the additional constraint of “measure for measure”.¹²

In Genesis we find the narrative of Cain and Abel embodying a very severe conception of retaliatory justice. As mentioned above, the early narratives most commonly refer to practices of retaliatory punishment that tended to be much more severe than the harm done. In Genesis we read that “the blood of the victim cries out of the ground” (Gen. 4:10) and “whosoever slayeth Cain, vengeance shall be taken on him sevenfold” (Gen. 4:15). The degree of reaction varied greatly from case to case, as exemplified in a later passage in Genesis: “If Cain shall be avenged sevenfold, truly La'mech seventy and sevenfold” (Gen. 4:24).

In the absence of fixed rules, the magnitude of the victim's retaliation was often exacerbated by the victim's partisan bias, leading clans to overestimate the gravity of their harm and to retaliate in excess of the original loss.¹³ In turn, the clan suffering an excessive retaliation often felt entitled to respond with the infliction of new harm to the other party. This regime of retaliatory threats risked degenerating into spirals of escalating violence. Whenever an involuntary disturbance of a previous peaceful equilibrium occurred and was accompanied by either a misperception by one of the parties (e.g., a mistakenly attributed wrongdoing or a disagreement on the degree of legitimate retaliation), a retaliatory spiral could result. Likewise, if two clans

¹² Blau (1916, p. 7).

¹³ The different subjective perceptions of the degree of blameworthiness of the wrongdoer may also be at the origin of this problem. Although subjective factors (such as fault or negligence) had not yet made their first appearance as elements of liability, they certainly played an important role in determining the degree of revenge sought by the injured clan. Partisan bias was likely to affect the assessment of this factor, leading to disproportional actions of retaliation.

had different retaliatory customs, a discrepancy in the accepted measure of retaliation could result. If the victim's clan retaliated at a level higher than that expected by the wrongdoer's clan, this was likely to be perceived as an undue punishment, in itself worthy of vindication. The flexibility of the rule, while allowing for the maintenance of an effective level of deterrence and for *ad hoc* satisfaction of the victim's desire for vindication, was likely to become problematic, especially when the parties disagreed on the proper measure of due punishment. Given these initial asymmetries, this process of unregulated retaliation could fail to generate a peaceful settlement between the parties.

In the absence of clear punitive entitlements, the gravity of the retaliation was often affected by the victim's drive for revenge and the strength of his clan, and only indirectly related to the gravity of the harm.¹⁴ Similar to feuds in modern times, the victim's clan would carry out the retaliatory action in the absence of articulated or mutually accepted norms.

During this first stage, the process of retaliatory justice can be characterized by the following features: (a) a mechanism of retaliation with no fixed rules defining the victim's right to inflict retaliation; (b) norms of retaliation constraining the choice of punishment to something similar in kind (but not in gravity) to the harm suffered by the victim; (c) a measure of retaliation that was instead endogenously determined by the victim's need for satisfaction; and, (d) a likelihood of feuds, given the absence of commonly accepted punitive rules and the possible divergence of beliefs between the parties.

The Dynamic Instability of Retaliation Prior to the Lex Talionis

The peaceful relations between early clans were generally unstable. As Sulzberger (1915) aptly put it: "Clans in juxtaposition are never quite at peace with each other. . . . The murder of a clansman by a member of another clan is *casus belli* If unpunished the act tends to be repeated."¹⁵ Peace is vulnerable and, absent commonly recognized rules, a single incident may suddenly disturb it.

¹⁴ These features are clearly different from the retaliation of Biblical times, as discussed in the following section.

¹⁵ Sulzberger (1915).

We can easily depict the dynamics of discretionary retaliation by considering an explicit system of reaction functions such as:

$$(1.1) \quad T_{1(t)} = \mu T_{2(t-1)} \quad \text{and, symmetrically} \quad T_{2(t)} = \mu T_{1(t)}$$

where μ is the talionic multiplier (i.e., the coefficient of retaliation imposed by the victim's clan on the wrongdoer's clan). Consider an initial exogenous shock, J , from a pre-existing equilibrium, creating an unjust loss to clan 1. The loss is mistakenly attributed to the wrongdoing of clan 2. In the first time period, clan 1 will react according to (1.1), such that:

$$(1.2) \quad T_{1(t=1)} = \mu J$$

This in turn will trigger a response by clan 2, such that its retaliation equals $T_{2(t=1)} = \mu T_{1(t=1)}$, which by substitution of (1.2) yields

$$(1.3) \quad T_{2(t=1)} = \mu^2 J$$

The chain of reaction will progress, so that at any time period, t , the relative reaction of each group equals, respectively:

$$(1.4) \quad T_{1(t)} = \mu^{(t)} J \quad \text{and}$$

$$(1.5) \quad T_{2(t)} = \mu^{(t+1)} J$$

The simple algebra of these dynamic reaction functions shows that, whenever the initial shock J , or any portion thereof, is wrongly attributed to the opposing clan, the parties' reactions may degenerate in an explosive chain of escalating violence, for any value of $\mu > 1$.¹⁶

The above considerations indicate that, whenever retaliation follows an involuntary wrongdoing with mistaken attribution of responsibility to an innocent clan, practices of retaliation that impose a loss greater than the harm

¹⁶As shown in the following extension, the explosive equilibrium is obtained whenever $\mu_1 \mu_2 > 1$ (i.e., whenever the product of the two coefficients exceeds one), in the case of asymmetric reaction coefficients for the two groups, $\mu_1 \dots \mu_2$.

suffered are a possible source of escalating chains of violence.

We can further evaluate the dynamic properties of early customary practices, relaxing some of the initial assumptions with three considerations. In the first place, we should consider that the degree of resentment tends to decrease over time.¹⁷ Second, we consider that over time clans that engaged in long lasting feuds with other groups tended to dissipate valuable resources and suffered a wealth reduction. Third, we note that the loss of lives within a group increased the marginal product of labor, rendering further retaliation more costly overtime.

For the more general asymmetric case, with each clan's initial wealth normalized such that $W_{(t=0)} = 1$, it is possible to recast (1.4) and (1.5), respectively as:

$$(1.6) \quad T_{1(t)} = \alpha_1 \int W_{1(t=0)} \quad \text{and}$$

$$(1.7) \quad T_{2(t)} = \alpha_2 \int T_{1(t=1)} W_2(T_{1(t=1)})$$

where α_1 and α_2 are the retaliation coefficients followed by the two clans; and $W_1(T_{2(t)})$ and $W_2(T_{1(t)})$ are the two groups' respective wealth functions, decreasing monotonically in suffered retaliation, T .

The reaction functions represented in (1.4) and (1.5) are now constrained by a wealth function. This indicates that clans engaging in wars gradually dissipate their wealth. In a dynamic setting, the losses occasioned by

¹⁷It is a well accepted proposition that in early societies the severity of the talionic sanction imposed on a wrongdoer tended to be inversely correlated to the time elapsed since the time of the original wrongdoing. This is explained by the fact that the talionic sanction tended to mimic the likely reaction of the victim (or his clan) if left unconstrained in the state of nature, with a gradual easing of the resentment with the passing of time. Most extensively on the point, see Diamond (1971, p. 121); Maine (1861, p. 378); and Parisi (1992, p. 41). These customary rules influenced later codifications. For example, the Laws of the Twelve Tables imposed different sanctions for theft (varying from the payment of twice the value of the stolen item to a capital sentence) according to the time elapsed since the wrongdoing. Scholars have explained such differentiation suggesting that the penalty was proportional to the expected need for satisfaction innate in human nature, so to reduce the temptation for the victim to take the law into his own hands with arbitrary punitive measures.

ongoing wars and the resulting decrease in wealth reduces the group's ability to wage further wars in subsequent time periods.

Under such circumstances, the groups' reaction functions reflect the increasing marginal cost of retaliation, due to the aggregate cost of warfare. This implies that even with coefficients $\mu_{1,2} > 1$, the dynamic of reciprocal retaliation is bounded. After an initial phase of explosive reactions, the opposing clans converge toward a new stable Nash equilibrium. The effect of past warfare on the choice of current strategies is graphically depicted in Figure (1).

Under the older practices of retaliation with talionic multipliers greater than one, an involuntary departure from the original peaceful equilibrium

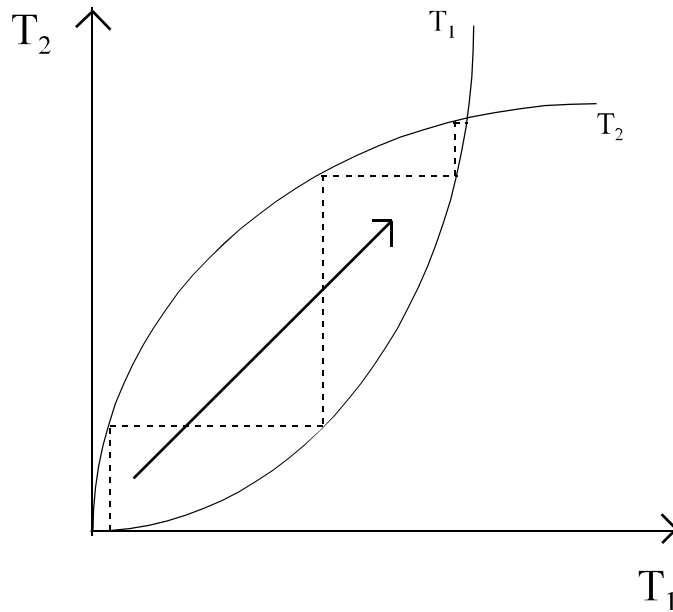


Figure 1: *Retaliation Prior to the Lex Talionis (Talionic Coefficient $\mu > 1$)*

associated with a misperception by at least one clan could trigger a medium term (i.e., bounded) feud with dissipation of wealth for both groups. While no rational departure from the original equilibrium would be expected under this legal regime, involuntary shocks to the original equilibrium could prove very costly.

Furthermore, as pointed out by Posner (1988), retaliation – even though it could appear as an irrational choice (given the chain of costly consequences that it would induce) – was often a rational pre-commitment strategy.¹⁸ In a rational expectations world, victims would not retaliate, realizing that any suffered loss is sunk and that no retaliation can undo the suffered harm. In turn, potential wrongdoers would assume the rationality of their victim, and would therefore expect no retaliation to follow their wrongdoing. This would lower the cost of committing a wrong and it would increase the equilibrium level of crime in society. This result could be avoided if potential victims could credibly commit to carrying out retaliation in case of unjust harm, making it rational to threaten and carry out retaliation.

In this setting, the emotional propensity to seek revenge and the early social and religious norms that ratified the human desire for vindictive justice can be seen as an evolutionary pre-commitment device that gave credibility to the threat of *ex post* retaliation. The religious norms that recognized and formalized the earlier practices of retaliation will be considered in the following section.

2. The Biblical Lex Talionis and Other Systems of Regulated Retaliation

The practices of retaliation described in the previous section enjoy further recognition and formalization in later centuries. Customary rules and religious codifications accommodate the instinctive need for retaliation, yet regulate the rudimentary sense of justice to prevent costly feuds within society.

The original predominance of retaliatory practices as a means for providing satisfaction to the victim and to achieve societal appeasement is clearly exemplified in later books of the Old Testament.¹⁹

Two main changes from the earlier customary practices are implemented at this point. First, the new rules determine with great precision the

¹⁸ See Posner (1988, p. 27).

¹⁹ Interestingly, Deuteronomy 21:1-9 prescribes the sacrifice of a heifer if a murderer could not be found, to symbolize that at least God deserved restitution for the case of an unpunished murder. For a more systematic analysis of the above generalizations on the features of the early law of wrongs, see Levmore (1986) 235-287.

administration of talionic justice, specifying who, in each case, shall carry out the punishment. Second, they impose an upper limit on the measure of legitimate retaliation. I shall examine these interesting changes in turn.

(A) *Blood-Vengeance and the Administration of Talionic Justice*

Unlike the customs followed prior to the *lex talionis*, the rules of this period tend to specify with greater precision who is entitled to impose the talionic punishment in a regime of regulated retaliation. For example, several rules of the *lex talionis* period designate an avenger of blood, who should carry out the talionic vindication on behalf of the victim.

In the biblical text, the appropriate passages to consider are Genesis 4:15, describing the administration of justice prior to the *lex talionis*, and Deuteronomy 13:9, describing the reformed rule of the *lex talionis* period.

In Genesis the blood avenger is not a definite person. The vindication of an innocent victim is generally carried out by the victim's clan. As pointed out by the rabbinic interpretations, under the older tradition, any member of the tribe could carry out the retaliation.²⁰ The action, however, was ordinarily orchestrated by the chief of the clan, who, acting as a residual claimant, had an interest in minimizing the external losses to his group.

According to the historical reconstruction of Sulzberger (1915), ordinary members of the clan were often forced to join the retaliatory expedition by the chief. The avengers of blood risked their own lives for the vindication of the group as a whole.

These constituent bodies resemble a feudal-like organization, where the chief secures the aid of his people in carrying out the gloomy task of retaliation, in exchange for a reciprocal grant of protection against external aggression.²¹ In any society, there would be several of these constituent bodies. Yet, there is no sufficient development of comity among these groups to establish a more moderate settlement process.

Under the later rule of Deuteronomy, we find a more detailed specification of the procedure for the talionic punishment. In two distinct passages we read that "thou shalt surely kill him; thine hand shall be first upon

²⁰ See, Sulzberger (1915, p. 1 and 116).

²¹ Id.

him to put him to death, and afterwards the hand of all the people,”²² and again that “the hands of the witnesses shall be first upon him to put him to death So thou shalt put the evil away from among you.”²³ These passages indicate that the victim and the witnesses are the first ones to vindicate the wrongdoing. Only later during the process may the other members of the community join the specified avengers of blood in the execution.

The diffuse punitive entitlement of the earlier customs described in Genesis rendered the administration of justice rather uncertain and unrestrained.²⁴ The change brought about by the rules of Deuteronomy reduced the risk of coordination errors, avoiding the possibility of multiple reprisals for the same wrong as well as the likelihood of leaving some wrongs unpunished.

Under the regime of Deuteronomy, the institution of *Go'el*, the nearest of blood, evolves. In the absence of a central law-enforcement system, the closest family member of the victim had the right – and more importantly, the duty – to carry out retaliation. Failure to carry out such a gloomy task was considered disgraceful.²⁵ This further assured the consistent punishment of wrongdoers.

In several other systems of ancient law, punishment was likewise carried out by the victim himself or by a member of his extended family. This retaliatory practice acknowledged and gratified each individual’s personal need for revenge. Similar to the Biblical tradition, Babylonian rules left the punishing of crimes (including intentional killing) to the initiative of private parties. Although the Hammurabi Code²⁶ provisions do not define the general domain of private law enforcement, many provisions expressly authorize the family of the victim to

²² Deuteronomy 13:9.

²³ Deuteronomy 17:7.

²⁴ Blau (1916, p. 5).

²⁵ Id.

²⁶ It is generally believed that there is no direct derivation of the Biblical rules from the earlier Babylonian code. Rather, both codifications seem to have formalized preexisting practices of retaliation of common Semitic origin. See Mueller (1904, p. 241).

impose punishment on the offender, outside any official judicature.²⁷ It is usually believed that during the time in which the state did not yet exercise its modern enforcement functions, minor social entities, such as families, guilds and clans had general authority over the punishing of wrongs. In punishing wrongs, they protected the safety of their members and vindicated the wrong suffered by members from the acts of those outside the group.²⁸

Occasionally, these early laws did not formally indicate the person who would enforce the prescribed punishment. In such cases, philologists have deduced with a high degree of certainty that when the passive verb was used (e.g., “he shall be put to death”) a public officer would carry out the execution. Conversely, the active form (e.g., “they shall kill him”) implied that the injured party, or his clan, would carry out the talionic sanction.²⁹

The involvement of an official executioner in early times did not yet amount to a centralization of criminal justice, and rather signified that wrongful act had directly harmed the public interest. Punishment carried out by an official executioner was viewed as the king’s personal vindication against the transgressor of the social order.³⁰ These cases confirm, rather than contradict, the private origin of criminal punishment.

As the development of the law progressed, the restrictions regulating vengeance were extended. The injured party, who was originally allowed to carry out the execution himself, later was only allowed to do so under the supervision of authority, and eventually was only permitted to attend the

²⁷ Par. 127 of the Code of Hammurabi expressly authorizes the family of an affronted high-priestess or married woman to personally impose punishment on the offender, outside any official judicature: “If a man has caused a finger to be pointed at a high-priestess or a married lady and has then not proved (what he has said), they shall flog that man before the judges and shave half his head.” *Id.*

²⁸ Sulzberger (1915) 6-13.

²⁹ An example of the passive form can be found in Par. 109 of the Code of Hammurabi, while the active form is used in Par. 108. *Id.*

³⁰ Driver and Miles (1952, p. 498) observe that the official executioner was appointed by the king or governor. In light of the practical nature of early legal systems, a logical interpretation of the sources supports the conclusion that the vindication is the king’s personal retaliation. For further analysis of the evolution of dispute settlements, see Stein (1984, p. 1-24).

execution. A similar transition is observed in ancient Greece. In the fifth century BCE (year 403, circa), the Greek orator Lysias refers to the episode of Erasthenes, who was put to death on the spot by the aggrieved husband in the presence of his friends.³¹ Later in the same tradition, as the Greek orator Demosthenes tells us, the state carried out the execution with the avenger of blood only entitled to watch.³² Throughout these early legal systems, the evolution of a judicial procedure regulated, but did not yet supplant, the victim's right to talionic justice.³³

(B) *The Lex Talionis and the "Measure for Measure" Principle*

The second phase of evolution is further characterized by the establishment of sanctions based on proportional 1:1 retaliation. The incorporation of retaliatory practices into bodies of written law during the ninth and eighth century BCE is best exemplified by the Biblical *lex talionis*.³⁴ Unlike prior practices carried out in the absence of customary or codified rules, the *lex*

³¹ Lysias (403 B.C.E. circa), *Orationes*, 1.25-7; cp. 32

³² See the fourth century BCE narrative of the Greek orator Demosthenes, *Orationes* 23.69.

³³ In the early administration of justice, talionic rules applied only to inter-clan wrongs. The harm occasioned by those within the clan was generally not subjected to talionic penalties. The harm occasioned by members of another clan was to be repaid in kind. The mitigated punishment of the insiders was necessary to avoid the duplication of losses within the clan, unless the wrongdoer was likely to further imperil the community. Sulzberger (1915, p. 3) observes that under the regime of the *lex talionis* individual retaliation ceases to be unrestrained and that a member of the family cannot slay a fellow member of his family, as suggested by the author's interpretation of Exodus 4:24-26. The co-existence of two distinct regimes (inter-clan versus intra-clan) tends, according to Sulzberger, to undermine the *lex talionis*, given the changing and expanding conception of the boundaries of the group. This may indeed provide an additional explanation for the gradual corrosion of the literal interpretation of the *lex talionis* in the Biblical tradition.

³⁴ Exodus 21:23-24; Leviticus 24:17-22.

talionis created an express and well-defined punitive rule.³⁵ The victim (or his family) was entitled – and, at the same time, obligated – to perpetrate literal talionis in the measure indicated by the law: “[t]hou shalt give life for life, eye for eye, tooth for tooth, hand for hand, foot for foot, burning for burning, wound for wound, stripe for stripe.”³⁶ The talionic rules of this period serve two main purposes. First, they create an upper limit to retaliatory justice: only one life for a life can be vindicated, no more.³⁷ Second, they serve as minimum punishment for the criminal: no less than the law requires.³⁸

The codification of retaliatory practices is seen with striking consistency in many legal systems, across quite different geographic and historic settings, including Egyptian, Chinese and Teutonic societies.³⁹ One of the best known examples can be found in the Code of Hammurabi,⁴⁰ specifying talionic penalties on an “eye for an eye” basis.⁴¹ In other settings the Babylonian rules recognize the innate desire for vengeance.⁴² Paragraphs 196-

³⁵ Waldron (1992) provides an interesting analysis of the *lex talionis* and a moral defense of talionic theories of punishment.

³⁶ Exodus 21:23-25.

³⁷ For a moral theory of maximum criminal penalties see Crocker (1992) who suggests that, even though severe punishments may drastically reduce the incidence of wrongdoing so as to maximize social utility, notions of retributive justice evolved to require a strict proportionality between the harm and the sanction.

³⁸ In this way the *lex talionis* served at the same time for an “upper” and a “lower” limit to punishment. In later times, upper and lower limits began to diverge, with legitimate criminal penalties falling somewhere between those two boundaries.

³⁹ See also Blau (1916, p. 9), considering the analogues to the *lex talionis* in Egyptian, Chinese and Teutonic jurisprudence.

⁴⁰ Year 1792 BCE. There are fundamental differences in the conception of responsibility between the Code of Hammurabi and the later Biblical rules. The qualitative features of the rules imposing an upper limit of 1:1 to the measure of legitimate retaliation are, however, comparable for the purpose of the present analysis.

⁴¹ Code of Hammurabi, Paragraphs 196-201.

⁴² For further examples, see Pritchard (1969); and Driver and Miles (1952, p. 497). On the role of early punitive norms and their relation to the instinctive need

97 of the Code of Hammurabi indicates that “[i]f a seignior has destroyed the eye of a member of the aristocracy, they shall destroy his eye. If he has broken a(nother) seignior’s bone, they shall break his bone”.⁴³ Paragraph 200 prescribes that “[i]f a man has knocked out the tooth of a man of his own rank, they shall knock out his tooth”.⁴⁴

In this period, the penalty was often imposed with uncompromising symmetry, replicating the harm suffered by the victim and his or her family. In a regime of communal responsibility, this mirror-image symmetry produced some paradoxical rules. The laws of the ancient near east give five clear examples of these unusual rules. For example, in the Assyrian Laws of the eleventh century BCE, the wife of a rapist must be given over to the victim’s family to be raped.⁴⁵ And again, if an ox killed a child, the Code of Hammurabi required the death of the owner’s child. In the same Babylonian code we read that if a man strikes a woman and then she dies, they shall put his daughter to death.⁴⁶ And again, for builders whose structures fall down, the Code of Hammurabi prescribes that if the owner of the building dies, the builder shall be

for vindication, see Faris (1915, p. 151).

⁴³The earlier rules contained in the Code of Hammurabi, however, differentiated the penalty according to status. For example, Paragraph 198 of the same Code of Hammurabi created an exception to the talionic penalty of Paragraph 196-97, if the wrongdoer belonged to the aristocracy and the victim was a common man. Exceptions are also present in the Biblical text, for the case of harm occasioned to a slave by his owner. In Exodus 21:26-27, the *lex talionis* rule of the preceding verses does not seem to be upheld: “And if a man smite the eye of his servant, or the eye of his maid, that it perish; he shall let him go free for his eye’s sake. And if he smite out his manservant’s tooth, or his maidservant’s tooth; he shall let him go free for his tooth’s sake”. Most logically, the owner would internalize the pecuniary loss from a mutilation inflicted upon his servant, and Biblical law considered it a sufficient reason to avoid the literal application of the *lex talionis*.

⁴⁴ Once again the Code creates differentiated penalties according to status. Paragraph 201 indicates that if the broken tooth belonged to a lower ranked individual, the talionic penalty did not apply and the payment of one-third of a mina of silver was instead due.

⁴⁵ Paragraph 55 of the Middle Assyrian Laws. See Roth (1995, pp. 174-175).

⁴⁶ Paragraph 209 and 210 of the Code of Hammurabi.

put to death.⁴⁷ If the owner's son is killed, the builder's son shall be put to death.⁴⁸

Similarly, in the Biblical tradition it was important that the punishment replicated, with symmetrical identity, the circumstances of the offence. Thus, for example, in Exodus Moses is sent to warn Pharaoh to let Israel, God's first-born, go, or else Pharaoh's first-born would be killed.⁴⁹ Likewise, in the second book of Samuel, we find the narrative of a person who has killed his childless brother. In order to simulate the gravity of the harm occasioned (death of a person who will have no descendants), the avenger of blood threatens to kill the murderer and his son.⁵⁰

Generally, the later Biblical sources grant the victim's family a right to inflict harm on the wrongdoer by means of proportional retaliation but such talionic penalties are directed towards the specific wrongdoer rather than the wrongdoer's family as a whole.⁵¹ A single set of rules provided for both

⁴⁷ Paragraph 229 of the Code of Hammurabi.

⁴⁸ Paragraph 230 of the Code of Hammurabi.

⁴⁹ Exodus 18:11. Note, however, that other Biblical rules combat this kind of transmission of penalty to other members of the wrongdoer's family. See Exodus 21:31

⁵⁰ II Samuel 14:1-7

⁵¹ It is generally believed that the transition from communal to individual responsibility was achieved in the 6th century BCE. Earlier statements of this important cultural change can be found in a well known passage of Deuteronomy 24:16, affirming the principle of individual responsibility: "The fathers shall not be put to death for the children, neither shall the children be put to death for the fathers." This amounts to a rather pervasive ethical revolution which was consolidated by the work of the later prophets. Several passages from the 6th century Book of Ezekiel refer to the principle of individual responsibility. In Ezekiel 18:19: "Doth not the son bear the iniquity of the father? When the son hath done that which is lawful and right, and hath kept all my statutes, and hath done them, he shall surely live." Similarly, in Ezekiel 18:20: "The soul that sinneth, it shall die. The son shall not bear the iniquity of the father, neither shall the father bear the iniquity of the son; the righteousness of the righteous shall be upon him, and the wickedness of the wicked shall be upon him." Another important passage from the Book of Jeremiah contributed to the establishment of the principle of individual responsibility which characterizes later

substance and procedure. These rules had no residual link between the severity of the punishment meted out and the strength of the parties, or to the victim's subjective need for vindication. Under this system of fixed retaliation, the desire to punish and the desire to obtain compensation were closely intertwined.⁵² The punishment rigidly fits the magnitude of the wrong, which is assessed in terms of the harm inflicted to the victim.

Historically, the Biblical *lex talionis* emerges as a softened (but, at the same time, clearer) version of earlier practices which had imposed punishment that tended to be much more severe than the harm done⁵³ and which varied greatly from case to case.⁵⁴ Along with other analogous provisions found in early codifications, the *lex talionis* recognized retaliation as a proper means of reestablishing the disturbed equilibrium and providing satisfaction for a wrong suffered. The *lex talionis* established a rigorous system of rules to determine the legitimate measure of retaliation.

The text of the law determines the extent of vindication with symmetrical precision. The text serves the double function of deterring initial wrongdoing and minimizing the risk of feuds between the opposing groups.⁵⁵ By eliminating the discretionary component from the earlier forms of retaliation, the *lex talionis* imposed a fixed criterion of proportionality between harm and punishment,⁵⁶ rendering the expected sanction fully known to the wrongdoer's

Biblical law. Jeremiah 31:29-30: "In those days they shall say no more, The Fathers have eaten a sour grape, and the children's teeth are set on edge. But every one shall die for his own iniquity; every man that eateth the sour grape, his teeth shall be set on edge." Further analysis of this interesting transition can be found in Parisi (1997).

⁵² Note, however, that according to Daube (1947, p. 115), the conception of compensation as a way to provide the victim's family with satisfaction was probably foreign to the early mind.

⁵³ See, e.g., the symbolic references found in Genesis 4:15; 4:23-24.

⁵⁴ See Boecker (1976, pp. 174-175), arguing that the purpose of the *lex talionis* was "to limit injury" restraining the earlier forms of unregulated revenge.

⁵⁵ See Hamilton (1930).

⁵⁶ In later times, the work of early Christian philosophers still contains a full appreciation of the qualitative transition triggered by the *lex talionis*. The early notion of *vindicatio* does not carry the pejorative connotations of the modern terminology.

group, and rendering it equal for all wrongdoers.⁵⁷ Through this process of evolution, the in-kind punishment contemplated by the *lex talionis* later restricted punishment to the person of the offender.⁵⁸

In sum, during the second stage in the evolution of the law of wrongs the legal system is characterized by: (a) clear rules defining the victim's right to inflict retaliation; (b) rules of retaliation that continue to reflect the "kind for kind" principle of the earlier phase, introducing an additional "measure for measure" limit to permissible punishment; and, (c) acceptance of a single punitive rule, with no discretion left to accommodate the victim's idiosyncratic need for satisfaction.

Thomas Aquinas in his *Summa Theologiae* talks of "the virtue of vengeance." Obviously, the *vindicatio* that Aquinas commends refers to the moderate use of proportional punishment, a virtue that avoids excessive or insufficient punishment "namely the sin of cruelty or brutality, which exceeds the measure in punishing; while the other is a vice by way of deficiency and consists in being remiss in punishing." Thomas Aquinas, *Summa Theologiae*, II-II, q. 108, a. 2, ad 3. For further commentary on the Thomistic conception of vengeance, see Granfield (1988, p. 157).

⁵⁷ In this respect, the *lex talionis* can be regarded as an early application of the principle of equality before the law. See, however, the exception of Exodus 21:26-27 for the case of harm occasioned to a slave by his owner. Other exceptions are said to have emerged in the later rabbinic Judaism for the case of harm occasioned to a resident alien or a foreigner. See, e.g., Moses Maimonides, *The Book of Torts*, vol. 11, *The Code of Maimonides* [year 1180], (New Haven: Yale University Press, 1954). Further commentary on the exceptions to the *lex talionis* and (personal) speculations on their rationales, can be found in North (1997).

⁵⁸ In this later period of Biblical law, an individual's sin no longer could be vindicated against the clan or the class to which the wrongdoer belonged. It is likely that the chief continued to offer voluntary compensation for the losses occasioned by a member of his clan, whenever the wrongdoer escaped liability or failed to provide sufficient satisfaction to the victim's clan. Interestingly, Roman law construed the liability of the *paterfamilias* for the obligations incurred by *filiifamiliae* and slaves as a *obligatio naturalis*, which could not be enforced by third parties but which could be fulfilled with voluntary payment by the *paterfamilias*. On this point see also Shalom (1970, p. 40) and Parisi (1997), considering the transition from communal to individual responsibility in ancient legal systems.

A Model of Regulated Retaliation

The regularity of the transition from discretionary retaliation to fixed multipliers begs the question of the reason for such a uniform evolution. While the need for a proportionality between the punishment and the crime may appear innate in human nature, some other reason should be provided to explain the convergence towards rules imposing a symmetrical 1:1 relationship between harm and punishment.

It is relatively difficult to explain such convergence on the basis of standard models of spontaneous evolution. In an environment dominated by multipliers $\mu > 1$, no clan has an incentive to reduce its own level of retaliation unilaterally. Under normal conditions, the choice of a softer talionic rule with a fixed multiplier of $\mu = 1$ would not emerge as a Nash equilibrium.⁵⁹

The enactment of the *lex talionis* can thus be thought of as producing two related benefits. First, it induced the adoption of strategies leading to the new 1:1 equilibrium. Second, it served as a coordination mechanism which reduced the risk of feuds resulting from the parties' disagreement over the measure of legitimate retaliation.

Additional functions served by the *lex talionis* and other ancient liability rules are unveiled by understanding the impact of exogenously determined rules of retaliation. Early lawmakers correctly realized that, if accepted by the members of society, a system of legitimate retaliation promoted stability through appeasement between conflicting parties.⁶⁰ The absence of declared margins of discretion in the private enforcement of liability rules avoided the animosity that

⁵⁹ Unless strict reciprocity conditions were satisfied, clans would not spontaneously adopt a 1:1 rule in a Nash equilibrium. While socially optimal, a unilateral reduction of the talionic coefficient would be sub-optimal for any individual clan. In the absence of a coordinating mechanism, each clan thus faces a Prisoner's Dilemma in the choice of the applicable punitive strategy. For the study of the necessary conditions of reciprocity for the emergence of spontaneous customary rules in this context, see Parisi (1998) and Parisi (2000).

⁶⁰ Oliver W. Holmes, Jr., *The Common Law*, 13 (1881) observes that the idea of liability is practically attached to the body doing the damage, in an almost physical sense: "the hatred for anything giving us pain, which wreaks itself on the manifest cause, and which leads even civilized man to kick a door when it pinches his finger, is embodied in the *noxae deditio* and other kindred doctrines of early Roman law."

is generally associated with discretionary sanctions, and prevented disruption of the social order caused by quarrels over the circumstances of the accident. Characterized by certainty, rigor, and rituals, punishment and decisional procedures further reduced the danger of an outburst of vindictive fights between the parties.⁶¹ Most importantly, these rules – with their imposition of a fixed proportion between the harm and the sanction – corrected the dynamic instability problems that affected the relationship between clans in the preceding phase of evolution.

The *lex talionis*' upper limit of legitimate retaliation induced a considerable qualitative change on the dynamics illustrated in the previous section. Let's recall equations (1.6) and (1.7) above considering the additional constraints introduced by the *lex talionis* (i.e., $\beta_1 \leq 1$ and $\beta_2 \leq 1$):

$$(1.8) \quad T_{1(t)} = \beta_1 J W_{1(t=0)} \quad ; \quad \beta_1 \leq 1 \text{ and}$$

$$(1.9) \quad T_{2(t)} = \beta_2 J T_{1(t=1)} W_2(T_{1(t=1)}) \quad ; \quad \beta_2 \leq 1$$

The fixed point theorem shows that for values of $\beta_{1,2} \leq 1$ the explosive dynamics of retaliation depicted in Figure (1) converts into a stable equilibrium. Indeed, given the system of equations (1.8) and (1.9), any shock from the original peaceful equilibrium will be asymptotically reabsorbed, without any medium term escalation of retaliation.

Let's proceed by recasting (1.8) and (1.9) more generally as:

$$(1.10) \quad T_{1(t)} = \beta_1 T_{2(t)} W_1(I_{t=1 \dots t} T_{2(t)}) \quad \text{and}$$

$$(1.11) \quad T_{2(t)} = \beta_2 T_{1(t-1)} W_2(I_{t=1 \dots t-1} T_{1(t)})$$

subject to the same *lex talionis* constraint $\beta_{1,2} \leq 1$. The wealth functions W_1 and W_2 are now monotonically decreasing in aggregate losses from warfare $I_{t=1 \dots t} T_{2(t)}$. Substituting (1.11) into (1.10), we obtain:

⁶¹ The formal contemplation of severe and specifically designed sanctions, together with the detailed description of the elements which constituted the wrong, provided the victim with a feeling of reliance in a rigorous corrective system.

$$(1.12) \quad T_{1(t)} = \alpha_1 \alpha_2 T_{1(t-1)} W_2 \left(\prod_{t=1 \dots t-1} T_{1(t)} \right) \\ W_1 \left(\prod_{t=1 \dots t} \alpha_2 T_{1(t-1)} W_2 \left(\prod_{t=1 \dots t-1} T_{1(t)} \right) \right)$$

Redefining $T_{1(t)} = f(T_{1(t-1)})$ we can consider the following restatement of (1.12):

$$(1.13) \quad f(x) = \alpha_1 \alpha_2 x W_2(x) W_1(\alpha_2 x W_2(x))$$

We can thus apply the fixed point theorem to (1.13). The sufficient conditions for the existence of a fixed point become:

$$(1.14) \quad \alpha_1 \alpha_2 > 1 \quad \text{and} \quad \alpha_1 \alpha_2 (\alpha_1 + \alpha_2) < 1$$

Deriving (1.13) with respect to x and reorganizing terms, we obtain:

$$(1.15) \quad \alpha_1 \alpha_2 x = \alpha_1 \alpha_2 [(W_2 + x W_2') (W_1 + \alpha_2 x W_1' + W_2)]$$

Given our initial assumptions, we can study (1.15). Recall that $W_{1,2}$ were normalized to be equal to unity at time zero and monotonically decreasing in suffered retaliation T , thereafter. Consider also the constraint imposed by the *lex talionis*, where $\alpha_{1,2} \neq 1$. By inspection, we can confirm that the sufficient conditions of (1.14) are readily satisfied.

Thus, contrary to the case of $\alpha_1 > 1$, the limit imposed by the *lex talionis* guarantees a stable equilibrium even in the presence of involuntary shocks to the initial peaceful equilibrium accompanied by misperceptions and mistakenly attributed wrongdoing. The result holds independently of the magnitude of the initial shock. In the case of asymmetric reaction coefficients for the two groups, $\alpha_1 \dots \alpha_2$, the sufficiency conditions for stability are satisfied whenever $\alpha_1 \alpha_2 \neq 1$ (i.e., if the product of the retaliation coefficients for the two parties does not exceed one).⁶²

⁶² Thus, if one clan reacts with a coefficient $\alpha_1 > 1$, the conditions will be satisfied if $\alpha_2 < 1$ and $\alpha_1 \alpha_2 \neq 1$. In words, the over-reactiveness of one group needs to be sufficiently counterbalanced by the lower reactivity of the other group.

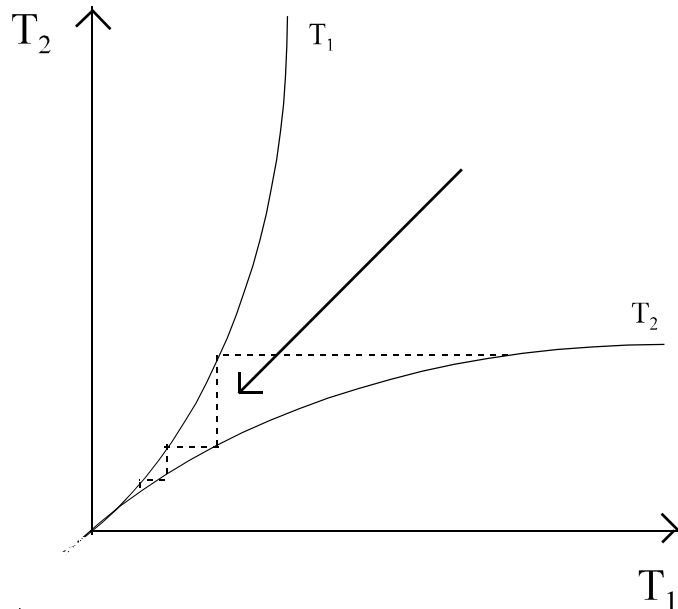


Figure 2: *Retaliation After the Lex Talionis (Talionic Coefficient " # 1)*

It is interesting to note that in the case of non-autonomous wealth functions, with wealth accumulation depending on time such that $\frac{dW_{1,2}}{dt} > 0$ even during the time of conflict, the conditions for stability would be satisfied only when the independent rate of increase of wealth does not exceed the rate of wealth dissipation due to ongoing warfare, T .⁶³

Proportional Retaliation and Deterrence: The Theft Paradox

An additional question may be raised as to whether the fixed limit of 1:1

⁶³Obviously, in the unrealistic hypothesis of each clan's wealth increasing during the time of warfare at a rate which more than compensates for the wealth losses due to suffered retaliation, the dynamics may generate an unbounded explosive equilibrium, notwithstanding the upper limit of 1:1 imposed by the *lex talionis*.

imposed by the *lex talionis* could occasion sub-optimal levels of deterrence whenever enforcement errors are possible. If the probability of detection and successful conviction is less than unity – the argument goes – talionic multipliers greater than one may be necessary to induce optimal deterrence.

This section suggests that, in spite of the fixed 1:1 limit to legitimate retaliation, the *lex talionis* did not induce suboptimal levels of deterrence. This claim is consistent with the conclusions reached in the existing literature, but is based on quite different grounds. Posner (1980) focused on the communal nature of liability and the consequential incentives for internal monitoring to support this claim. Because the whole group was responsible for the wrongdoing of one of its members, the probability of letting a wrong go unpunished was relatively small. It was, indeed, sufficient to identify the wrongdoer's clan in order to exact retaliation. The clan internalized the external costs imposed by one of its members. Each clan member had incentives to monitor troublemakers and denounce their misconduct. These arguments indicate that there was indeed sufficient deterrence.

I wish to offer an additional explanation as to why the 1:1 rule was still a sufficient deterrent. In the presence of enforcement errors, the optimal level of deterrence will be achieved where $L^e = B$, i.e., at the point where the expected liability equals the benefit derived by the wrongdoer from the illicit action.⁶⁴ Given the possibility of the wrong going unpunished, the sanctioned penalty should be a multiple of the wrongdoer's benefit (where the multiplier is given by $1/P$, where P is the probability of successful conviction of the wrongdoer).

The 1:1 rule attached to the talionic sanction did not violate this optimality condition. The 1:1 limit was linked to the loss suffered by the victim, rather than the benefit derived by the wrongdoer. Under usual circumstances, the wrongdoer derives a benefit which is less than the harm suffered by the victim. Thus, the talionic sanction, although limited to a 1:1 proportion, created a threat which was sufficient to compensate for potential enforcement errors. This explanation suggests that the *lex talionis* could have generated optimal deterrence even in the presence of enforcement errors, and provides an argument

⁶⁴For deterrence purposes, it is sufficient to balance the expected private marginal costs and benefits for the wrongdoer. In affirming this elementary truth, one needs not take a position in the Posnerian v. Benthamite debate on the efficient level of criminal sanction. See Bentham (1823) Chapter 14, on the "Proportion Between Punishment and Offenses" and Posner (1977, p. 166).

that is compatible with the finding of imperfect enforcement mechanisms in early law.⁶⁵

Incidentally, the argument developed above explains another peculiarity of early legal systems. The 1:1 limit to retaliation imposed by the *lex talionis* never applied to the case of theft. With surprising regularity, early legal systems treated theft more severely than other crimes, with talionic multipliers that were systematically greater than those applied to other categories of wrongs.

This is easily explained. The difference between the benefit to the wrongdoer and the loss to the victim tends to become very small in the case of mere redistributive crimes such as theft. If the law applied a limit of 1:1 to the punishment of crimes such as theft, a small chance of enforcement error would make the perpetration of theft profitable, bringing the expected liability below the benefit to the wrongdoer, resulting in expected net profits from the criminal activity. In sum, the higher talionic multipliers which applied to theft are explained by the fact that a proportional 1:1 retaliation would generate too low a level of deterrence as applied to theft and other redistributive crimes.

The early lawmakers ingeniously designed the penalties for redistributive crimes. The rules forbidding theft, for example, contained different pecuniary penalties depending on the circumstances of the case. The penalties imposed on thieves caught during or soon after the act were much greater (up to capital punishment) than those imposed on offenders caught after a considerable amount of time had elapsed (oftentimes, only twice the value of the stolen item). These variations have been subject to different explanations.

The traditional view is that these penalties approximate the degree of likely reaction of a hypothetical victim in similar circumstances. This suggests that the sum to be paid — linked to the probable measure of reaction of the person engaged in a private quarrel — was imposed on the basis of this link, without necessarily being proportionate to the actual loss suffered by the victim.⁶⁶ According to this view, the payment still represented moral satisfaction for the victim, rather than mere reparation of the damage that he suffered. The

⁶⁵ Obviously, the generality of the 1:1 constraint implies that the penalty, at times, may not be calibrated to overcome enforcement errors. Yet, for the reasons explained above, the legal systems of this period tended to promote certainty and stability, occasionally at the expense of an *ad hoc* calibration of optimal sanctions.

⁶⁶ Maine (1861, p. 378) and Diamond (1950, p. 121).

rule still tried to prevent circumstances where an insufficient level of satisfaction could lead the victim to take the law into his own hands, inflicting punishment to the wrongdoer. According to this view, the apparent idiosyncracies of the ancient law of wrongs result from lawmakers' conscious attempt to link the penalty to the gravity of the moral injury and resentment of the victim, rather than to the objective measure of the patrimonial loss.

The prevalent economic view (Posner, 1981) relates the difference in penalties to the changing degree of certainty in the evaluation of the evidence.⁶⁷ If a thief is apprehended on the site, the probability that the penalty is imposed on the actual wrongdoer is relatively high. When the alleged criminal is apprehended after a considerable period of time, the probability of a wrongful conviction is higher. Thus a reduction of the penalty in proportion to the time elapsed since the wrongdoing can be seen as a way to minimize the cost of wrongful convictions, while maintaining ex ante expected liability at an optimal level.⁶⁸

Several rules remain hard to explain on the sole basis of the uncertainty-severity tradeoff enunciated above. For example in Exodus 22:1-4, we find rules that require different restitution multipliers for different cases of theft: "If a man shall steal an ox, or a sheep, and kill it, or sell it; he shall restore five oxen for an ox, and four sheep for a sheep ... If the theft be certainly found in his hands alive, whether it be ox, or ass, or sheep; he shall restore double".⁶⁹ In these cases, the uncertainty-severity tradeoff suggests just the opposite solution.

Two additional factors should be added to the analysis at this point.

First, the Biblical rule (Exodus 22:1-4) distinguishes between thieves that kept the stolen animal alive and thieves that killed or sold it. The killing or the sale of a stolen animal reduces the likelihood of detection of the wrongdoer. By separating the penalties for the two hypotheses, the early lawmaker ingeniously operated a two-stage optimization for the deterrence of theft. The sequence of decisions for the thief (i.e., steal/do not steal; and sell/do not sell) carried different expected penalties. These penalties would prevent theft, or if theft has occurred, it would prevent the concealment of the evidence (through

⁶⁷ Posner (1981, p. 201).

⁶⁸ Id.

⁶⁹ Exodus 22:1-4.

killing or selling). This arrangement minimized the evidentiary uncertainty associated with such concealment and reduced the associated costs of wrongful convictions.⁷⁰ Interestingly, a similar two-stage optimization is present in other Biblical sources. In Leviticus 6:1-4 the rule mitigates the penalty (mere restitution to the owner plus a 20 percent additional compensation) for theft if the wrongdoer turns himself in before he is identified by the authorities.⁷¹ Again, the lower restitution multiplier creates incentives to minimize enforcement and discovery costs, while maintaining an effective deterrence for those who have not yet committed the crime.

Second, the early lawmaker distinguishes between the theft of different animals. The differentiated penalties, however, applied only for the case of stolen animals that had already been killed or sold by the thief (multipliers of 5:1 for ox; 4:1 for sheep). The same 2:1 multiplier would instead apply for all animals, if they were found alive in the hands of the thief (Exodus 22:3-4). The critical variable in this case should relate only to the hypothesis of unrecoverable stolen animals. Interestingly, a sheep is a more fungible good than an ox. Thus, if the stolen animal cannot be repossessed by his owner, a restitution in kind will be required (“five oxen for an ox ... four sheep for a sheep”). The replacement of a generic animal for the stolen one creates reintegration costs for the victim that vary according to the type of animal that is stolen. Retraining of a sheep, for example, is said to be easier than retraining of an ox.⁷² Thus, the different

⁷⁰ Interestingly, the Hittites also imposed varying penalties according to the concealment efforts of the thief. If a bull was stolen and the thief changed its brand, the restitution multiplier was 7:1. See Para. 60 of Hittite Laws, in Pritchard (1969, p. 192).

⁷¹ Leviticus 6:1-4

⁷² Traditional explanations of this passage of Exodus are consistent with the economic explanation, often referring to the retraining costs of the replacement animal. Rushdoony (1973, pp. 459-60) observes that “[t]he ox requires a higher rate of restitution, five-fold, ... in that training an ox for work was a task requiring time and skill. Restitution must calculate not only the present and future value of a thing stolen, but also the specialized skills involved in its replacement.” In full agreement with Rushdoony’s interpretation, see also Kaiser (1983, p. 105) and North (1997, p. 506).

restitution multipliers take into account these additional costs.⁷³ No such need to differentiate was present in the case of stolen animals that could be repossessed by the owner,⁷⁴ given the easier process of reintegration in the original environment.⁷⁵

3. Blood Money and the Origins of Civil Liability in Ancient Law

Subsequent to its formal regulation, the practice of literal retaliation for physical injuries quickly fell into disuse. A system of compensation gradually replaced retaliation, with the exception of intentional killing. The irony of this evolution is evident: once consecrated into clear and rigorous rules, the practices of retaliation tend to be abandoned.

Legal historians have attempted to resolve this contradiction on exegetical grounds, but thus far have fallen short of an explanation applicable to the variety of legal systems that underwent a similar process of evolution.⁷⁶ With reference to the Biblical tradition, Daube (1947) examines the possibility that in the talionic formula, “eye for an eye,” actually stood for the “value of an eye for an eye,” and so on. He proceeds by comparing the text of the talionic formula as it appears in Exodus with other portions of Biblical law that more expressly require physical retaliation. Daube concludes that the talionic formula

⁷³ The similarities with the Hittite Laws are striking. The Hittites imposed varying penalties according to the type of animal. The restitution multipliers varied considerably: a 10:1 multiplier for a plow-ox or a draft-horse, a 5:1 multiplier for a cow or a stallion. See Paragraphs 60 through 67 of the Hittite Laws, in Pritchard (1969, p. 192).

⁷⁴ Again, the Biblical rules are very similar to the older Hittite Laws. If the stolen animal could be recovered, the restitution multiplier was 2:1 in all cases. See Paragraph 70 of the Hittite Laws, in Pritchard (1969, p. 192).

⁷⁵ The Code of Hammurabi at Paragraph 8 contains a rule that may appear as a self-biased provision of the Babylonian lawmaker. The multiplier for theft was 30:1 if the stolen animals belonged to the state! See Pritchard (1969, p. 166). But one could think the higher multiplier as necessary to compensate for the collective action and reduced incentives of individual members of society in monitoring state owned property, in the likely absence of an established central police force.

⁷⁶ See, for example, Daube (1947).

has been interpolated to allow for a more lenient interpretation of the text, consistent with the practices of the time.

Similarly, Biblical scholars have generally held that initially the *lex talionis* was followed literally. The goal was that of reducing the criminal to the same condition of his victim.

At the very beginning of the first century of the current era, Philo Judaeus still supported the literal interpretation of the *lex talionis* and disapproved of the emerging practices of money compensation as an alternative to talion. Pharisaic interpretations gradually moved away from the strict interpretation of the *lex talionis* followed by the Beothusians and Sadducees. The Pharisees believed that the literal interpretation of the *lex talionis* was untenable and contrary to the very purpose of the law.⁷⁷ Yet, several rules gradually limited the ability for the wrongdoer to forego punishment by offering blood-money. Thus, in Numbers 35:31 we read that no one should accept blood-money from somebody who has been sentenced to death.⁷⁸

The later Pharisaic interpretations indeed allowed wrongdoers to offer satisfaction by means of payment of a sum of money.⁷⁹ Josephus, in the first century C.E., while supportive of the literal interpretation, accepted the evolved practices of blood-money: “He that maimeth anyone, let him undergo the like himself, and be deprived of the same member of which he hath deprived the other, unless he that is maimed accept money instead of it”.⁸⁰

⁷⁷ Blau (1916, p. 11).

⁷⁸ A similar limitation can be found in Numbers 35:33.

⁷⁹ This is consistent with an established interpretation of the text. Valuable insights can be found in the writings of thirteenth century rabbi Moses ben Nachman (Nachman, [1267] 1973) in his commentary on the Torah. Nachman (1267, p. 368) commenting on a passage of Exodus observes: “It is known in the tradition of our rabbis that [the *lex talionis*] means monetary compensation.” Similarly, commenting on the text of Leviticus 24:18, Nachman (1267) refers to older rabbinic interpretations where the wrongdoer “really is deserving such a [talionic] punishment ... if he does not give his ransom”. The interpretation is supported by an *a contrario* argument based on Numbers 35:31 which forbids the acceptance of ransom for the life of a murderer that is guilty of death, thus implicitly allowing such compromise in all other cases.

⁸⁰ Josephus (year 93 C.E.) at IV.8.26.

Other Biblical scholars simply acknowledge the paradox and wonder if the early disappearance of the literal enforcement of the *lex talionis* is due to the fact that Jews never attempted to enforce the rule or that they left no written record of their applications.⁸¹ Boecker (1976), for example, holds an unorthodox interpretation of the sources, arguing that Biblical law was not governed by the *lex talionis*. He views the *lex talionis* as a leftover from older nomadic customs that periodically surfaces in the Biblical text.⁸² Such views are generally discredited, given the long lasting debate between the Sadducees and the Pharisees on the proper interpretation of the *lex talionis*.⁸³ Other Biblical scholars attribute the abandonment of the literal *lex talionis* to the difficulties of replicating the harm in the same measure and modality as that originally suffered by the victim.⁸⁴

A similar discrepancy between the literal sense of the text and the gradual conversion toward practices of blood-money can be found in other ancient legal systems. Almost universally, customary practices develop under the early regimes of retaliation, allowing for alternative means of satisfaction and restricting the gratification of vengeance. At first, these practices emerged as departures from the formal regime of literal talionic punishment. Gradually, the talionic rules were reinterpreted to allow for the parties' appeasement through the payment of a ransom. Different terms are used in the various legal traditions, to refer to the compensation paid in lieu of punishment (*kofer*, *wergild*, blood-money, etc.), with little difference in the practical function of the ransom payment. Among the earliest examples, we find the laws of the Hittites in the time of King Telepinus⁸⁵ that appear to have given the victim the option

⁸¹ North (1997, p. 413) observes: "this could be the product either of an historical blackout on the part of professional historians or the ignorance of the historians regarding Biblical law."

⁸² Boecker (1976, p. 171-172).

⁸³ According to Daube (1947, p. 107), the Sadducean views were an indication of the prior state of the law.

⁸⁴ Blau (1916, p. 12).

⁸⁵ Circa 1650 B.C. E.

to waive talionic vindication by accepting the payment of money.⁸⁶ Still, it was often necessary to give way to the popular desire for retaliation, especially in cases such as murder and adultery, which were most likely to create a scandal and an unrestrainable desire for private vindication.

Over time, the freedom of the parties to opt out of punitive justice increased. Generally speaking, the right to impose the talionic sanction was waived if the victim obtained sufficient satisfaction from the wrongdoer. In early Greece all persons injured were free to accept what was being offered to them as a form of compensation, as recounted in the fourth century BCE, by the Greek orator Demosthenes.⁸⁷ The satisfaction (blood-money) was voluntarily paid because it was the wrongdoer's right to subject himself to punishment if he did not agree to the ransom requested by the victim's family. Indeed, it has been suggested that this private agreement may have constituted the earliest type of contract across different groups.⁸⁸ This argument finds support in the etymological derivation of the Latin word *pactum* (agreement) from *pax* (peace). The voluntary nature of these early compensatory remedies is further witnessed by the later Laws of the Twelve Tables that codified preexisting customary practices. Table 8, at 2 reads, "Si membrum rup[s]it, ni cum eo pacit, talio esto": so that, if a person has maimed another's limb, there should be retaliation in kind, unless victim and injurer reach an agreement for compensation.

The Rise and Fall of Retaliatory Justice: A Coasian Explanation

Prior to the enactment of the *lex talionis*, there is no sign of any evolved liability system based on compensation in lieu of punishment. Quite ironically, the first practices of pecuniary compensation began to develop under liability regimes that required fixed-proportion talionic punishment.⁸⁹ Rules prescribing the "identity" between harm and punishment were gradually reinterpreted to

⁸⁶ Driver and Miles (1952, p. 497) note that the avenger of blood originally had the choice either of killing the offender or of accepting a composition.

⁸⁷ Demosthenes, Orationes 43.57.

⁸⁸ Driver and Miles (1952, p. 502).

⁸⁹ See, for example, the concurrence of talionic penalties and pecuniary compensation in the special case of harm to a pregnant woman in Exodus 21:22-23.

allow for mere “equivalence” between harm and compensation.

The various exegetical interpretations considered in the previous section leave a fundamental question unanswered: why, once legalized and regulated, did the practice of retaliation disappear?

Law and economics scholars have provided interesting explanations of the transition from retaliation in nature to compensation. Posner (1980) argued that the accumulation of wealth above the subsistence level rendered compensation a feasible alternative to literal talionis.⁹⁰

These arguments may be usefully complemented by the consideration of additional historical facts. First, the communal nature of the early forms of responsibility implied that a clan’s whole wealth served to provide compensation to the victim’s family, rendering the wealth constraint argument less compelling for those legal regimes.⁹¹ Second, the economic development argument may fall short of explaining the regularity of this transition across different geographic and economic settings. In this section, I offer a different explanation of the phenomenon, arguing that simple Coasian logic may provide an explanation for the transition from a punitive system to a compensatory one.

The rise and fall of retaliatory justice is readily explained considering that the *lex talionis* gives an enforceable and disposable right to the victim: the right to perpetrate literal retaliation. This endowment is disposable, in the sense that the decision to retaliate is in the victim’s discretion. Under normal circumstances, the highest valuing individual for the talionic endowment is the wrongdoer (or his clan), who is destined to suffer the talionic loss. This merely assumes that the punishment imposes a loss to its recipient (i.e., on the wrongdoer) in excess of the amount of benefit or satisfaction enjoyed by those who impose it (i.e., the victim or his clan). Compensation (blood money) is therefore the price paid for the transfer of the right to retaliation to the highest valuing individual.

In this way, the many mechanical aspects of the *lex talionis* contributed to the creation of a well-defined talionic endowment. The rigidity of the *lex*

⁹⁰ Posner (1980).

⁹¹ Along similar lines, see also Posner (1981, p. 193).

talionis, the irrelevance of subjective factors (i.e., no fault liability),⁹² the communal nature of the liability (i.e., the clan's responsibility for an individual's wrong), and the literal symmetry between harm and retaliation, all contributed to creating the conditions for a Coasian exchange.

This qualitative change explains why the beneficial role of the *lex talionis* – with a system of voluntary compensation in the background – loses its practical reach once the government claims an exclusive monopoly over the enforcement of the law.⁹³

The transition from retaliation to compensation is readily explained on efficiency grounds. First, the talionic sanction imposed costs on the wrongdoer, without giving any direct patrimonial benefit to the victim's clan, thus leaving unexploited surplus obtainable through alternative remedies. Second, the supply of enforcement and deterrence is affected by public good problems. The imposition of physical retaliation creates a direct private cost for the perpetrator of retaliation (the cost of inflicting punishment and foregoing compensation), providing only a diffuse benefit to the group (the creation and maintenance of deterrence against future wrongdoers). With the decline of communal responsibility and clan-based retaliation, the public good problems of voluntary enforcement were exacerbated, with a resulting irreversibility of the transition to public law enforcement.⁹⁴

On the other hand, the commodification of the right to impose punishment allowed the private enforcer to capture the benefits of his private efforts by collecting the blood-money that the wrongdoer offered as a ransom for his impunity. In this setting, physical retaliation remains a viable option, but the possibility to accept an offer of pecuniary compensation creates an immediate opportunity cost for the victim's choice to demand literal talionis. It is possible that as a stepping stone in the transition from retaliation to compensation, we

⁹² For a discussion of the irrelevance of subjective factors in the assessment of liability, see Daube (1947, p. 111).

⁹³ Because of the qualitative difference involved, analogies drawn between the law of retaliation of early times and feuds in modern societies are generally misconceived.

⁹⁴ See Parisi (1997), considering the common pool problems associated with the communal responsibility regime.

had the “surrender” of the wrongdoer to the victim’s clan.⁹⁵ This transition was probably made necessary by the primitive desire to have the penalty as analogous as possible to the wrong. This necessitated a form of restitution in kind, not in money.⁹⁶ Thus, the literal meaning of “life for a life” as talionic penalty could not have suddenly become “value of a life for a life.” The replacement of a life (through surrender of the wrongdoer) for a life was most likely a necessary stepping stone in transition from punishment to compensation.

By consigning a wrongdoer as a slave to the victim’s clan, the insistence on literal talionis would have imposed a direct cost on the perpetrator’s group. The victim’s family was generally better off obtaining a living slave than carrying out a talionic execution. Likewise, the wrongdoer’s family was likely to prefer to surrender one of its people as a debt slave to avoid having such a person suffer a talionic execution.⁹⁷

This interpretation is consistent with the *noxae deditio* and the *ius noxae dandi* in Roman law. Under Roman law, if a slave had occasioned harm, the owner (who was vicariously liable for the wrongdoing of his slaves) could obtain release from liability through surrender of the slave to the victim (*noxae deditio*). Likewise, in a regime of communal liability, a Roman head of the family (*paterfamilias*) could avoid the liability for the harm occasioned by a member of his group (*filiifamilias*) by surrendering the individual to the victim

⁹⁵ This theory is espoused by Daube (1947, pp. 118, 131 and 145), who argues that in this transitional phase, the guilty person often had to enter the family of his victim as a slave.

⁹⁶This view is also consistent with the fact that money came into use at a fairly late stage. Prior to that moment, it is evident that compensation in kind was the only way effectively to implement the Biblical rules under the form of compensation. Evidence of this can be found in old statutes where compensation for the accidental flooding of a cornfield had to be paid in corn, etc.

⁹⁷ See the interesting work of an ancient near east scholar recently published in a law journal: Westbrook (1995, p. 1631), who considers the different functions of slavery in ancient law, including the surrender of family members of a wrongdoer to the family of his victim as an alternative to physical punishment. See also Lindgren (1996, p. 41), who considers several historical instances of debt slavery in ancient legal systems.

as a slave (*ius noxae dandi*).⁹⁸ Still in the seventh century C.E., under the Visigothic Code, the victim's family had the option of killing the wrongdoer, selling him as a slave, or accepting a pecuniary compensation. The availability of the latter two options basically raised the opportunity cost of inflicting the physical sanction,⁹⁹ explaining the rapid decline of the literal *lex talionis*.

Despite the apparent Pareto superiority of the compensatory solution, a number of considerations explain the fact that talionic remedies preceded compensation in early legal systems. First, mere compensation often failed to provide adequate deterrence, given the likelihood of truncated liability, and retaliation served an important reputational and deterrent function – one that certainly explains its diffusion in early societies.¹⁰⁰ Second, as argued in the present paper, in the state of nature rights are not clearly established. There is no initial endowment or starting point from which the parties can begin their negotiations.¹⁰¹ Third, there is no commonly accepted procedure for compelling an acceptable decision. Finally, the greater discretion of the victim in the measure of punishment added to the transaction costs in an emotionally explosive bargaining environment.

⁹⁸ See in the second century C.E. Gaius, *Institutiones* at 1.55. The *noxae deditio* rule survived in several legal systems of the civil law family and until 1996 was adopted (for domestic animals only) by article 2321 of the Louisiana civil code.

⁹⁹ See, for example, the Visigothic Code at 7.3.3, applying such a rule to the case of kidnaping. Scott (1910, p. 248).

¹⁰⁰ Friedman (1979, p. 399), and Posner (1980) observe that the limited accumulation of wealth in early societies practically limited the extent of liability for potential wrongdoers. This argument, however, is less compelling if it is considered in conjunction with the existence of communal liability of the clan for the wrongs committed by one of its members. The entire wealth endowment of the clan was, in fact, at stake because of the mischiefs of one of its members.

¹⁰¹ The Coase theorem does not necessitate perfectly defined legal entitlements and allows for Coasian bargaining even in the presence of uncertain starting points, as long as the subjective expectations of the parties created a positive contractual surplus for the parties to pursue. The undefined punitive entitlements of the parties did not provide an objective starting point for the parties' bargaining. The lack of defined property rights added to the transaction costs, representing a likely impediment to Coasian bargaining.

Even though the greater talionic multipliers of the prior regime offered large surpluses that the parties could exploit with the adoption of non retaliatory remedies, the above described transaction and enforcement costs provided unfavorable conditions for the spontaneous emergence of Coasian bargaining prior to the enactment of the *lex talionis*.

Blood-Money and the Over-Extraction Puzzle

Under a regime of talionic justice, the wrongdoer had a right to demand the imposition of the talionic punishment. The “eye for an eye” rule indeed served as a maximum penalty and it was conceivable that the wrongdoer could demand such penalty whenever the blood money requested by the victim’s clan exceeded the expected subjective cost of the penalty for the wrongdoer.¹⁰² More realistically, the wrongdoer could indicate his willingness to suffer the physical punishment, thus signaling his threat point in the negotiations with the victim’s family.

The bargaining carried out in the shadow of the *lex talionis*, it is often argued, gave the victim the opportunity to extract substantial payments from the wrongdoer and his family. In a law and economics setting, the common preoccupation with over-extraction would translate into one for over-deterrence.

Contrary to the common wisdom on the subject, I will argue that the threat of physical retaliation did not induce excessive blood-money payments. There are two reasons why this was so.¹⁰³

¹⁰² This point was made by North (1997, p. 422).

¹⁰³ An argument occasionally made in the literature is that, even if the threat of literal talionis had provided the victim’s family with an opportunity to extract excessive payments from the wrongdoer, in most circumstances such leverage would not have been exploited. According to Cherry (1915, p. 123), custom generally played an important role in establishing patterns of acceptable behavior, and it played a fundamental role in the establishment of a set of standard measures of compensation. In this setting, past settlements served as a basis for future requests for payment, in that individuals and clans were induced to demand the same level of compensation that other victims had obtained and were naturally satisfied to accept the kind of compensation that other victims had accepted under similar circumstances. In a small world with established norms of reciprocity and strong institutional memory, an unreasonable request for payment would have established a precedent for future

First, if the wrongdoer was unwilling or unable to pay the requested ransom, the victim's threat of physical retaliation, under most circumstances, would not have been credible. If the wrongdoer preferred to suffer physical penalties to paying the excessive pecuniary compensation demanded by the victim, it would be irrational for the victim to refuse a lower offer of compensation and carry out the actual talion. If the agreement between the parties was not achieved because the victim's requests exceeded the wrongdoer's willingness to pay, the victim would generally be better off lowering the requested amount of compensation to an acceptable level. In an iterated game, imposing physical penalties would not render future threats of retaliation any more effective. If the amount requested as compensation exceeds the subjective cost of suffering physical penalties, the wrongdoer's acceptance of physical punishment would remain a sub-game perfect strategy at every subsequent node in an iterated game. Thus, over-extraction equilibria should not be expected under this legal regime.¹⁰⁴

Second, and most compellingly, the wrongdoer's willingness to pay is the best approximation of the true subjective value of the forgone physical mutilation. The wrongdoer's highest offer to save his eye – by the very definition of revealed preference – indicates how much the wrongdoer values his eye. Absent budget constraints, the threat of proportional 1:1 retaliation is thus a mechanism that generates a level of compensation that, on average,¹⁰⁵ approximates the economically efficient level of compensation. The full subjective value of the potential loss is internalized by the potential

settlements, giving an opportunity for other clans to act unreasonably in future negotiations.

¹⁰⁴ Both parties have a well-defined reversion point: the right to insist on the imposition of the specified penalty. If the victim demands physical retaliation, the wrongdoer has no alternative. Likewise, if the wrongdoer refuses to provide alternative satisfaction and demands physical penalties, the victim will get no pecuniary compensation. North (1997, p. 430) observes that under this system “the victim must estimate carefully in advance just what the convicted person might be willing and able to pay”.

¹⁰⁵ Obviously, this statement assumes that the average wrongdoer values his own physical well-being as much as the average victim valued his or her own.

wrongdoer.¹⁰⁶ Thus, the bargaining leads to optimal pecuniary compensation, with no systematic over-extraction.¹⁰⁷

4. From Punishment to Compensation: the Evolution of Early Remedies

During the third phase of evolution described in the previous section, blood-money was a voluntary offer made by the wrongdoer to the victim or his family. The victim was not compelled to accept satisfaction by means of pecuniary compensation. In the absence of a formal judicial authority determining the amount of compensation, the victim who was not satisfied with the blood-money offer could always demand the imposition of talionic penalties.¹⁰⁸ In this way, both parties had a well-defined threat point given by the *lex talionis*. The victim's clan could indulge in its desire for vindication and demand physical retaliation. The wrongdoer could equally refuse to provide alternative satisfaction and accept physical punishment.¹⁰⁹ Similar to any

¹⁰⁶ This result is even more compelling under those legal regimes where the chief of the clan bargains for his members. In a communal ownership regime, the chief can be analogized to the residual claimant. The clan would collectively benefit from the product of labor of its members labor, and the chief's highest bid to rescue his clan member is probably the best proxy for the present value of the flow of income derived from the clan member's labor.

¹⁰⁷ *A fortiori*, the result holds if the wrongdoer faces a binding wealth constraint.

¹⁰⁸ Cherry (1915, pp. 123-124) traces the stages by which the practice of retaliation became transformed into a regular system of compensation. As Cherry aptly put it: "It lay entirely in the discretion of the injured person whether he would accept pecuniary satisfaction or wreak his vengeance on the wrongdoer ... It was altogether a matter of private bargaining."

¹⁰⁹ In fact, still in this phase, judicial authorities usually had little power in adjusting the amount of compensation to the gravity of the harm suffered by the victim. It was, instead, either a matter of private bargaining or a sort of fixed penalty, with the judicial proceeding playing a very limited role in assessing the measure of damages from case to case. Where no physical harm was occasioned, the settlement mechanism relied on third party decision makers for the quantification of the compensation due to the victim. See, already in Biblical times, Exodus 21:22-23. In

contracting situation, the relative threat points marked the possible range of the bargaining outcome.¹¹⁰ Physical retaliation would be forgone whenever the wrongdoer was willing to pay an amount at least equal to the victim's reservation price to forego punishment. Under most circumstances, the existence of a background punitive remedy was sufficient to induce the parties to reach an agreement. Physical retaliation was probably exercised only when the wrongdoer's family refused to provide financial assistance to face the requests of the victim's family.¹¹¹ This may indeed have served as a form of internal threat for the troublemakers within the family group.

At a later stage, society developed a greater awareness of the costs imposed by the older retaliatory practices and of the overall superiority of the blood-money solution. Yet, the institutional transition to pecuniary penalties was not reached at once. At first, social mechanisms of approbation and disapprobation helped private parties reach a settlement without the spreading of blood. As Sulzberger (1915) suggests, customary norms played an important role in this transition, facilitating the peaceful settlement of private disputes. The first step away from literal talionis was the insistence on acceptance of blood-money between the two clans. The injured clan must accept money compensation instead of going to war.¹¹² At that point, the central state had acquired sufficient strength and stability to prevent occasional fallbacks on the

such cases, the threat of a retaliation without harmful consequences would not have induced a likely offer of compensation by the wrongdoer.

¹¹⁰ Interestingly, however, in the absence of actual physical harm, the threat of literal talionis was ineffective. Absent a credible threat point, the negotiation between the parties was unlikely to generate a stable price that could be used as a proxy for optimal fixed penalties. Absent a market-like mechanism to generate prices, early lawmakers thus had to rely on other factors – such as social disapprobation and shared social perceptions – in order to attach a pecuniary value to a wrongful action. In these cases the measure of pecuniary compensation was still often linked to the victim's need for satisfaction, rather than exclusively to an objective criterion of compensation for the loss.

¹¹¹ See, Stein (1999, p. 5).

¹¹² See Sulzberger (1915, p. 5), considering the role of social mechanisms that facilitated peaceful settlements by compelling the victim's clan to accept the pecuniary compensation.

retaliatory practices.

Not surprisingly, once a blood-money settlement was perceived as mandatory, a system of fixed penalties developed through custom. A system of voluntary compensation is deemed to collapse in the absence of a credible threat of retaliation.¹¹³ A background system of retaliatory punishment is necessary for the bargaining process to work, providing the victim with an enforceable threat point in the negotiation: an entitlement that can be waived in exchange for compensation. Compulsory compensation indeed could not have come into existence unless one of the following institutional devices had been established: (a) a judicial system with compulsory jurisdiction and authority to determine the measure of damages; or, (b) a system of predetermined fixed penalties for each specific type of injury. This latter solution chronologically precedes the establishment of judicial bodies for the assessment of damages in tort cases.¹¹⁴

In this way, the original rules that imposed an “identity” between harm and punishment gradually give way to norms requiring mere “equivalence” between harm and compensation. In the Biblical tradition of the second century B.C.E., the acceptance of alternative compensation is not only permitted but is made imperative.¹¹⁵ The imposition of talionic penalties is prohibited, except in

¹¹³ North (1997, p. 430) observes that “[t]he threat of actual physical mutilation for the convicted violent criminal will always be present in a Biblical legal order”.

¹¹⁴ Further analysis can be found in Malone (1986, p. 1): “[T]he idea that government could or should compel the payment of monetary compensation came only gradually to be recognized. Crime and tort were slow in separating.” More generally, see also Williams (1951, p. 138); and Catala and Weir (1963, p. 582-83).

¹¹⁵ Blau (1916, p. 11) dates this stage of evolution within the Biblical tradition around the year 100 B.C.E., describing it as the triumph of Pharisaic jurisprudence over the stricter views of the Sadducees, who preferred the letter of the law to the spirit, advocating the exact identity between crime and punishment. See also the views expressed in a nineteenth century manuscript available at the Robbins Collection at Berkeley under the title of John S. Harris, *Lex Talionis and the Jewish Law of Mercy* 5-7 (London: Pelican Press, publication date uncertain) observing that the Pharisees succeeded in wresting the power of judicial decisions in criminal cases from the Sadducees, who had historically advocated the strict enforcement of the literal *lex talionis*. Since then, the traditional Rabbinic view was that for all injuries short of the deprivation of life, a monetary penalty was the proper fulfillment of the

cases of voluntary homicide and other serious offences.¹¹⁶ Offences against individuals other than those indicated above were still treated as mere civil trespasses for which society only had a general concern related to the maintenance of peace.

Also in other legal traditions, the ancient sources offer anecdotal evidence of the social processes that prompted the acceptance of compensation in lieu of punishment. Homer, in the 9th Book of the *Iliad*, narrates an episode in which the offer of a pecuniary kind of reparation operates as a proposal of appeasement in lieu of the infliction of bodily punishment. Ajax reproaches Achilles for not accepting the offer of reparation made to him by Agamemnon and reminds him that even a brother's death may be appeased by a pecuniary fine and that the murderer, if he pays the fine, may well remain free among his own people.¹¹⁷

As this process of evolution continued, fixed pecuniary penalties were gradually established, eliminating the victim's original right to demand retaliation in kind. The amounts prescribed increased with the gravity of the offense. In this setting, individuals and clans could rely on central enforcement mechanisms. Having lost their exclusive control over the punishment of criminals, victims and their families had to be satisfied with the kind of compensation that other victims had accepted under similar circumstances. Once the settlement process was taken away from the sole determination of the parties, early communities relied more extensively on social mechanisms for the choice of optimal sanctions for specific wrongs. In this way, custom played an important role in the establishment of a set of prices for offenses among early civilizations.

Through this evolution, the "eye for an eye" of the law of retaliation truly became the "value of an eye in the case of loss of eye," and so on. The

Biblical rules.

¹¹⁶ The passages found in Leviticus are likely to have imposed a limit on the ability to condone punishment by mere money payments. In Leviticus 24:17 we find the homicide rule: "He that killeth any man shall be put to death". In Leviticus 24:19 we find a similar rule for aggravated assault: "As he hath done, so shall it be done to him". These passages should be contrasted to Leviticus 24:18, setting a rule of in-kind compensation for harm occasioned to animals.

¹¹⁷ Homer, *Iliad*, Book IX.

replacement of talionic sanctions with fixed pecuniary penalties was implemented throughout the entire range of wrongs causing bodily harm, with only few exceptions for the more serious offenses. For example, in the Biblical tradition, talionic penalties remained applicable to the case of intentional killing.¹¹⁸ On the contrary, among the Bedouin of Sinai, cases of murder were minutely contemplated and a customary tariff of extraordinary detail evolved also in such cases.¹¹⁹ Similarly, in early Roman law, the Laws of the Twelve Tables provided fixed penalties for each individual case of injury. Tacitus tells us that, in early times, compensation for homicide was made by the transfer of a certain number of cattle, and through this transfer the whole family of the injured party was appeased.¹²⁰ These norms of compensation appeared quite settled by the end of the first century C.E. Gradually, the sum prescribed by customary law had to be paid for the injuries. Composition among the parties was thus enforced. Penalties that initially provided for cases of corporal injuries were subsequently extended to non-corporal injuries.

This process further marks the beginning of a complete system of compensation.¹²¹ The balance between the parties, disturbed by one party's

¹¹⁸ In Biblical law, the penalty for homicide could not be substituted for blood-money and the literal "life for life" applied. See Num. 35:31. Daube (1947, p. 104) notes that literal retaliation remained applicable to cases of intentional killing. Conversely, pecuniary compensation was due in the cases of the loss of an eye, the loss of a tooth, and other mutilations. The orthodox Rabbinic exegesis is in agreement.

¹¹⁹ Kennett (1925, p. 115).

¹²⁰ Tacitus (year 98 C.E.), *Germania* at 21: "These feuds are not implacable: even homicide is expiated by the payment of a certain number of cattle and of sheep, and the satisfaction is accepted by the entire family, greatly to the advantage of the state, since feuds are dangerous in proportion to the people's freedom". Reference to Tacitus' passage is also found in Grotius. Later, by the *lex salica*, the fine was paid in money and varied according to the rank, sex and age of the murder victim. See Jan H. Hessels & H. Kern (1880) at Titles 14, 24, 35, and 41-45. See also Rivers (1986); and Balon (1965, p. 2:738). The early English laws seem to have been based on the same principle.

¹²¹ The later Law of the Twelve Tables – which in this area represents a mere codification of the earlier customary practices – is a good example of a legal system in this fourth phase of evolution. The fragment "Si membrum rup[s]it, ni cum eo

wrongdoing, is restored through the differentiated use of punitive and compensatory remedies. By this time, the state has withdrawn the administration of justice from its subordinate organizations and it assumes the duty of punishing offenders and enforcing compensation, to the exclusion of all other authorities. The original system of retribution grows to include pecuniary compensation as a means of both punishing the wrongdoer's act and providing satisfaction to the victim. However, this change did not immediately constitute a wholesale replacement of the system of retribution with a system of compensation.¹²²

This evolution is at the origin of a gradual distinction between punishment and compensation as the respective aims of criminal law and tort law – a distinction that will enjoy fuller articulation in Roman law, when the retributive and punitive functions of the law are taken away from the private sphere and monopolistically absorbed by the state.

CONCLUSION

The detachment of civil remedies from their punitive counterpart is markedly among the slowest processes of legal evolution, and it was certainly not reached all at once.

Originally, compensation resulted from a voluntary agreement between the parties to avoid the imposition of talionic penalties. The wrongdoer's family, through negotiation with the victim's family, attempted to "buy off" the consequences of the wrongful act, thus avoiding vengeance against the entire

pacit, talio esto" of Table 8 was followed by other clauses providing for fixed penalties. Fragments 3 and 4 provided, "3. Manu fustive si os fregit libero, CCC, si servo, CL poenam subito. 4. Si injuriam faxsit, viginti quinque poenae sunt": so that if an individual has broken or bruised a freeman's bone with hand or club, he should pay a penalty of 300 pieces; if a slave's 150. The penalty was 25 pieces in cases of simple harm to another.

¹²² The provision of pecuniary sanctions in the Twelve Tables did not, for example, amount to any major qualitative change. See the authoritative conclusions reached by Daube (1969, p. 131); and Watson (1991, p. 253).

group.¹²³

In this setting, norms began to develop rendering the use of alternative means of satisfaction socially acceptable. At first, wrongdoers were not required to compensate their victims. Likewise, acceptance of compensation in lieu of punishment was a purely voluntary matter. Subsequently, in the final mutation of the *lex talionis*, the victim's family is forced to accept an offer of pecuniary compensation made by the wrongdoer. At this point, the weakness of the blood-money system becomes more and more apparent, enabling individuals to impose injury on others without fear of physical retaliation.¹²⁴

The decline and eventual abandonment of literal talionis is associated with the gradual increase of the state's role in pursuing punishment. This marks the end of the *lex talionis* and the abolition of the blood-money system. The transition from "private" to "public" remedies extends to an increasing number of wrongs. The victims are entitled to compensation, and the infliction of punishment becomes a state's prerogative. In this way, the original connection between private punishment and the victim's satisfaction is lost. The punishment of the offender is pursued and the criminal will not be able to buy his way out of criminal justice by means of an offer for reparation. At this point, increased importance is given to moral justifications and excuses, and when the legal system fails to administer a sanction the victim may be left without proper satisfaction.

Once the punitive role of the law is monopolistically absorbed by the state, retaliation or self-administered punishment is regarded as illicit, and the unpunished injurer who suffers retaliation perceives such punishment as a wrongful act and is consequently regarded as a victim himself. This explains why, once the punitive function is absorbed by the state, retaliation "in the shadow of the law" is not as effective as retaliation carried out under the older talionic rules. It also explains the irreversibility of the transition from a system of regulated retaliation to a dual system of civil compensation and criminal punishment.

¹²³ This is likely the source of an additional incentive for the victim's nearest kin to inflict the punishment on the offender himself. See Diamond (1971, p. 395) and, for a related argument in a different historical context, Friedman (1979).

¹²⁴ Sulzberger (1915, p. 5) describes the dangers of the blood-money system observing that "wealth has acquired a new force."

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