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Indirect Causation: A Reminder from the Biblical Goring Ox Rule for Fraud on the Market Securities Litigation

BY ANDREW R. SIMMONDS*

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I. INTRODUCTION

Little David slays the giant Goliath. A tiny cause, a pebble[1] from young David's sling to the giant's temple, produces an improbable, disproportionately enormous effect.[2] By analogy, a company barely misses analysts' earnings expectations, and the company's

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[1] The pebble David hurled at Goliath was taken from a river. Because of its oval shape it flew like a discus. *See generally* SIR J. GARDNER WILKINSON, A POPULAR ACCOUNT OF THE ANCIENT EGYPTIANS 357-61 (1988).

[2] *See* 1 *Samuel* 17.

stock price plummets. Assuming liability, what is the measure of actual damages? Is it the value of little David[3] or the giant Goliath, the little miss in earnings or the big drop in stock price? Are damages measured by the magnitude of the cause or the magnitude of the effect?[4] The answer turns on the nature of the causation. Where the cause is direct—if hypothetically David sneaked into Goliath's tent and stabbed the sleeping giant—the measure is the worth of Goliath. But where the causation is indirect—the giant was already dead or dying from the pebble in his brow when David cut off Goliath's head with Goliath's own sword—the measure is the worth

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[3] The value of David would be measured ex ante and be very low. *See* Franklin M. Fisher & R. Craig Romaine, *Janis Joplin's Yearbook and the Theory of Damages*, 5 J. ACCT. AUDITING & FIN. 145 (1990). The value of Goliath would be measured ex ante and be very high. Analogizing a person killing another person to damage to property may seem inapposite. *But see* James Lindgren, *Measuring the Value of Slaves and Free Persons in Ancient Law*, 71 CHI.-KENT L. REV. 149, 206 (1995) ("[A]ncient law systems are marked by the reduction of people to their prices to a degree that looks almost incomprehensible to us."). The story of David deals in several places with concepts of indirect causation. For example, David sent Uriah, the Hittite, into battle to be killed so that David could have Uriah's wife for himself. *See* 2 *Samuel* 11. David, on his deathbed, asked his son to kill someone David had vowed he would not himself kill. *See* 1 *Kings* 2:8. David refused to allow his companion to kill Saul while he slept, but armed with Goliath's sword, David joined the Philistine army to fight against Saul and the Israelite army. *See* 1 *Samuel* 26, 28:1, 2; 29:2. However, beyond causation the story of David is also about changes in one's value and status. The story of David frequently has been compared with the popular 4000 year old Egyptian story of Sinuhe, which may have served as its literary prototype. *See The Story of Sinuhe, in* THE LITERATURE OF ANCIENT EGYPT 57, 64 & n.12, 74 (William Kelly Simpson ed. & R.O. Faulkner et al. trans., Yale Univ. Press 1972) [hereinafter *The Story of Sinuhe*]. In addition to his similar victory over a champion of the enemy by use of a well-aimed projectile, Sinuhe enjoyed an unprecedented rise in social position, particularly in the vitally important event (for an Egyptian) of his passing. "There was no commoner for whom the like had ever been done. So I remained in / the favor of the king until the day of mooring came." *Id.* at 74.

[4] It might seem an oxymoron to suggest that the measure of a cause is not its effect, but that is only the case if the effect is proportionate to the cause. The proverbial example of a cause that had a wholly disproportionate effect is the straw that broke the camel's back. Particularly in a case of indirect causation the effect a cause has may be amplified or diminished along the causal chain. *See infra* notes 148-154.

of little David. The same holds true in the case of the little miss in earnings and the big drop in stock price.

The preeminent rule of damages to property today is related to the rule of damages to property preeminent in antiquity.[5] Today's rule is the fraud on the market theory in securities litigation.[6] Its ancient analogue is the rule in which one person's ox gores the ox of another. The connection between the old and new is that in both instances causation is indirect and attenuated. The injury is caused by the property or instrument of one person injuring the property of another without the direct participation of either person. I shall contrast the goring ox rule ("GOR"), approximately 4000 years old, with its modern counterpart, the fraud on the market theory ("FOM") which, despite its reach, is merely thirty years young.[7]

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[5] The inspiration for this Article is the categorical statement by David Daube, "an ox killing an ox . . . acquired pre-eminent importance in the Rabbinic law of damages to property." DAVID DAUBE, *The Civil Law of the Mishnah: The Arrangement of the Three Gates* [hereinafter DAUBE, *The Civil Law of the Mishnah*], *in* 1 COLLECTED WORKS OF DAVID DAUBE: TALMUDIC LAW 275 (Calum M. Carmichael ed., 1992) (footnotes omitted) [hereinafter WORKS OF DAVID DAUBE]; *see also* BAVA KAMMA, THE TALMUD,TRACTATE BAVA KAMMA, Artscrole series, intro. at xliv (R. Hersh Goldwurm ed., 1995) [hereinafter BAVA KAMMA] ("One is liable for the damage done by his animal."). This applies to any animal owned by the person, but the prototypical case used in the *Torah* is the case of one's *ox.* I am indebteded to Professor Calum Carmichael of Cornell Law School, who is compiling Daube's work, for the bibliography of the Goring Ox Rule ("GOR") and his advice and encouragement in writing this Article.

[6] The fraud on the market theory, in its narrow sense, is a presumption that investors rely upon prices set in an efficient market to reflect all material information regarding a security. *See generally* Basic, Inc. v. Levinson, 485 U.S. 224 (1988). The theory suggests that damages are that quantifiable portion of the price which represents the mispricing due to fraud.

[7] *See id.* at 250-51. The Supreme Court has adopted the fraud on the market theory. Justice White, concurring in part and dissenting in part, bemoaned the fact that the Court was adopting a doctrine of such brief lineage:

> Even when compared to the relatively youthful private cause-of-action under § 10(b), the fraud-on-the-market theory is a mere babe. Yet today, the Court embraces this theory with the sweeping confidence usually reserved for more mature legal doctrines. In so doing, I fear that the Court's decision may have many adverse, unintended effects as it is applied and interpreted in the years to come.

Id. at 250 (citations omitted); *see also* Andrew R. Simmonds et al., *Dealing with Anomalies, Confusion and Contradiction in Fraud on the Market Securities Class Actions*, 81 KY. L.J. 123 (1992).

II. THE GORING OX RULE

Found in *Exodus*,[8] the GOR provides for an ex ante division of loss: if an ox (not known to be a habitual gorer, i.e., one that has gored oxen on three prior occasions)[9] gores and kills another ox, the live ox is sold and the proceeds of the sale together with the meat of the dead ox are divided equally between the two owners. For ease I shall use the Hebrew and Aramaic words for the habitual gorer: "muad" (literally, its owner was "warned") or mnemonically, "mad;" and for the tame ox: "tam." The rule is that "in the case of a tam one pays [one-] half damages from the body of [the animal], whereas in the case of a muad one pays full damages from the . . . [choicest of the owner of the muad's properties]."[10] It is the former

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[8] *Exodus* 21:35.

[9] An obvious difference between the GOR and modern securities litigation is that there is a much higher standard for finding an ox muad than finding scienter under the securities laws. By analogy, most securities "fraud" suits are tam and tam principles of causation apply. My purpose here, however, is not to consider the appropriate level of scienter for a finding of liability under the securities laws, but rather to examine the rules of causation and damages that flow from a lesser level of scienter, recklessness for example. Issues of apportionment of causation and damages are far more important and developed in the case of a tam than in the case of a muad. Damages for a muad are straightforward: one pays full damages. In the case of a tam the loss is apportioned, split and shared based upon causation. See Private Securities Litigation Reform Act ("PSLRA") of 1995, 15 U.S.C. § 78u-4(f)(3) (1999), providing for proportionate liability where the violation was not a "knowing" violation. For knowing violations, joint and several liability remains the rule. *See id.*

[10] BAVA KAMMA, *supra* note 5, at 16b3. In *Exodus* 21, the GOR is part of a larger scheme of damage measures caused by an ox goring, as follows: (1) If an ox killed a man, it lost all commercial value because it was killed and its meat could not be eaten; (2) if the ox was muad towards people, its owner was killed as well; (3) if a tam killed another ox, it was sold and the proceeds of the sale and meat of the dead ox were divided between the owners; and (4) if the ox was muad toward other oxen, its owner was liable for the full ex ante value of the dead ox but was permitted to keep (as salvage) the meat of the dead ox. This four-part rule produces a matrix of twelve possible outcomes, six as to the oxen, and six as to the owners. *See Exodus* 21. Regarding the rule of an ox killing a person, see JACOB J. FINKELSTEIN, THE OX THAT GORED 6 (1981). The law of the goring ox is "a legal and politico-philosophical doctrine of extraordinary power. The essence of this doctrine is the transcending power of sovereignty." *Id.*; *see also* Jacob J. Finkelstein, *The Goring Ox: Some Historical Perspectives on Deodands, Forfeitures, Wrongful Death and the Western Notion of Sovereignty*, 46 TEMP. L.Q. 169 (1973) [hereinafter Finkelstein, *Goring Ox*]; PAUL JOHNSON, A HISTORY OF

situation that is of particular interest. Hence, the term GOR herein refers to the case of the tam ox that gores another ox. It is the famous rule of one-half damages.

Where the two oxen were of roughly equal value the result was an equal sharing of the loss. However, where the oxen were of very disparate values small causes could produce great effects, and vice versa; applying the rule too literally might cause anomalies to occur.[11] Thus, where a very valuable ox was killed, whose meat was worth more than double the value of the goring ox, in receiving half the meat of the victim, the owner of the gorer would make a profit! Likewise, where a very valuable ox killed a very inexpensive ox, if the valuable animal was sold and the proceeds were divided equally, the owner of the inexpensive dead ox might make a profit! However, reductio ad absurdum, the law was not interpreted so as to produce such manifestly unjust results.[12]

Mindful of the apparent purpose of the rule, the fair division of loss, the *Talmud* recorded a modified GOR providing that damages were half the value of the victim, rather than half the value of the gorer.[13] The Talmudic

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THE JEWS 33-34 (1987) ("'The Law of the Goring Ox' testifies to the huge importance that the Mosaic code attaches to human life. . . . [M]an is made in God's image, and so life is not just valuable, it is sacred.").

[11] *See* BERNARD S. JACKSON, *Essays in Jewish and Comparative Legal History*, *in* 10 STUDIES IN JUDAISM IN LATE ANTIQUITY ch. 5, at 134 (Jacob Neusner ed., 1975) [hereinafter STUDIES IN JUDAISM] ("Only in two types of case does a literal application of the rule (assuming an equal division of the price) appear to create injustice."). These unusual, aberrant, disparate consequences and connections between causes and effects (a small, less valuable ox killing a big, valuable ox, for example) are found in the GOR and in Rule 10(b)-5 (of the 1934 Securities Exchange Act) damages, but not in the corporate law "fairness" or nominal damages of *Meinhard v. Salmon*, 164 N.E. 545 (N.Y. 1928). *See infra* Part IV.

[12] The owner of the very inexpensive gorer would not make a profit because the owner of the valuable victim could simply not seek legal redress. The owner of the very inexpensive victim would not make a profit because, if he did, the liability of a tam would be greater than the liability of a muad. *See generally* DAVID DAUBE, *Rabbinic Methods of Interpretation and Hellenistic Rhetoric* [hereinafter Daube, *Rabbinic Methods*], *in* WORKS OF DAVID DAUBE, *supra* note 5, at 333. According to Daube, the teachings of the Hellenistic rhetorical schools pervaded the entire Mediterranean world so that to a degree the same interpretive techniques might be found everywhere. These rhetorical techniques were used by the Pharisees to derive references from the *Torah* supporting the oral traditions and to prevail over the criticisms of the Sadducees.

[13] *See* BAVA KAMMA *supra* note 5, at 3:9; Reuven Yaron, *The Goring Ox in Near Eastern Laws*, ISR. L. REV. (1966), *reprinted in* JEWISH LAW IN ANCIENT AND

modification was sensible in that damages should be viewed from the perspective of the injury done to the victim. Since the Talmudic teaching does not govern except where the oxen were of different values (a subject not discussed in *Exodus*), it does no violence to the rule in the *Torah*. However, where the oxen were of different values the Talmudic formulation was more favorable to the owner of the more valuable ox. Under the formulation of *Exodus*, the owner of the less valuable animal was subsidized.[14] But since damages for the tam were payable "from the body of" the tam, under the Talmudic formulation its owner's risk of loss was still limited, i.e., to the full value of his ox, as opposed to half its value under *Exodus*.

III. THE HISTORICAL BASIS OF THE GORING OX RULE

The earliest known example of the GOR is found in the Laws of Eshnunna,[15] which predates both the laws of Hammurabi and Moses. Located between the Tigres and Euphrates Rivers, near modern Baghdad,

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MODERN ISRAEL 50, 54 (1971). The *Talmud* says that the rule in Exodus pertained to two oxen of relatively equal value. In the case of a comparatively inexpensive ox goring a very expensive ox, the result under the Talmudic formulation is more like the Roman rule of the day: the owner of the aggressor pays for the damages done, subject to noxal surrender (i.e., he surrenders the gorer noxally in satisfaction of the debt). The logic is as follows:

> All agree that the owner of a tam is liable for only half damages, and thus he and the damaged party share the loss equally. Accordingly, when the verse states that both oxen are sold and the proceeds are divided by the two parties, it must refer to a case in which this will result in each party suffering half of the loss.

BAVA KAMMA, *supra* note 5, at 34a2 n.13. Since the loss was the value of the dead ox, the measure of damages was half the value of the dead ox. The *Talmud* also extends the GOR to situations in which two oxen fight and are injured but do not die. *See id.* at 33a2.

[14] It is interesting that the GOR has, to some degree, a socialistic feature. Those with a common interest, soldiers or sailors, owners of cargo aboard ship or owners of oxen, deal with each other upon the principle of "all for one, and one for all," and "from each according to his ability, and to each according to his need." Interestingly, such principles seem to have more efficacy in intimate private ventures for profit than in the broader public realm.

[15] *See* Yaron, *supra* note 13; *see also* Saul Levmore, *Rethinking Comparative Law: Variety and Uniformity in Ancient and Modern Tort Law*, 61 TUL. L. REV. 235, 248 & n.33, 249, 268 (1986) ("In verse 35 of Exodus, we find the very same splitting rule that is found in section 53 of the Laws of Eshnunna."). *Id.* at 268.

and a few hundred miles from ancient Ur, Eshnunna was an independent city-state that lost its independence during the reign of Hammurabi.[16] Found in both the Laws of Eshnunna and in Exodus, the GOR "offer(s) the closest parallel between Biblical law and another ancient Near Eastern code."[17] Other than in the Laws of Eshnunna and Exodus, the GOR has not been found in any other ancient legal system.

Although clearly very old and well-established, the historical rationale for the GOR is obscure. However, the practical basis for the rule seems to be the relationship of the owners of the oxen as co-venturers and the uncertain sequence of causation in a fight between the oxen. In order to appreciate the relationship of the owners and the uncertainty of causation, I must examine the utilization of oxen.

The domestication of cattle predates recorded history. Prehistoric nomads who learned to control herds (such as the reindeer herds) soon realized the benefits of castration in managing their herds.[18] But beyond the benefits to the nomad, the domestication of cattle created the earliest and most important plough animal, expanding the possibilities of large-scale agriculture. As far back as is known, the Egyptians maintained herds of cattle.[19] The behavior of cattle has not changed.

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[16] *See* Levmore, *supra* note 15, at 248 n.33.

[17] *Id.* at 268-69.

[18] *See* PHILIP VAN DOREN STERN, PREHISTORIC EUROPE 213, 217 (1969); MARTIN WATTS, WORKING OXEN 4, 19 (1999) (The earliest evidence of domestication of cattle is found in the Middle East around ten thousand years ago. Prior to canals and railways oxen were the main movers of heavy loads. They transported, for example, the Conestoga Wagons to the West. Oxen were employed thousands of years before the horse. The horse began to rival the ox in the late pre-Christian period and supplant the ox in the nineteenth century. The advantages of the ox were that it ate cheaper food and at the end of its days had some value.); *see also* ARTHUR CANNON, THE BULLOCK DRIVER'S HANDBOOK 9, 78, 89, 114-15 (1985); LUIGI GIANOLI, HORSES AND HORSEMANSHIP THROUGH THE AGES 11-17 (Iris Brooks trans., 1967); GLENN R. VERNAM, MAN ON HORSEBACK 5-8, 13 (1964).

[19] For example, the Egyptian hero Sinuhe describes his conquest of the enemy's champion: "I brought away his possessions, I seized his cattle. What he had thought to do to me I did to him. I took away what was in his tent. I uncovered his camp, and it was abundant for me therein. I became rich in treasure, a great proprietor of cattle." *The Story of Sinuhe*, *supra* note 3, at 65. Cattle were to the Egyptians as sheep were to the Israelites. David is the archetypal good shepherd, caring for his flock to the point of seizing lambs from the clutches of lions and bears. Sinuhe relates that his adversary planned to make off with his cattle: "I am like a bull of

Oxen[20] are more productive in teams.[21] Oxen are not guided by reins, a bit, or other control of their muzzle. They are trained to obey voice commands, and they walk a straighter line in twos. They calm and reinforce each other. Typically, a single team is used, but for heavier work many oxen teams may be used. Animals in teams are competitive, but competitiveness creates conflicts which may erupt into violence, particularly when the owners are not with their animals.[22]

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a grazing herd in the midst of another herd. The bull of the kine attacks him,/ but the (Egyptian) bull prevails against him." *Id.* at 64. *See also* ADOLF ERMAN, LIFE IN ANCIENT EGYPT (H.M. Tirard trans., 1971) ("[O]f all domestic animals the ox was the dearest to the heart of the Egyptian.... The Egyptians talked to their oxen as we talk to our dogs; they gave them names and decked out the finest with coloured cloths and pretty fringes . . . .) (citations omitted). For a more detailed account of cattle in very ancient Egypt, see NICHOLAS GRIMAL, A HISTORY OF ANCIENT EGYPT 18-25 (Ian Shaw trans., 1992).

[20] Oxen are castrated bull cattle.

[21] Regarding the technology of oxen, see generally CANNON, *supra* note 18; DREW CONROY, OXEN: A TEAMSTERS GUIDE (1999); S.J. SKINNER, ESSAY ON THE ADVANTAGES OF OXEN, FARMERS BARN BOOK (Joseph H. Townley ed., 1908) (The oxen team is turned in the direction of the smaller near-ox. The larger off-ox naturally pulling ahead of the other would fear the horn of the near-ox were a turn attempted in the direction of the off-ox.); WATTS, *supra* note 18, at 17; *Midwest Ox Drover's Ass'n Home Page* (visited Mar. 8, 2000) <http://www.execpc.com/oxdrover/>. Another source is Rural Heritage, publisher of books and magazines regarding farming and logging with horses, mules, and oxen. *See Rural Heritage Home Page* (visited Mar. 23, 2000) <http://www.ruralheritage.com>. I am indebted to Drew Conroy, Associate Professor, University of New Hampshire for sharing with me his extensive knowledge and experience on the habits of cattle and oxen. Otherwise unattributed observations regarding oxen and cattle are from Professor Conroy.

[22] Regarding competition in sled dogs exacerbated by humans in order to increase their productivity, see JACK LONDON, WHITE FANG (1926) and CALL OF THE WILD (1929). Regarding owners not being with their property, compare *Exodus* 22:13-14; BAVA METZIA 8:1-3 (stating that one who hires a cow is liable for its demise if its owner not be hired with the cow), *with Ralli v. Troop*, 157 U.S. 386 (1895) (noting that originally merchants traveled with their cargo, but that as mercantile practice developed merchants no longer traveled with their cargo). *See also infra* note 50. In Norman England, a villein together with his oxen served his lord by tilling the lord's land on those days when the lord had a claim on him. *See* GEORGE MACAULAY TREVELYAN, A SHORTENED HISTORY OF ENGLAND 132 (1971); WATTS, *supra* note 18, at 6 (The Doomsday Book reveals that English agriculture in the early Norman period was almost totally geared to oxen.).

In the case of oxen, without human intervention they are naturally competitive and hierarchial. Indeed, oxen generally tend to lock horns and butt heads. They instinctively maintain a strict pecking order. They will constantly jostle and fight. The closer in size and the higher the individuals are in the herd's pecking order, the greater the chance of a major battle. The better the animals know each other, the less the chance of a major conflict. Yet, even in a herd whose animals have lived together peacefully for most of their lives, there will be a day when the underlying tensions erupt.[23]

The owners of oxen possess only limited ability to control the risk of gorings. Despite millenia of selective breeding, humans have not eliminated from the genetic nature of cattle, particularly the males of the species, the instinct to fight. Indeed, it is not clear that eliminating the instinct to fight with their horns would be beneficial, since the instinct to charge forward apparently makes the animal more productive. Moreover, there has not been much need to prevent fighting because it rarely results in significant injury. Most of the time oxen give in to the stronger animal long before there is any chance of physical damage. In addition, castration has been a sufficient means of taming aggression without reducing the animal's strength.[24]

Furthermore, one cannot efficiently segregate cattle; they are herd animals. Even those on the lowest end of the pecking order prefer being with a herd to solitary quarters. Cattle can be kept together in a pasture with much less effort than by corralling or housing them in solitary quarters. Cattle strongly dislike being alone. They will crash down gates, jump fences and run far to be with other cattle, even if it means that they will have to fight with the other cattle. Furthermore, their horns cannot be removed because oxen need them to move cargo downhill[25] and to prevent the yoke from slipping over their heads. Indeed, primitive harnesses were attached to their horns.[26]

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[23] *See* CONROY, *supra* note 21; WATTS, *supra* note 18, at 17 ("Individual animals get very attached to their working partners and their overall position in the team, and it is not easy to make changes!").

[24] *See* CONROY, *supra* note 21; WATTS, *supra* note 18, at 17 ("The docility of the ox is legendary: this is due partly to castration and partly to the tendency of bovines to face a threat rather than run from it.").

[25] *See* CONROY, *supra* note 21. Thus, for example, under Hammurabi's Code if a person hired an ox and broke off one of its horns, he had to pay one-fourth of the ox's value. Note also that the loss of a horn would alter the pecking order and cause fighting.

[26] *See id.*; WATTS, *supra* note 18, at 23 (The earliest yokes, head yokes, were inefficient. An ox exerts his greatest strength with his head down, pushing rather

Thus, for well over 4000 years, dating back to the era of nomadic herders, humans have engaged in joint enterprises involving animals. However, beyond the interaction of the oxen with their human owners, the owners of oxen were themselves co-venturers due to the nature of oxen to socialize in the pecking order of the herd. The GOR envisioned that oxen owned by different owners would come into contact with one another and therefore supplied a rule of damages for resulting mishaps.[27]

In the competitive hierarchy of the herd, the weaker, smaller, younger ox might instigate a challenge and the older, stronger, larger animal retaliate. Thus, that one killed is not indicative of which ox was the instigator or aggressor.[28] The live ox may have been fending off a challenge by an aggressive competitor and, hence, be justified. Moreover, since it is simply the instinct of oxen to butt heads, fights were unavoidable in any event. Since such fighting among oxen rarely produced serious injury, little purpose was served in trying to prevent it.

Oxen are well suited to locking horns or butting heads.[29] They can take a great deal of abuse about the horns, head, neck and shoulders. Picture, for example, a matadorial contest. Indeed, oxen are able to withstand a great deal of pain and injury. However, oxen have a very large gut. It is very unusual for one animal to attack the gut of another. But when locking horns or butting heads one animal may slip or fall and the other lunge forward, puncturing the gut of the fallen animal. A puncture of the gut is rarely directly or immediately fatal. Rather, the bacteria released from the gut multiply and produce toxins causing peritonitis, septicemia and localized necrosis.[30] Such injuries were unusual and unpreventable, but were known

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than pulling.).

[27] *See Exodus* 21:35.

[28] *See* DAUBE, *The Civil Law of the Mishnah, supra* note 5; DAVID DAUBE, *Direct and Indirect Causation in Biblical Law, in* VETUS TESTAMENTUM II 246 (1961) [hereinafter DAUBE, *Direct and Indirect Causation*]; Levmore, *supra* note 15, at 252 ("Uncertain causality may . . . be behind [the] . . . splitting rule."). Levmore describes the GOR and the Law of General Average as "responses to the problem of non negligent loss." *Id.* at 254. He does not view the splitting rules as a compromise between strict liability and no liability without fault. Rather, they are "more accurately described as subtle examples of comparative negligence." *Id.* It is subtle indeed that a comparative negligence rule exists as to causation and damages in a case where liability is not based on fault. Levmore seems to be suggesting that there is strict liability, but damages are measured as though there had been comparative fault. *See* Yaron, *supra* note 13, at 52.

[29] *See* ERMAN, *supra* note 19.

[30] *See* Letter from Drew Conroy, Associate Professor, University of New Hampshire, to Andrew R. Simmonds 2 (Jan. 22, 2000) (on file with author). A

to be serious and often fatal complications of the natural competitive activities of oxen.

Thus, the purpose of the GOR was not deterrence in that owners should prevent their oxen (other than the habitually vicious ox) from fighting other oxen. Rather, the owners assumed the risk, accepting instead an arrangement to share unusual, abnormally-caused losses. It was better ex ante for the owners participating in the venture to have big, strong, competitive oxen pulling at the yoke, and risk those rare gorings that produced serious injury or death (provided the liability was not excessive), than to employ weaker oxen lower in the pecking order, or oxen that malingered, but rarely gored. The splitting of damages found in the GOR was not designed to punish fault of the owners or as an incentive to be careful. The purpose of the rule was to offer an incentive for collective action[31] in future competitive environments. Damages were simply a function of economic policy as a measure of how much the owner of the live ox should be required to compensate the owner of the victim in order to induce them both to incur the risk. The measure of compensation was an implied agreement between owners entering into a joint enterprise.

The GOR seems to be related to two other ancient rules: the laws of prize and capture[32] and the Law of General Average.[33] All three rules provide for an ex ante division.[34]

Booty and prize laws provide an ex ante, before-the-battle agreement on the division of the spoils.[35] The division of the spoils was not based

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disadvantage of oxen compared to horses is that oxen must spend a portion of the day grazing to fill their gut. Horses can be fed at the beginning and end of the day.

[31] Regarding encouraging investment and enterprise, see Parable of the Talents, *Matthew* 25:14-30; *Luke* 19:11-27.

[32] *See* JACKSON, *supra* note 11 (discussing Z.W. FALK, BIBLICA 51 (1970)) (disagreeing with Falk and finding the analogy to the Biblical law of booty unconvincing because the division occurred between those who fought and those who stayed with the baggage). But that is precisely the point of indirect causation. Those who stayed with the baggage contributed, albeit indirectly.

[33] *See* Levmore, *supra* note 15 (The Law of General Average in admiralty law contains a similar response to the GOR with respect to uncertain causation.).

[34] Regarding ex ante bargains, see Matthew L. Iwicki, Note, *Accounting for Relational Financing in the Creditors' Ex Ante Bargain: Beyond the General Average Model*, 76 VA. L. REV. 815 (1990) (arguing that ex ante bargains solve the problem of non-cooperation or holdout in the prisoner's dilemma and the collective action problem in the case of unforeseeable risks).

[35] *See* United States v. Steever, 113 U.S. 747 (1885) (A tiny launch captured a disproportionately large and valuable ship. The captain of the launch argued in vain

upon an after-the-fact measure of valor, nor was the business of warfare left to a race of conquest.[36] Thus, for example, the Biblical law of booty promulgated by David provides for the sharing of spoils equally between the actual combatants and those who stayed with the baggage.[37] (However, the latter paid a higher tax out of their share.) The story of David's nemesis, Saul, also provides a lesson regarding the ancient law of booty. The Lord commanded Saul to exterminate Amalek down to its "women, children and infants, oxen, sheep, camels and asses."[38] But Saul did not destroy everyone and everything, an act sometimes incorrectly interpreted through modern eyes as "mercy." In its Biblical context Saul had taken the Lord's spoils that were forbidden to him. Confronted, Saul unsuccessfully dissembled that he had temporarily spared the most valuable of the spoils (the enemy king and the best oxen and sheep) to sacrifice to the Lord ex post, after the battle.[39]

The ancient custom of an ex ante division of spoils was extremely widespread and existed in our law until this century.[40] Often, since spoils

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that he should share in the manner of the crewmen, according to pay scale, rather than in the manner of the officers, according to a set percentage.). Post hoc reallocations of booty were contrary to the accepted rule. In Homer's *Iliad*, Agamemnon's demand that Achilles give up his prize, the fair-cheeked Briseis, was an arrogant ex post reallocation in breach of the ancient rules of prize and capture. Agamemnon's refusal to accept a father's ransom for his enslaved daughter was likewise a breach of custom, while his excuse for doing so, that he liked her better than his wife, was a disgrace. *See* HOMER, THE ILIAD AND ODYSSEY (William Sotheby trans., 1834).

[36] The ex ante arrangements to divide spoils are reminiscent of the custom of European restaurants to divide the service gratuity added to customers' bills between the waiter and those working in the kitchen. Equitable distribution rules of marital dissolution also come to mind where, for example, one spouse indirectly contributes to the other's success. There is also a custom among fishermen to agree ex ante to share in a proportion of the catch. *See* ROBERT CUSHMAN MURPHY, A DEAD WHALE OR A STOVE BOAT 170 (1967); Letter from Richard Ford to Andrew Simmonds (Mar. 20, 2000) (on file with author). Old whaleman's shipping papers showed that on whaling ships a very skilled person like a harpooner would receive more shares than an unskilled seaman. The same custom existed among pirates. *See* ROBERT CARSE, THE AGE OF PIRACY 3-7 (1957); SAVIOUR PIROTTA, PIRATES AND TREASURE (1995); PATRICK PRINGLE, JOLLY ROGER, THE STORY OF THE GREAT AGE OF PIRACY 106-13 (1953).

[37] *See Numbers* 31:27-47; 1 *Samuel* 30:24.

[38] 1 *Samuel* 30:15.

[39] *See id.* at 15:28.

[40] But one among many examples of the custom of division of spoils is the "Islamic custom, [that] soldiers would be allowed three days in which to pillage a

such as a ship cannot be divided, the prize was condemned in a prize court and the proceeds of the sale (similarly to the sale in the GOR) were divided. Moreover, compensation for military service was very important in antiquity. In ancient times military endeavors were one of very few opportunities, irrespective of social class, for the acquisition of personal ownership of property.[41] The strict codes of conduct were relaxed as an incentive for military success. Concessions by the law to the lust of the conqueror were seen as the lesser of two evils.[42]

The Law of General Average also derives from remote antiquity, spanning the law of Rhodes through the law of Rome.[43] It provides (in the typical case) that where a crew caught in a storm cuts down the ship's mast or jettisons a portion of the cargo in order to save the ship, the crew, and the remainder of its cargo, the owners of the ship and the owners of the surviving cargo share the loss proportionately. It is as though the owner of the ox and the owner of cargo on a ship have an interest in the remainder of the venture that survives the loss of their own contribution to the venture when the loss was due to an abnormal event not directly caused by any of

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[captured] city, whose treasure would be fairly apportioned among them." LORD KINROSS, THE OTTOMAN CENTURIES, THE RISE AND FALL OF THE TURKISH EMPIRE 106 (1977). The United States has held no prize courts since 1899, though the practice has continued in Europe. *See* HANS WEHBERG, CAPTURE IN WAR ON LAND AND SEA (1911) (discussing the first principles of the law of prize on sea and land and pointing out that the United States has always upheld the idea of the inviolability of private property).

[41] Rules of partiarchy, pater familias and primogeniture were stifling. Jacob swindled Esau out of his birthright, fled, and worked for Laban for "twice seven years" as a virtual slave to obtain his daughters in matrimony. However, when Jacob left with his wives Laban accused Jacob of treating his daughters as war booty. *See Genesis* 31:26. The position of women was doubly difficult. They derived their property rights by contract through male relatives. *See* Tal Ilan, *How Women Differed*, BIBLICAL ARCHAEOLOGY REV., Mar.-Apr. 1998, at 38.

[42] *See* DAVID DAUBE, *Concessions to Sinfulness in Jewish Law, in* WORKS OF DAVID DAUBE, *supra* note 5, at 1, 11. It was a widespread ancient custom that women of a conquered people were treated as part of the victor's booty. *See Genesis* 31:26. However, this practice engendered the poison of resentment and perverted ambition. *See* AESCHYLUS, AESCHYLI AGAMEMNON (Martin L. West ed., 1991); SOPHOCLES, WOMEN OF TRACHIS (C.K. Williams & Gregory W. Dickerson trans., 1978).

[43] *See* Ralli v. Troop, 157 U.S. 386, 397 (1895); HENRY N. LONGLEY, COMMON CARRIAGE OF CARGO 235 (1967); *see also* Steven F. Friedell, *Admiralty and the Sea of Jewish Law*, 27 J. MAR. L. & COM. 647 (1996). Regarding the analogy of a storm at sea or other natural disasters to securities prices, see *infra* note 144.

the owners.[44] The "doctrine applies only where something, which is part of the common adventure, is sacrificed solely for the benefit of the rest of the adventure."[45] The authority of the master to jettison property aboard ship derives "from the implied consent of all concerned in the common adventure."[46]

IV. *MEINHARD V. SALMON*: RELATIONSHIP, NOT FAULT

In each case, of the soldiers and sailors, the owners of cargo aboard ship and the owners of oxen as co-venturers, liability was strict. It was not premised upon a failure of honesty, "but the punctilio of an honor the most sensitive."[47] It was based on the notion of "all for one, and one for all." The rule is agnostic as to fault or merit; in any event, the GOR assumes the two owners are blameless.[48] Similarly, it was not the most valiant in battle who

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[44] It is as though the owners became partners in the goring ox. *See* BAVA KAMMA, *supra* note 5, at 33a4. Note, however, that the rule of sharing of losses does not apply to such cases as cargo taken by pirates or an ox attacked by a lion. The loss must be due to an internal conflict in the venture brought about by aberational external causes.

[45] *Ralli*, 157 U.S. at 395.

[46] *Id.* at 398 (In more distant antiquity merchants traveled with their cargo and had to consent to its being jettisoned. When the practice changed and merchants no longer traveled with their cargo, the rule remained that the consent of the owner was necessary to deal with his goods, but consent being unobtainable from the distant owner was implied.).

[47] Meinhard v. Salmon, 164 N.E. 545, 546 (N.Y. 1928) (finding liability based on the relationship among co-venturers rather than on fault); *cf.* OLIVER WENDELL HOLMES, THE COMMON LAW 76 (1881) (stating let the loss lie where it falls); Finkelstein, *Goring Ox*, *supra* note 10, at 262-64 ("[T]he doctrine of 'no liability without fault' [which is the justification for] . . . 'losses will lie where they fall' is a 19th century extrapolation that can claim no . . . pedigree, having been prompted by socio-economic priorities felt at the time rather than by fidelity to the Judeo-Christian and common law tradition[s]. . . ."). For the history of the doctrine, see E. Allan Farnsworth, *Your Loss or My Gain? The Dilemma of the Disgorgement Principle in Breach of Contract*, 94 YALE L.J. 1339, 1351 (1985); *see also* Robert Cooter & Bradley J. Freedman, *The Fiduciary Relationship: Its Economic Character and Legal Consequences*, 66 N.Y.U. L. REV. 1045 (1991) (analyzing the economic character of the fiduciary relationship based upon self-interest incentive structures using the principal-agent model).

[48] *See* JACKSON, *supra* note 11, at 132; Yaron, *supra* note 13. In *Meinhard v. Salmon*, Judge Cardozo acknowleged that Salmon was blameless. *See Meinhard*, 164 N.E. at 547.

received the most spoils, nor was the issue of fault (or merit) relevant to the owners of cargo aboard ship in a storm or to the owners of oxen. The only duty that was imposed was a duty of loyalty and disclosure so that each party knew where he stood and to what he was entitled.

Likewise, in American corporate law a breach of a duty of fairness, loyalty or disclosure need not be intentional, or indeed due to fault, in order to be actionable.[49] Furthermore, no distinction is drawn in this regard between joint venturers, partners, corporate directors, or majority shareholders.[50] The same rule applies to all of them as to owners of oxen. The basis of liability is not fault, but rather the relationship of ownership of property used in an enterprise. However, as David Daube points out, the word "owner" is an "unsatisfactory approximation: the German Herr would be nearer."[51] That is, the "lord," the "master," the "boss" or the one responsible or in control.[52] In this context the word "owner" denoted a certain status, to wit, the master of the ox.

But it would be a mistake to equate the GOR with *Meinhard v. Salmon*,[53] *Weinberger v. UOP*,[54] or other cases dealing with the associations, relationships and duties between co-venturers, trustees, partners, majority shareholders and corporate directors.[55] Perhaps a relationship or

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[49] *See* Weinberger v. UOP, Inc., 517 A.2d 653, 654 (Del. Ch. 1986); Regina M. Giannini, *"Punctilio of Honor" or "Disintegrating Erosion"? The Fiduciary Duty to Disclose for Partners, Corporate Directors, and Majority Shareholders*, 27 SW. U. L. REV. 73, 87 (1997). Under Delaware corporate law nominal damages are recoverable. Under the federal securities laws, conversely, only actual damages are awarded. *See In re* Tri-Star Pictures, Inc., 634 A.2d 319, 333 (Del. Sup. Ct. 1993) ("In Delaware existing law and policy have evolved into a virtual per se rule of damages for breach of the fiduciary duty of disclosure."). However, the Delaware Supreme Court in *Loudon v. Archer-Daniels-Midland Co.*, 700 A.2d 135, 146 (Del. 1997), held that *Tri-Star* was limited to its facts ("[T]here is no *per se* rule that would allow damage for all director breaches of fiduciary duty of disclosure .... Damages will be available only in circumstances where disclosure violations are concomitant with deprivation to shareholders' economic interests or impairment of their voting rights.").

[50] *See* Farnsworth, *supra* note 47; Giannini, *supra* note 49.

[51] DAUBE, *Direct and Indirect Causation*, *supra* note 28.

[52] Control need not be actual, as for example, the soldiers that stayed with the baggage, the merchant that did not travel with his cargo, the owners that were not with their oxen, etc. *But see supra* note 22 (liability for a borrowed cow depended upon whether its owner was borrowed with the cow).

[53] Meinhard v. Salmon, 164 N.E. 545 (N.Y. 1928).

[54] Weinberger v. UOP, Inc., 517 A.2d 653 (Del. Ch. 1986).

[55] *See, e.g.*, Louden v. Archer-Daniels-Midland Co., 700 A.2d 135 (Del. 1997); Cinerama, Inc. v. Technicolor, Inc., 663 A.2d 1156 (Del. Sup. Ct. 1995); Cede &

association in a venture was the genesis of the GOR, but the sharing of damages is more like the case of a market decline in the value of one's investment than the nominal (for procedural violations) or fair value of one's investment damages under corporate law. The GOR is a chimera because, although liability is strict, fault is absent (as in *Meinhard v. Salmon*), and damages are relaxed and calculated as though it was a case of comparative negligence[56] and not a breach of fiduciary duty or trust.

V. LOSS CAUSATION

The foremost reason for liability and the measure of damages in the GOR was not a breach of duty or trust or the relationship among the owners; it was the juxtaposition of "but for" and loss causation. The immediate cause of injury was readily apparent from the effect, the wound. Even though the victim may have died slowly of peritonitis and septicemia, necrotic changes at the puncture site and the general condition of the animal undergoing a hideous death due to a puncture of the animal's gut made the cause obvious from the result. It would have been manifestly unfair to deny recovery where the cause of the victim's death was so clearly due to the goring by the live ox. Furthermore, the loss of an ox to a farmer having only one or a few oxen with which to plough his field, to grow crops and to feed his family was a tremendous loss jeopardizing the family's very survival. Purportedly, early Americans who lost an ox on occasion put themselves in the yoke to keep the wagon moving until a replacement could be found.[57]

While the immediate cause of injury was unmistakably clear, loss causation was unclear and speculative. Since the animals were naturally competitive, and indeed both owners may have encouraged the competition between their animals by selecting the strongest animals (i.e., those highest in the herd's pecking order), either ox might have misbehaved first. The gorer may have only been defending itself. Perhaps the oxen locked horns and the wound was due to the victim unexpectedly tripping or falling, causing the gorer to lunge forward to the victim's gut. To borrow an analogy, it is like the case of a person who fell while carrying a flask of

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Co. v. Technicolor, Inc., 634 A.2d 345 (Del. Sup. Ct. 1993); *In re* Tri-star Pictures, 634 A.2d 319 (Del. Sup. Ct. 1993).

[56] *See* Levmore, *supra* note 15, at 254-55 ("These rules may be more accurately described as subtle examples of comparative negligence than as compromises between strict liability and negligence.").

[57] *See* Letter from Drew Conroy, *supra* note 30.

precious liquid, breaking it on a stone. We know the stone caused the damage, but we do not know what caused the fall.[58]

The importance of principles of indirect causation in the GOR is demonstrated by the *Talmud*, which expands the facts from two to three oxen owned by three different owners.[59] Hypothetically, one of the three oxen is gored and killed, and it is unclear which of the other two did the goring. Now the automatic liability of GOR no longer applied: there was no (socialistic) sharing of the loss among the three owners. The owner of the victim had to prove which of the two (or more) live oxen was responsible, the larger or the smaller, the tam or the muad. The GOR created an incentive structure, where multiple oxen were involved, for the owner of the victim to claim that the more valuable ox did it, or that the muad did it, not the tam. In these cases the eminently sensible rule applied that "whoever seeks to take money from his fellow must bring the proof."[60]

Another rule, the "rule of wheat and barley,"[61] provided a disincentive for the owner of the victim to claim that the more valuable or the muad was the gorer. Under the rule of wheat and barley, where the plaintiff claimed he lost the more valuable he thereby waived any claim to the less valuable. Where the plaintiff claimed the muad did it, he waived any claim as to the tam, and where he claimed the large ox did it, he waived any claim as to the small ox.[62] The plaintiff, who claimed the greater, waived any claim of damages as to the lesser.

Thus, adding a third ox to the facts of the GOR produced a situation in which, notwithstanding the relationship among the owners, the owner of the victim, who did not bring the proof, would recover nothing, and the causal role of one or the other oxen causing the injury to the victim became the crucial threshold issue. A mere relationship of co-owners of oxen in a venture, without proof that a specific ox caused the injury, did not give rise to liability. Yet in all events the broad rule of causation and damages in the GOR still applied. The aspect of causation and damages in the GOR trumps the aspect of ownership. The most the owner of the victim could recover

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[58] *See* BAVA KAMMA, *supra* note 5, at 28b2.

[59] *See id.* at 35a2.

[60] *Id.* Note also that a division of a whole into more than two parts involves considerable mathematical complexity. *See* Sarah Boxer, *For Birthday Parties or Legal Parties; Dividing Things Fairly is Not Always a Piece of Cake*, N.Y. TIMES, Aug. 7, 1999, at B7 (providing a review of recent books on the history of attempts to solve this problem).

[61] *See* BAVA KAMMA, *supra* note 5, at 35b4.

[62] *See id.*

was one-half damages, but he might recover nothing at all. He could never recover full damages. No matter the permutation (and irrespective of whether proof was required as to which ox did the goring), where oxen fought and one was injured by "horn," the owner of the tam paid only one-half damages. The essence of the GOR was not the relationship of the owners; if there was any doubt as to which of two or more oxen did the goring, the plaintiff lacking proof recovered nothing. Yet, the principle universally applied: where the causation was indirect, lower damages were recoverable than when the damages were direct, because in an indirect causal sequence there will be causes other than the fault of the tam gorer that contribute to the loss.[63]

The GOR illustrates the importance of separating the element of fault or the relationship between the owners from the element of causation and the measure of damages. This principle is highly important in the FOM where (as in the GOR) indirect causation is involved. Otherwise, the proceeding degenerates into "give a dog a bad name and hang 'em," an invitation to award speculative damages based upon supposed connections between stock prices and remote acts by corporate executives.[64] This is

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[63] *See, e.g.*, Anthony M. Sola & Lisa Mudd, *"Eggshell Skull Rule" Cases and the Defense of Culpable Conduct for Plaintiff's Smoking*, N.Y. L.J., Dec. 8, 1999, at 1.

[64] Blurring the element of fault and the measure of damages results in construing uncertainties against the wrongdoer, and the existence of uncertainty invites speculation. *See, e.g.*, Feit v. Leasco Data Processing Equip. Corp., 332 F. Supp. 544 (E.D.N.Y. 1971):

> [O]nce a plaintiff has shown that the defendant has violated his substantive rights and that he is entitled to damages, he ought not to be held to the high level of proof required for other elements of this case. The somewhat speculative nature of damages ought not to prevent a plaintiff from recovering; where there is a substantial question, the facts must be construed, within reasonable limits, against the tortfeasor.

Id. at 585. *But see* Green v. Occidental Petro., 541 F.2d 1335 (9th Cir. 1976) (Sneed, J., concurring). Under *Daubert v. Merrell Dow Pharmaceuticals*, 509 U. S. 579 (1993), and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999), damages in fraud on the market securities cases must be proven by duplicable and testable methodologies. See also Judge Brieant's opinion in *In re Executive Telecard*, 979 F. Supp. 1021 (S.D.N.Y. 1997) (holding that event studies as to the contributing causes are required). In one of the earliest securities class actions to be tried to conclusion, Judge Brieant set aside part of the jury's damage award. Judge Brieant did this despite the enormity of the defendants' lies, and even though the fraud was undetected and unsuspected by the market. In one of the years involved, the market price did not change commensurately with the magnitude of the lies. *See* Sirota v.

particularly dangerous because of the natural inclination to fallaciously reason post hoc, ergo propter hoc[65] that the magnitude of the stock price drop is a barometer of the significance of the securities "fraud." However, in an indirect causal sequence it is to be expected that the effect of a cause has been altered due to varying initial conditions along the steps in an indirect causal chain.

Even though the element of fault is and should be considered separate and distinct from the elements of causation and damages, conversely, the more indirect the causation, the greater the proof needed to show intent. That is because, over time, actions with indirect effects will result in unforeseen consequences, in turn requiring modification of prior plans in order to achieve the goals for which those plans were originally designed.[66]

VI. HOW THE GORING OX RULE BECAME SO IMPORTANT

Oxen were important in antiquity. They are frequently mentioned; they were an important sacrificial animal, feeding many. Teams of oxen dragged the spoils of triumphant Roman conquerors through rejoicing crowds, up the winding road to the Roman forum. Ox teams dragged the bodies of Egyptian notables in their outer coffins, preceded by singers.[67] Oxen were numerous.[68] Whether oxen helped build the ancient architectural wonders is unknown, but they were so significant in the popular imagination that the

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Solitron Devices, Inc., 673 F.2d 566, 577 (2d Cir. 1982).

[65] *See* Schiller & Schmidt, Inc. v. Nordisco Corp., 969 F. 2d 410, 415-16 (7th Cir. 1992) ("[P]eople who want damages have to prove them, using methodologies that need not be intellectually sophisticated but must not insult the intelligence.... *Post hoc, ergo propter hoc* will not do. . . .") (citations omitted); *see also* Holmes v. Securities Investor Protection Corp., 503 U.S. 258, 287 (1992) (Scalia, J., concurring) ("[A] proximate-cause requirement . . . has always been the practice of common-law courts (and probably of all courts, under all legal systems) . . . .").

[66] *See* DIETRICH DÖRNER, THE LOGIC OF FAILURE, RECOGNIZING AND AVOIDING ERROR IN COMPLEX SITUATIONS (Rita & Robert Kimber trans., 1997) (Complex dynamic problems are only rationally tractable by reviewing, judging, and modifying decisions against goals. Decisions must be updated as circumstances change from those extant at the time of the prior decision.).

[67] *See The Story of Sinuhe, supra* note 3, at 68.

[68] The Biblical law of booty discussed above reports the booty obtained from the exterminated Midianities was 675,000 sheep, 72,000 oxen, 61,000 asses and 32,000 virgins. *See Numbers* 31:32-34. Even discounting for the supposed tendency among the ancients for overstatement, we are to understand that the amounts were substantial.

first letter of the alphabet, the letter "A," evolved from the image of the head of an ox.[69] The ox was one of the four apocalyptic beasts symbolizing the four evangelists. According to legend, at Christmas it was the ox that made room for Mary and Joseph.[70]

The GOR, on the other hand, was highly unusual. The ordinary rule was that if an ox causes damage "in the field or vineyard of another," then its owner was liable in full for the damage done, and "from the choicest of his field and the choicest of his vineyard he shall pay."[71] If the damage occurred on the property of the gorer's owner or in the public domain, then there was no liability on the part of its owner. The ordinary measure of damages to property was "an eye for an eye, a tooth for a tooth."[72] One

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[69] *See* John Noble Wilford, *Finds in Egypt Date Alphabet in Earlier Era*, N.Y. TIMES, Nov. 14, 1999, at A1. The alphabet is thought to have originated among Semitic people in Egypt, centuries before Joseph is believed to have arrived. The alphabet imitated hieroglyphics and simplified them as sounds rather than words and phrases. It was easier to learn associations between symbols and sounds than between symbols and words or phrases. Common images were used as letters (e.g., a house was the image for the letter "B", the wavy water was the image for the letter "M"). *See id.*; *see also* E.A. WALLIS BUDGE, EGYPTIAN LANGUAGE, EASY LESSONS IN EGYPTIAN HIEROGLYPHICS 62 (1983); RICHARD A. FIRMAGE, THE ALPHABET ABECEDARIUM 47-55 (1993); OSCAR OGG, THE 26 LETTERS (1971). While many theories are offered regarding the letter "A" and the head of an ox, it appears that the letter "A" represented the face and horns of an ox. It later came to be inverted by rotation, through convenience, in writing the very common sound "ah." The sound "ah," as in alpha, is the name or a sound contained in the word for "ox" in several ancient Near-Eastern languages. It is also frequently a sound in the name of "God" and related to the notion of dominance. *But see* Barry B. Powell, *Who Invented the Alphabet: The Semites or the Greeks?*, ARCHAEOLOGY ODYSSEY, Premiere Issue 1998, at 45, 48 (Powell makes the radical suggestion that a Greek discovered the alphabet.).

[70] *See* WATTS, *supra* note 18, at 31.

[71] *Exodus* 22:5; BAVA KAMMA, *supra* note 5.

[72] Regarding the origins of "an eye for an eye," see Calum M. Carmichael, *"An Eye for an Eye, and a Tooth for a Tooth": The History of a Formula*, *in* LAW, MORALITY AND RELIGION: GLOBAL PERSPECTIVES 27-28 (Alan Watson ed., Univ. of Cal. at Berkeley, 1996). Mutilation of corpses is the historical basis of the rule. For example, before the battle David and Goliath trade threats that the other's corpse will be mutilated. As threatened, David cuts off the head of Goliath and takes it to Jerusalem, leaving Goliath's body headless. *See* 1 *Samuel* 17:54. The ancients were concerned about their and their loved ones' corpses to a degree almost incomprehensible to us. The ultimate example is the mutilation of Osiris' corpse by Seth in the story of Horace, the centerpiece of Egyptian mythology. Like

pays the monetary value[73] of the damage done, in this case, by one's ox. By this measure, if one's ox gored the ox of another, one would expect that the owner of the gorer would be required to pay "an ox for an ox." Indeed, "an ox for an ox" is the measure of damages for a muad gorer. But "an ox for an ox" was not the general rule where one's ox gored another's ox; it was the exception. The general rule was one-half damages for a tam. Under most circumstances, a person who suffered damage to his property would recover either full damages or no damages at all (depending upon whether a cause of action was recognized and the plaintiff brought proof). But in the

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Moses's mother, Isis hid the infant Horus from Seth in the reeds of the Nile. The famous "Turn the other cheek" of *Matthew* 5:38-39 is a conservative limitation on "an eye for an eye," holding that tit-for-tat damages were not recoverable for mere insults without actual physical damage. In this case the hit is figurative, a "slap in the face." *See* Carmichael, *supra*, at 27-28 (attributing this insight to his teacher David Daube). *Cf.* BAVA KAMMA 8:6; PINHAS KEHATI 120-22 (1994) ("Rambam writes: 'There are many types of blows entailing shame, and a little pain, but no real injury.'" The payments are in the nature of fines for shame and pain, whether or not there was healing or loss of time.). A slap on the cheek with the palm of one's hand would likely cause greater physical injury than a slap on the cheek with the back of the hand. But, a slap with the back of the hand was considered extremely humiliating. Damages were based, not on any actual injury, but upon the insult. Hence, the fine for a slap with the back of the hand was double the fine for a slap in the face with the palm of one's hand. The less celebrated line in *Matthew* 5:40, which follows "turn the other cheek," is that if you are asked (sued) for the shirt off your back, give your coat as well. This refers to the humiliation inflicted where one exposes the nakedness of another. *See* Carmichael, *supra*, at 27-28; BAVA KAMMA, *supra* note 5, at 8:6 (providing that one who exposes to a greater degree the nakedness of another, who has already exposed his own nakedness to a lesser degree, is liable for a fine). Again the phrase is proverbial, "to lose the shirt off your back." Like the phrase "turn the other cheek" that precedes it, the phrase "lose the shirt off your back" is deeply ironic because descamisados are most unlikey to be so fortunate as to own a coat. It raises the specter of fraud that one so poor as to lose his shirt would nonetheless still own a coat. *See also* MAIMONIDES, MISHNEH TORAH 230 (Philip Birnbaum ed., 1967) (regarding insults: "Although the person who verbally insults people is exempt from paying . . . . the ancient sages declared: 'Anyone who puts a worthy Jew to shame in public has no share in the world to come.' "). Note also the different paths of the English and American laws of libel.

[73] *See* Bernard S. Jackson, *The Problem of Exodus 21:22-5 (Ius Talionis), Essays in Jewish and Comparative Legal History, in* STUDIES IN JUDAISM, *supra* note 11, at 82 ("The Rabbis, as is well known, interpreted the *ius talionis* as monetary compensation.").

case of the tam-gorer, full damages are never available. The owner of the victim of the tam-gorer never received more than one-half damages.[74]

Because the GOR was at once well-established[75] and unusual, it gave rise to a great debate among the Talmudic Rabbis regarding the difference between the rule of one-half damages for injury caused by "horn" and the normal, general rule of full (or no damages depending on location) for injury caused in ways other than by "horn." The archetypal injury other than by "horn" was by "foot" or by "tooth." Damages for injury by "foot" or by "tooth" occurring on the land of the injured party were fully recoverable; otherwise no damages were recoverable.[76] But how to reconcile these two different rules? If injury by "horn" was so serious that "half" damages were awarded in a situation were no damages would be awarded for injury by "tooth" or by "foot," then why should only "half" damages be awarded for injury by "horn" in a situation when full damages would be awarded for injury by "foot" or by "tooth"?[77] Where injury by the lesser evil ("foot" or "tooth") produces full damages, should not a fortiori full damages be awarded where the injury is by the greater evil ("horn")?[78]

The modern student of law and economics might suggest that the obligation to pay is perhaps related to the comparative cost to the parties to prevent the loss. But the solution in the GOR is more sophisticated. The GOR, unlike the ordinary rule of "foot" and "tooth," was not a rule of

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[74] *See* BAVA KAMMA, *supra* note 5, at 24b3-26a4.

[75] Reuven Yaron claims that the GOR originates from "a common fount, Oriental Legal practice," but he bases his assertion on the slender reed found in the Laws of Eshnunna. *See* Yaron, *supra* note 13, at 52. Yaron may well be right, though. The Code of Hammurabi and the Laws of Eshnunna were only discovered in this century and future discoveries may confirm his hypothesis.

[76] *See* BAVA KAMMA, *supra* note 5, at 16a1 & n.12, 26a1.

[77] *See id.* at 24b3.

[78] The *Talmud* answers, "No." *See id.* at 26b3. It is sufficient for the application argument a fortiori that, if "half" damages are awarded in the lenient case, then "half" damages should be awarded in the stringent case. The argument a fortiori does not contend that the damages should be greater than in the underlying case argued from. Thus, if damage by "horn" occurring on the property of the owner of the gorer results in one-half damages, then a fortiori where damage occurs on the property of the victim at least one-half damages should be awarded. But it carries the argument a fortiori too far to contend that greater damages should be awarded. Logical arguments should only be carried so far as is sufficient to give them meaning. The argument "it is sufficient" is a limitation upon application of the argument a fortiori. See generally regarding ancient rhetorical arguments, DAUBE, *Rabbinic Methods*, *in* WORKS OF DAVID DAUBE, *supra* note 5, at 333.

deterrence, of loss prevention through the exercise of due care.[79] A tam injury by "horn" was considered a freak, abnormal, unpreventable accident, for which liability existed, but not through fault, and damages were limited. Injury by "horn" meant any act of damage that an animal does with destructive intent and which is unusual for animals of that species (and by inference was unpreventable by the exercise of reasonable care). Injury by "foot" or by "tooth" meant damage that an animal does in the course of normal movement, such as in eating, walking, and scratching (which could be prevented by the exercise of reasonable care).[80] Damage by "horn" was damage as to which the costs of prevention to either or both parties was unwarranted as a matter of risks and rewards.

Injury due to goring by "horn" was considered abnormal.[81] Injury by "foot" or by "tooth" was considered normal.[82] Thus, injury literally caused by the feet or teeth of an ox could, nevertheless, be considered by "horn" if it was caused abnormally like an injury by "horn." Conversely, only rarely could an abnormal injury be deemed normal. For example, by happenstance a person falling out of a window landed on the horn of an ox walking in the street below. In such case the injury, even though literally being caused by horn, would be considered to have been caused by "foot" or by "tooth."[83]

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[79] *See* DAUBE, *The Civil Law of the Mishnah*, *in* WORKS OF DAVID DAUBE, *supra* note 5, at 276; *cf. Exodus* 22:14 and BAVA METZIA 8:1-3 (Liability of one who borrows a cow depends on whether he borrowed its owner with it. It was customary to borrow the owner with his cow.). In distant times owners would travel with their cargo, but when that practice became rare, the rule remained that their consent was required to jettison their goods. Since their consent could not be obtained in time, it was implied that they had consented in advance to the master using his good judgment. *See* Ralli v. Troop, 157 U.S. 386 (1895). Similarly, combatants who were not actually present and did not participate in the battle could still recover a portion of the spoils. *See generally* JACKSON, *supra* note 11.

[80] *See* Glossary definitions, BAVA KAMMA, *supra* note 5.

[81] *See id.* at 18a3 n.27 ("The key feature of [tam horn] is that the animal has done something that is abnormal for it to do. Thus, all such instances are called . . . abnormal."). Note, however, that it is normal for oxen, and indeed all horned animals, to butt with their horns. It is abnormal for an ox to cause the death of another ox by its horn. An ox can take a great deal of abuse about the horns, head, neck and shoulders. An injury by horn to the vulnerable gut is abnormal. *See* Letter from Drew Conroy, *supra* note 30, at 1, 3.

[82] *See* Letter from Drew Conroy, *supra* note 30.

[83] BAVA KAMMA, *supra* note 5; see also Judge Calabresi's concurring opinion in Moore v. PaineWebber, Inc., 189 F.3d 165, 173 (2d Cir. 1999).

Indirect damages were also sometimes referred to as having been caused by one's "arrows." Illustratively, a person who lights a fire is said to have "shot his arrow." He has "[set a] force in motion. But he is not liable for what follows due to the intervention of subsequent, unrelated factors."[84] In that case his "arrows have ceased."[85] Similarly, a cause could start out normally, for example by "foot," but be extended in an abnormal or normal way. The word "tzroros" literally means "pebbles" or "chips" and describes damage caused indirectly by the actor through something it propels.[86] For example, an ox steps on a vase and the chips of the vase fly out and cause some yet further, more remote damage. Tzroros that are abnormal (as most are) result in "half" damages.[87] Thus, if a dog robs a hot cake from the cooking fire of another and lays down to eat it on a haystack that is ignited by coals attached to the cake, the dog's owner pays the full value of the cake "from the choicest" of his property and one-half the value of the haystack "from the body of" the dog.[88] Moreover, for even more attenuated damages, the possibility exists that one-quarter, one-eighth, and so forth damages may be the measure.[89]

The GOR holds that the more indirect and attenuated the causation, the lesser the damages. However, rather than postulating decreasing fractions as the causal chain lengthens, as a practical matter remote damages may be deemed too speculative.[90] Underlying both the concepts of declining recovery and an absolute cutoff is the notion that there are correlations between direct causation and the presence of culpable conduct and between indirect causation and the absence of culpable conduct.[91] In effect, we are

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[84] BAVA KAMMA, *supra* note 5, at 23a1.

[85] *Id.* Sinuhe, the Egyptian prototype of David, was a bowman who vanquished the opposing champion with an arrow to his neck. *See The Story of Sinuhe*, *supra* note 3, at 64. In the story of David and Goliath, however, the indirectness of causation is much greater because Goliath was felled by a mere river pebble from a sling, not a weapon of war. The message is clear. As David said would happen, the Lord delivered up Goliath rather than David being the major cause of his death. *See* 1 *Samuel* 17:46.

[86] *See* BAVA KAMMA, Glossary "tzroros," *supra* note 5.

[87] *See id.* at 17b3, 18a2.

[88] *See id.* at 18a2, 21b2.

[89] *See id.* at 19a1-19a2 ("the inquiry stands unresolved").

[90] As Justice Antonin Scalia put it, "Life is too short to pursue every human act to its most remote consequences; 'for want of a nail, a kingdom was lost' is a commentary on fate, not the statement of a major cause of action against a blacksmith." Holmes v. Securities Investor Protection Corp., 503 U.S. 258, 287 (1992) (Scalia, J., concurring). See also *infra* note 154.

[91] *See* DAUBE, *Direct and Indirect Causation*, *supra* note 28, at 246, 255.

separating out the planned or the proximately caused from the fortuitous and difficult to control or bring about.

VII. "FROM THE BODY OF," CORPORATE INDEMNIFICATION

The limitation on damages measured by the value, or one-half the value, of the gorer is expressed as "to pay from the body of" the gorer. Liability to pay full value for an extremely valuable ox might be more than the owner of the gorer could bear.[92] Therefore, rather than being threatened with being sold himself,[93] he would plead "take the damages from the body of" (in this case his goring ox). In this way his investment in the venture was, in effect, incorporated, and he could lose no more than his investment (*Talmud*) or one-half thereof (*Exodus*).

Surrendering one's animal as a limitation on financial liability is known as noxal surrender.[94] It makes, however, for a backwards way of viewing damages—not from the ordinary perspective of the value of the plaintiff's loss, but rather from the value of the defendant's property that was not lost. The expression that the plaintiff may have recovery "from the best" of the defendant's property also focuses on the defendant's property that, ironically, is in excellent condition, rather than on the value of the plaintiff's property before its injury.

Where an ox known by its owner to gore people, gores and kills a person, the penalty in *Exodus* is death or, in lieu thereof, a suitable fine.[95] Where the monetary alternative to death is a suitable fine, logic focuses on what the owner of the surviving ox would be willing to pay to avoid being sold into slavery himself. But the value of the defendant's life has nothing

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[92] The Talmudic example is "if an ox worth 100 zuz gored an ox worth 200 zuz." *See* BAVA KAMMA, *supra* note 5, at 3:9 n.7. In Mishnaic times a woman's dress allowance for a year, excluding shoes, was 50 zuz. Purportedly, a kid could be bought for two zuz. *See* PINHAS KEHATI, Mishnah, Vol. 1, *supra* note 72, at 207.

[93] *See* Lindgren, *supra* note 3, at 207 ("A common ancient solution for the inability to pay high fines was slavery or servitude. . . ."). Because of the severity of the consequences, many of those who joined David's ragtag band of fugitives from Saul were debtors. *See* 1 *Samuel* 22:2. Solving the predicament of the debtor class of Athens was the crowning achievement of Solon, the greatest Greek law-giver. *See* PLUTARCH, THE LIVES OF THE NOBLE GREEKS AND ROMANS (1631).

[94] *See* THE OXFORD ENGLAND DICTIONARY (2d ed. 1989). From Latin a "noxa" is a hurt or damage. By surrendering the object that did the injury, under this concept its owner is absolved. *See id.*

[95] *See Exodus* 21:29-30.

to do with the value of the plaintiff's loss of his or her life.[96] Thus, where a muad killed a person, the value of the victim was a limitation on damages, but so was the value of the owner of the gorer a limitation where it was less.

In our system as in the GOR, damages are paid "from the body of" the enterprise, which is a limitation on damages. The individual defendants, typically the managing officers of the corporate defendant, say, as in Biblical times, take the damages "from the body of," in this case, the corporation. They are broadly entitled to indemnification by the corporation, except for egregious conduct of a level akin to the relatively strict Biblical standard of the muad ox that was habitually vicious to other oxen.[97] The muad is a threat to the joint enterprise. As long as the officer is tam vis-a-vis the enterprise, he is entitled to indemnification. Conduct so inimical to the interests of the enterprise that the malefactor should not be indemnified by the enterprise is rare. In ordinary securities fraud litigation, corporate indemnification is routine and expected.[98] Although the corporate

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[96] *See* Lindgren, *supra* note 3, at 152-53. "Ancient law systems are marked by the reduction of people to their prices to a degree that looks almost incomprehensible to us." *Id.* at 206. "The differences within basic classes are often huge." *Id.* at 152.

[97] The notion of liability based on being "warned" is found in the recent SEC proceedings against Bear, Stearns Securities Corp. Bear, Stearns was not alleged to have done anything directly wrong. Instead, it was allegedly warned that two firms it cleared for, A.L. Baron and Sterling Foster, were habitual gorers. *See In re* Bear, Stearns Sec. Corp., Securities Act Release No. 7718, Exchange Act Release No. 41,707, 70 S.E.C. Docket 537 (Aug. 5, 1999).

[98] *See generally* Waltuch v. Conticommodity Servs., Inc., 88 F.3d 87 (2d Cir. 1996) (requiring mandatory indemnification under § 145 of Delaware General Corporation Law where the action settled without contribution by the officer and even though his conduct was allegedly egregiously dishonest, on the basis that he had achieved success "on the merits or otherwise"); JOSEPH WARREN BISHOP, JR., THE LAW OF CORPORATE OFFICERS AND DIRECTORS, INDEMNIFICATION AND INSURANCE (1992); WILLIAM E. KNEPPER & DAN A. BAILEY, LIABILITY OF CORPORATE OFFICERS AND DIRECTORS (1993); JOHN F. OLSON & JOSIAH O. HATCH III, DIRECTOR AND OFFICER LIABILITY: INDEMNIFICATION AND INSURANCE (1997); Gandolfo V. DiBlasi et al., *Recent Developments in Director and Officer Indemnification and Insurance*, 1053 PRAC. L. INST./CORP. 263 (1998); E. Norman Veasey et al., *Delaware Supports Directors with a Three-Legged Stool of Limited Liability, Indemnification, and Insurance*, 42 BUS. LAW. 399 (1987). In the landmark Apple Computer securities litigation corporate indemnification insurance was afforded for directors and officers who had been found liable for securities fraud and the charge to the jury had been close to an instruction of intentional

managers are themselves sued, due to mechanisms of indemnification the damages in a very real sense, as in the case of the GOR, are paid out of the enterprise and hence by the owners of the enterprise.[99]

There is an inherent conflict recognized by some courts between persons who bought securities and have since sold them, persons who bought securities and who still own them, and securities holders who fall outside the group of persons potentially entitled to recover damages and only stand to lose if the corporation pays damages.[100] Obviously, there are conflicting claims to the corporation's assets between these three groups. As in the case of the owner of the tam gorer, the solution is that some portion of the plaintiff's loss is paid "from the body of" the corporation (with regard being had for the ownership interests in the venture of those not eligible to recover damages and those who are eligible to recover damages but still have an investment in the entity that pays the damages). Thus, the existence of conflicting claims to the corporate assets between securities purchasers, ins-and-outs, and holders as of various time periods is a de facto limitation on the plaintiff's recovery. Were the plaintiff to press the case to the point that the defendant corporation declared bankruptcy, the plaintiff would receive comparatively little.[101]

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fraud. *See In re* Apple Computer Sec. Litig., Fed. Sec. L. Rep. (CCH) ¶ 96,252 (N.D. Cal. 1991); *see also* Raychem Corp. v. Federal Ins. Co., 853 F. Supp. 1170, 1177 (N.D. Cal. 1994); Steinberg v. Pargas, Inc., Fed. Sec. L. Rep. (CCH) ¶ 91,979 (S.D.N.Y. 1985); Kapoor v. Fujisawa Pharm. Co., No. C.A. 93C-06-50, 1994 WL 233947, at *7-8 (Del. Super. Ct. May 10, 1994), *aff'd*, 655 A.2d 307 (Del. Super. Ct. 1995). *But see* Eichenholtz v. Brennan, 52 F.3d 478, 484-85 (3d Cir. 1995) (ruling that indemnity claims between defendants based on proportionate fault or underwriter indemnification agreements are not permitted as against public policy); Ridder v. Cityfed Fin. Corp., 47 F.3d 85 (3d Cir. 1995) (holding that the right to advancement of defense expenses is distinct from the right of indemnity and does not depend on the merits of the underlying claim).

[99] Although the directors and officers direct the activities of the corporation, it is the corporation that acts. People take note of their actions because they ostensibly act under the aegis of the corporation in their capacities as corporate directors and officers.

[100] *See In re* Clearly Canadian Sec. Litig., Fed. Sec. L. Rep. (CCH) ¶ 90,664 (N.D. Cal. 1999); *In re* Seagate II Tech. Sec. Litig., 843 F. Supp. 1341, 1362-64 (N. D. Cal. 1994). Justice White, concurring in part and dissenting in part in *Basic, Inc. v. Levinson*, 485 U.S. 224, 262 (1988), was concerned that large judgments would result from the FOM " 'payable in the last analysis by innocent investors, for the benefit of speculators and their lawyers.' " *Basic*, 485 U.S. at 262 (White, J., concurring in part and dissenting in part).

[101] *See* Robert J. Stark, *Reexamining the Subordination of Investor Fraud Claims in Bankruptcy: A Critical Study of* In Re Granite Partners, L.P., 72 AM.

VIII. FRAUD ON THE MARKET

The fraud on the market theory ("FOM") is an ex ante presumption of how the major securities markets work. It purports to explain the paradox that people who have no direct personal contact with a securities fraud may nonetheless be indirectly harmed by that fraud. In effect, the market is the ox, or agent, of the victim communicating with the victim in the message of the market price. The FOM postulates that the price set by a large competitive market reflects all of the information material to deciding whether or not to invest.[102] By the criterion of the extant information regarding a given company, the market price of its securities best reflects the value of the security; there is no other or better gauge of its value. Hence, a class of the most ignorant investors—those who only knew the price—may be certified as having common issues under Rule 23 of the Federal Rules of Civil Procedure.[103] The FOM avoids the need for, and unique issues presented in, ex post analyses of how the investors were directly injured by the fraud.

FOM is used in actions brought under Securities and Exchange Commission Rule 10(b)-5,[104] promulgated under section 10(b) of the Securities and Exchange Act of 1934.[105] Typically, the action involves a class of purchasers of stock in the open market who have seen their shares plummet in value and claim they overpaid for their stock. Rule 10(b)-5, as interpreted by the courts, derives in significant part from the common law causes of action for misrepresentation and deceit.[106]

The common law cause of action for fraud or misrepresentation itself derives historically from the cause of action for deceit.[107] "Deceit is one of the more logically intricate torts. The plaintiff's own actions cause the

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BANKR. L. J. 497 (1998).

[102] *See* Daniel R. Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS. LAW. 1 (1982); Jonathan R. Macey & Geoffrey P. Miller, *Good Finance, Bad Economics: An Analysis of Fraud-on-the-Market Theory*, 42 STAN. L. REV. 1059 (1990).

[103] *See* FED. R. CIV. P. 23.

[104] 15 U.S.C. § 78j(b) (1994).

[105] Securities and Exchange Act of 1934 § 10(b), 15 U.S.C. 78j (1994). *See supra* note 7.

[106] *See* Basic, Inc. v. Levinson, 485 U.S. 224, 253 (1988) (White, J., concurring in part and dissenting in part).

[107] *See id.*; WILLIAM L. PROSSER, HANDBOOK OF THE LAW OF TORTS 685, 699 (4th ed. 1971).

plaintiff's injury. Recovery for self-inflicted injury [the decision to invest] is possible because the plaintiff alleges that his actions were in response to the defendant's false statement."[108] In the cause of action for deceit "[r]eliance provides the requisite causal connection between a defendant's misrepresentation and a plaintiff's injury."[109] But because reliance typically occurred in face-to-face transactions, the cause of action for deceit "has been colored to a considerable extent by the ethics of bargaining between distrustful adversaries."[110]

On the other hand, under the FOM, a plaintiff's loss arises from buying and selling shares in an impersonal marketplace;[111] that is, a market so large that buyers and sellers are anonymous and their motives remain hidden. Since the identity and motives of buyers and sellers are not known, the investor does not know why the person on the other side of the transaction is buying or selling. Moreover, under the FOM the plaintiff need never have read, seen, heard or even known of an item of information in order for it to have affected him. The market acted as an intermediary. The market performs in substantial part, if not entirely, the valuation process performed by the investor in a face-to-face transaction.[112] "The market is acting as the unpaid agent of the [uninformed] investor, informing him that given all the information available to it, the value of the stock is worth the market price."[113] Under the FOM "the market is interposed between"[114] the buyer and the source of information. Thus, under the FOM the plaintiff need not be directly harmed by the defendant. Rather, according to the theory, the

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[108] Nicholas L. Georgakopoulos, *Frauds, Markets, and Fraud-on-the-Market: The Tortured Transition of Justifiable Reliance from Deceit to Securities Fraud*, 49 U. MIAMI L. REV. 671, 711 (1995).

[109] *Basic*, 485 U.S. at 243.

[110] *Id.* at 244 n.21 (quoting W. PAGE KEETON ET AL., PROSSER & KEETON ON THE LAW OF TORTS 726 (5th ed. 1984)).

[111] *See id.* at 245, 247, 248, 255. I mention the element of market efficiency—that the market must be impersonal—mindful that a person is always considered muad, whether acting inadvertently or intentionally, whether awake or asleep. *See* BAVA KAMMA, *supra* note 5, at 2:6. This does not mean, however, that a large group of people, a crowd for example, are muad, i.e., that the crowd, to the extent it acts as a unit, acts with purposefulness, i.e., scienter. I am suggesting below that the impersonal workings of so large a crowd as is necessary to make a market efficient are more like the workings of an ox than an individual person.

[112] *See In re* LTV Sec. Litig., 88 F.R.D. 134, 142 (N.D. Tex. 1980) (*quoted in Basic*, 485 U.S. at 244).

[113] *Basic*, 485 U.S. at 244 (*quoting LTV*, 88 F.R.D. at 143).

[114] *Id.*

market absorbed any material misrepresentation. It was discounted in the share price through informed investors voting with their pocketbooks, and its impact was thereby reflected quantitatively in the price of the security. According to the theory, one would assume ex ante that a material misrepresentation should in some measure skew the share price causing the plaintiff to overpay for the securities.[115]

The FOM waters down[116] the standard for pleading and proof[117] by presuming the requirement at common law that the plaintiff have relied upon the defendant's misrepresentation or omission. Under the FOM the investor can simply join the crowd and uncritically accept the market price as the conventional wisdom and best judgment of the crowd as to the value of the security being purchased. The investor may abdicate to the market the responsibility to critically assess the information that enters the market place. Under the FOM, the investor is presumed ex ante to be justified in relying upon the market price to reflect a rational consensus of the value of securities (even though, of course, the market price may instead reflect "popular delusions and the madness of crowds"[118]).

While far from perfect, the ex ante presumption in the FOM regarding the normal conduct of investors and markets may be preferable to the practice that preceded it. Before the FOM, unsophisticated purchasers of a few hundred shares of stock or less would sometimes testify (seemingly falsely) ex post that they invested based upon relatively obscure portions of dull, lengthy and obscure documents that they recalled reading and relying upon before they made their investment.[119] By the criterion of

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[115] Of course, the opposite claim can be made, that one sold too cheaply. However, a seller claim is more common under *Meinhard v. Salmon*, 164 N.E. 545 (N.Y. 1928), corporate law principles than under Rule 10(b)-5.

[116] Justice White, concurring in part and dissenting in part in *Basic*, claims the FOM "eviscerates" the reliance requirement. *See Basic*, 485 U.S. at 258.

[117] Although called "fraud," a claim of securities fraud need only be proven by the negligence standard of a preponderance of the evidence, not the clear and convincing standard of common law fraud. *See* Herman & MacLean v. Huddleston, 459 U.S. 375, 387-88 (1983).

[118] CHARLES MACKAY, EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDS (1841); *see also* Paul Krugman, *Reckonings: A Leap in the Dark*, N.Y. TIMES, Jan. 5, 2000, at A21.

[119] Years ago I witnessed a proverbial little old lady, who had purchased a small amount of shares, testify at trial that she had done so based upon a particular contingent liability disclosure footnote in the company's financial statements audited by the defendant accountant. *See generally* Homer Kripke, *The Myth of the Informed Layman*, 28 BUS. LAW. 631 (1973). More commonly at that time

truthful testimony at least, the catechism of the FOM seems better in most cases than the post hoc explanations offered before.

IX. FRAUD ON THE MARKET AS A LIMITATION ON DAMAGES

Based upon the teaching of the GOR, the more indirect the causation, the lesser the recoverable damages. Thus, the indirectness of causation in FOM open market securities litigation should similarly result in the limiting of the recoverable damages. And indeed, the investor's total loss is not recoverable. In a face-to-face transaction involving direct causation, the investor may recover greater damages, such as disgorgement, rescission, restitution, benefit of the bargain or even (where provable) consequential damages. In the FOM, the measure of damages is "actual" or "out-of- pocket" damages[120] due to the fraud (in contradistinction to other causes), limited by the "bounce back" provisions of the Private Securities Litigation Reform Act ("PSLRA").[121]

The terms "actual" and "out-of-pocket," used in the FOM, are misnomers if they suggest full damages. Underlying the limitation of damages in the FOM is the notion that the investor assumes, and should not be compensated for, the investment risk inherent in the purchase of securities. Where the defendant sells shares to the plaintiff, greater damages are recoverable than in the case of the FOM where the plaintiff bought shares in the open market.

The very existence of a fund of "ill-gotten gain" may be ample justification for a rule of damages which shifts more of a plaintiff's investment risk to the defendant. Hence, plaintiffs might be treated differently in such a case depending upon whether or not they dealt with the defendant.[122]

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investors would claim they relied on prominent portions of documents, such as the proverbial "bottom line" of earnings per share and were not responsible for not reading other more obscure portions. They can no longer recover. Under the FOM the market is ex ante presumed to read, digest and discount all material information even if salted away in dull disclosure documents filed with the SEC that almost no one likes to, and few do, read.

[120] *See* Affiliated Ute Citizens v. United States, 406 U.S. 128, 155 (1972); Green v. Occidental Petro. Corp., 541 F.2d 1335 (9th Cir. 1976); *supra* note 64.

[121] Private Securities Litigation Reform Act of 1995, 15 U.S.C. § 78u-4 (1997); *see also* Jonathan C. Dickey & Marsha Kramer Mayer, *Effect on Rule 10b-5 Damages of the 1995 Private Securities Litigation Reform Act: A Forward-Looking Assessment*, 51 BUS. LAW. 1203 (1995).

[122] *See In re* Clearly Canadian Sec. Litig., Fed. Sec. L. Rep. (CCH) ¶ 90,664 (N.D. Cal. 1999).

The securities laws are not intended to be "a scheme of investor's insurance."[123] One investor's loss is another investor's gain. Judge Walker of the Northern District of California, a frequent critic of securities litigation, put the conundrum as follows:

> [T]he penalty imposed is not rationally related to the social harm inflicted. For every dollar taken from an "injured' investor that same dollar is put in another innocent investor's pocket: every dollar lost by an investor who pays an inflated price for a stock is gained by the investor who sold at the inflated price. The failure to incorporate this fact into the damage analysis results in a systematic over estimation of the social harm inflicted. Indeed, the out of pocket damage rule is not a damage rule at all. It is a wealth transfer formula whose impact is punitive in nature.[124]

This is the same conundrum that Judge Cardozo raised in the often-quoted passage from the grandfather case, *Ultramares Corp. v. Touche*.[125] If liability existed that exposed "in an indeterminate amount, for an indeterminate time to an indeterminate class . . . . [t]he hazards of a business conducted on these terms are so extreme as to enkindle doubt whether a flaw may not exist in the implication of a duty that exposes to these consequences."[126] In *Ultramares*, Judge Cardozo was concerned about an extreme disproportionality between the level of the defendant's culpable conduct and its consequences in damages chargeable to that defendant.[127]

This problem can be dealt with through apportionment of damages. The FOM theory may result in "strict liability, but the degree of the wrong-doer's exposure is limited to the precise impact of the challenged"[128]

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[123] Basic, Inc. v. Levinson, 485 U.S. 224, 252 (1988) (White, J., concurring in part and dissenting in part) (quoting Shores v. Sklar, 647 F.2d 462, 469 n.5 (5th Cir. 1981) (en banc)).

[124] *In re Clearly Canadian*, Fed. Sec. L. Rep. (CCH) ¶ 90,664.

[125] Ultramares Corp. v. Touche, 174 N.E. 441 (N.Y. 1931).

[126] *Id.* at 444.

[127] *See id.* at 448.

[128] Michael J. Kaufman, *The Uniform Rule of Liability Under the Federal Securities Laws: The Judicial Creation of a Comprehensive Scheme of Investor Insurance*, 63 TEMP. L. REV. 61, 62, 115 (1990). "The civil liability provisions of the federal securities laws reflect the competing desires to protect investors without creating *in terrorum* effects on legitimate commerce." *Id.* at 61. Strict liability, but damages limited to the price-value disparities created by the defendant's conduct, "is ultimately a prudent judicial compromise between the competing congressional policy goals of investor protection and fairness to defendants." *Id.* at 115; *see also*

conduct by the defendant on the price. Recoverable damages are the portion, if any, that a company's stock price was increased or decreased by the defendant's wrong, as opposed to other causes confounding the price. In practice, especially where the level of the defendant's culpable conduct is low (recklessness for example), the damages recoverable by the plaintiff are usually a fraction of the investor's total loss, on the theory that the plaintiff's loss was due in large part to other non-tortious confounding causes.[129] Because sensitive initial conditions along the causal chain, not the fault of the defendant, contribute to and cause the result, there will often be other non-tortious causes that contribute to the result where the injury is caused indirectly.

Particularly in a case where the corporate officers' conduct may have been symptomatic of aggressive and competitive conduct by corporate managers that usually benefits the corporation and most of its shareholders, the plaintiffs' recoverable losses should be, and in practice usually are, pared down. Corporations and their owners, particularly long-term owners, may prefer that the corporation employ more aggressive and competitive managers. The corporation may risk incurring liability for the "goring" of some investors' property, rather than employ less striving, more compliant managers. The notion is that it is better to risk litigation than have milk

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Theresa A. Gabaldon, *Causation, Courts, and Congress: A Study of Contradiction in the Federal Securities Laws*, 31 B.C. L. REV. 1027 (1990); Andrew L. Merritt, *A Consistent Model of Loss Causation in Securities Fraud Litigation: Suiting the Remedy to the Wrong*, 66 TEX. L. REV. 469 (1988) ("[A] majority of courts have restricted a defrauded purchaser's recovery . . . to the difference between the price paid for the security and the value of the security at the time of the initial transaction, even when subsequent economic forces deprive the plaintiff of the entire value of the security.") (The author is critical of this rule.); Simmonds et al., *supra* note 7.

[129] *See In re* Executive Telecard, 979 F. Supp. 1021 (S.D.N.Y. 1997) (noting that the expert's analysis failed to consider the effect on stock price of a proposed spin off of divisions despite his acknowledgement that there were significant shareholder concerns about the wisdom of the proposed spin off.); *see also In re* Oracle Sec. Litig., 829 F. Supp. 1176 (N.D. Cal. 1993); Shiller & Schmidt, Inc. v. Nordisco Corp., 969 F.2d 410, 415-16 (7th Cir. 1992) (stating, in the antitrust context, that an analysis that fails to separate damages due to unlawful conduct from those resulting from lawful competition "insults the intelligence." "Post hoc, ergo propter hoc will not do. . . ."); United States Football League v. National Football League, 842 F.2d 1335, 1378-79 (2d Cir. 1988); *In re* Aluminum Phosphate Antitrust Litig., 893 F. Supp. 1497, 1501-04 (D. Kan. 1995); Powers v. British Vita, 57 F.3d 176, 189 (2d Cir. 1995).

toast managers. Since damages are paid "from the body" of the corporation, the true litmus test is whether corporate managers on whose behalf substantial damages are paid in securities fraud litigation should be discharged from their employment for their alleged "fraudulent" conduct. The answer seems obvious. Even if the factual allegations were true, many of those sued in securities fraud class actions have been senior corporate executives from some of America's most successful companies.[130] Judging from the prices of the securities over the long haul of some of the corporations sued in securities litigation, their shareholders would almost certainly not have been better off if other corporate managers had been at the helm.

Indeed, in the PSLRA of 1995,[131] Congress recognized the calculation of damages is not merely the plaintiff's total loss. Congress noted there often are substantial disagreements among the parties regarding the amount of potentially recoverable damages.[132] One section of the PSLRA provides that the settling parties in a securities class action are required to provide the class members with a statement of the parties' disagreements pertaining to the average amount of damages per share that would be recoverable if the plaintiffs prevailed.[133] Similarly, § 78u-4(b)(4) explicitly provides that

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[130] *See, e.g., In re* Sun Microsystems, 1990 U.S. Dist. Lexis 18740 (N.D. Cal. 1990). Sun Microsystems had a loss for the fourth quarter of 1989. Its stock dropped from a high in the class period of $22.75 to $13.00. Based on prices at the end of 1999, class members, provided they had not sold their shares, have enjoyed a return of between roughly 50 to 80 times the price they paid for their shares.

[131] Private Securities Litigation Reform Act of 1995, 15 U.S.C. § 78u-4 (1999).

[132] *See* H.R. CONF. REP. No. 104-369, at 3 (1995), *reprinted in* 1995 U.S.C.C.A.N. 730.

[133] *See* 15 U.S.C. § 78u-4(a)(7)(B)(ii) (1999); *see also* Richard Bemporad, *A Practitioner's Guide to the Settlement Notice Provisions of the PSLRA*, 58 COMM. ON CORP. COUNS. NEWS L., Sept. 1999, at 10. Similarly, § 78u-4(b)(4) of the Private Securities Litigation Reform Act ("PSLRA") requires that the plaintiff prove loss causation. The first court of appeals to endorse the FOM thought "that the jury will be able to trace a graph delineating the actual value of the stock throughout the class period. When compared with a comparable graph of the price the stock sold at, the determination of damage will be a mechanical task for each class member." Blackie v. Barrack, 524 F.2d 891, 909 n.25 (9th Cir. 1975). A more recent analysis states that "[t]he difficulty in performing an accurate 'out of pocket' damage calculation is, in and of itself, cause to question the rationality of the 'out of pocket' measure of damages in open market cases." *In re* Clearly Canadian Sec. Litig., Fed. Sec. L. Rep. (CCH) ¶ 90,664 (N.D. Cal. 1999). Under current standards it is necessary to create multiple event studies for the various contributing causes and measure and plot the coefficient of responsiveness, that is, the sensitivity of the

the plaintiff must prove loss causation. In addition, under § 78u-4(f)(3)(ii) an apportionment of percentages of fault is required "of all persons who caused or contributed to the loss incurred by the plaintiff."[134]

X. DISPROPORTIONALITY OF CAUSES AND EFFECTS DUE TO INITIAL CONDITIONS

The FOM is based upon the efficient market hypothesis, an economic theory that gained popularity in the 1960s and 1970s.[135] Under this theory, securities prices in a large, efficient market should approximate the underlying fundamental value of the investment.[136] Using conventional statistics, namely the bell-shaped curve, stock price[137] changes are plotted allowing for market and industry effects. By convention, price movements more than two standard deviations from the norm are considered "abnormal," and therefore are statistically significant.[138] In trade jargon, significant stock price drops are termed "statistically significant excess negative abnormal returns."[139] Price movements of less than two standard deviations[140] are assumed due (since it cannot be ruled out statistically) to "noise" or ordinary volatility. Where a price change exceeds the threshold of two standard deviations, the entire price change is used in the measurement of damages, not just the amount by which the price drop exceeds the threshold of normal volatility or "noise."[141] Under the theory, an excess

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company's stock price to various causes. *See* Simmonds et al., *supra* note 7, at 163.

[134] 15 U.S.C. § 78u-4(f)(3)(ii) (1999).

[135] "[T]he semi-strong version of the Efficient Market Hypothesis . . . states that stock prices in an actively traded security reflect all publicly available information and respond quickly to new information. . . ." DAVID TABAK & FREDERICK C. DUNBAR, MATERIALITY AND MAGNITUDE: EVENT STUDIES IN THE COURTROOM 3 (National Econ. Research Assoc. Working Paper No. 34, 1999) (citing RICHARD A. BREALEY & STEWART C. MYERS, FUNDAMENTALS OF CORPORATE FINANCE 306 (1995)).

[136] *See id.*

[137] The correct terminology, of course, is not "price" but "return." There is no difference for companies that do not pay dividends. A return is merely the price adjusted for dividends and stock splits. *See* PHILIP L. COOLEY, BUSINESS FINANCIAL MANAGEMENT 561 (3d ed. 1994).

[138] For a primer on basic conventional methodology, see generally TABAK & DUNBAR, *supra* note 135.

[139] *Id.* at 4.

[140] *See id.* This represents a roughly 95% confidence interval. The probability is 19 to 1 that the price change was not due to mere volatility.

[141] *See id.* at 15-20.

negative abnormal return should be accompanied by "news"[142] which had a material impact[143] upon the fundamentals of the company. According to this methodology, after a large price drop pundits scurry about to ascribe the cause(s) on the assumption that there must be some significant cause where there seems to be an abnormal effect on prices.

Consistent with the Biblical association of damages by "horn" with damages that are abnormal, cases brought under the FOM have often been characterized chiefly by an abnormal stock price drop.[144] Such stock price

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[142] The term "news" is jargon for the announcement of some item of information previously unknown by the market. In the real world, news is what appears in newspapers or in press releases, which may or may not have been previously disclosed publicly. Unlike in the world of theoretical efficiency, even old news previously disclosed can move prices. *See* Susan Pulliam, *Internet Investors Start to Regard Press Releases on New Products as Reason to Send Stock Soaring*, WALL ST. J., Nov. 11, 1999, at C1 (writing that old news or unimportant news announced in press releases drives up stock prices).

[143] The theory supports the understanding that price changes within the band of two standard deviations might equally have been up or down. To be properly considered the band of volatility or noise should be measured only using days on which there was no firm-specific news, but this is rarely done as it involves time-consuming analysis. *See* TABAK & DUNBAR, *supra* note 135, at 8.

[144] Coefficients tend to be calculated by taking a block of time without separating one day from another, depending on the existence of news on particular days. In fact, an examination of prior sensitivities of prices to particular types of news may be revealing. *See* Simmonds et al., *supra* note 7, at 163. In addition, one should be leery of default assumptions; they lead mechanically to shoddy analysis. A prime example is the equal probability assumption of the proportionate decay model often used incorrectly in estimating the number of shares possessed by plaintiffs eligible to collect damages. *See, e.g., In re* Clearly Canadian, Sec. Litig. Fed. Sec. L. Rep. (CCH) ¶ 90,664 (N.D. Cal. 1999); Janet Cooper Alexander, *The Value of Bad News in Securities Class Actions*, 41 UCLA L. REV. 1421 (1994). Judge Sneed, in his influential concurring opinion in *Green v. Occidental Petroleum*, 541 F.2d 1335 (9th Cir. 1976), inveighed against "subjecting the wrongdoer to damages [based upon the magnitude of the drop in stock price] the incidence of which resembles that of natural disasters." *Id.* at 1344. This theme is found in what is perhaps Cicero's greatest oration: "Whereas if I had been obligated to make the same speech at that previous period, no one would have listened to me at all. It was not that the case was different then. Indeed, as I have said, it was precisely the same. But the times were entirely different." CICERO, MURDER TRIALS 169 (Michael Grant trans., 1990). "Some of them, as I shall show you, bore a closer resemblance to convulsions of nature, or hurricanes, than to processes at law." *Id.* at 175. "This was an excellent illustration of a frequently noted phenomenon. The sea is habitually calm; but under the impact of strong

drops measured by conventional statistical methodologies appear to be abnormal and statistically significant. However, while on most occasions stock prices stay within rough statistical norms, the market may exhibit abrupt, extreme conduct.[145] Moreover, these extreme price changes occur many times more frequently than a normal bell-shaped curve would predict.[146] The statistical curve that more accurately describes the amount by which market prices change does not taper down to insignificance at the beginning and the end of the curve. The curve has "fat tails."[147] Benoit Mandelbrot has termed these extreme market aberrations the "Noah effect" for extreme price discontinuity (prices may jump or fall enormously in an instant) and the "Joseph effect" for extreme price persistence (prices may stay at a certain level for a seemingly inordinately amount of time).[148] Although the bell-shaped curve is recognized as inaccurate, accuracy is sacrificed to tractability.

Ironically, the case of *Basic, Inc. v. Levinson*,[149] in which the Supreme Court decided to adopt FOM, was argued a few days after the stock market crash of 1987. The crash raised grave doubts regarding the theory of efficient markets because prices seemed to have dropped a very large amount without any comparably large change in business fundamentals or any significant news.[150] Since the crash, it has been increasingly appreciated that markets are not always proportional in the sense that a particular quantum of cause will not necessarily produce a proportionate quantum of effect. Occasionally, a small cause will appear to produce an apparently disproportionate result.[151] In an indirect causal sequence, a relatively minor

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winds it becomes rough and stormy. The people of Rome are just the same. When left to themselves, they are peaceful. But, the speech of a demagogue . . . can whip them up with the effect of a furious hurricane." *Id.* at 210.

[145] *See* Lawrence A. Cunningham, *From Random Walks to Chaotic Crashes: The Linear Genealogy of the Efficient Capital Market Hypothesis*, 62 GEO. WASH. L. REV. 546, 595 (1994) (Times of great plenty continued seemingly forever, only to change as abruptly as the seven fat cattle in Pharaoh's dream were devoured by the seven skinny. This was followed by times of extreme desolation and desperation, seemingly without end.).

[146] *See* Benoit B. Mandelbrot, *A Multifractal Walk down Wall Street*, SCI. AM., Feb. 1999, at 70.

[147] Simmonds et al., *supra* note 7, at 147 & n.78.

[148] *See* EDGAR E. PETERS, CHAOS AND ORDER IN THE CAPITAL MARKETS 108, 234 (1991) (explaining Mandelbrot's terminology).

[149] Basic, Inc. v. Levinson, 485 U.S. 224 (1988).

[150] *See* Baruch Lev & Meiring de Villiers, *Stock Price Crashes and 10b-5 Damages: A Legal, Economic, and Policy Analysis*, 47 STAN. L. REV. 7, 12 (1994).

[151] For a history of the efficient market hypothesis, see Cunningham, *supra* note 145.

securities "fraud" is a tam, or one in which the individual defendants did not act with a great deal of scienter (or fault). Normally, this should not be associated with a particularly significant price movement. If there is a seemingly disproportionate price movement, it should be due in large part to other confounding causes, including apparent abnormalities in the way the market prices the value of news due to varying initial conditions.[152]

The term "sensitive dependence on initial conditions" comes from chaos theory. It means that in a dynamic system, one which is non-linear and has three or more variables interacting, the effect that an event has will depend greatly on the specific conditions under which the event happens.[153] The proverbial example is the "straw that broke the camel's back." The straw, weighing less than an ounce, broke the back of the camel because of the condition of the camel's back; namely, it already bore an enormous weight at the time the straw was added. However, the example of the straw that broke the camel's back is extremely unusual; the camel's back had reached a critical breaking point. But as the causal chain lengthens, the disproportionality of causes and effects is much more common. The probability of disproportionate results multiplies as the number of events in the causal chain increases. This deviation (of the effect produced by a cause) from the linear, proportionate path is also known as "path dependence."[154] In other words, the particular path a cause takes will

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[152] An example of sensitive dependence upon initial conditions in the securities markets is that a stock, with a sky-high price earnings ratio can be sent plummeting to earth by a snippet of bad news.

[153] *See, e.g.*, Cunningham, *supra* note 145; Edward S. Adams et al., *At the End of* Palsgraf, *There is Chaos: An Assessment of Proximate Cause in Light of Chaos Theory*, 59 U. PITT. L. REV. 507 (1998).

[154] *See* Lucian Arye Bebchuk & Mark J. Roe, *A Theory of Path Dependence in Corporate Ownership and Governance*, 52 STAN. L. REV. 127 (1999); S.J. Liebowitz & Stephen E. Margolis, *Path Dependence, Lock-In, and History*, 11 J.L. ECON. & ORG. 205 (1995) (The article is critical of, but provides useful background regarding the theory of path dependence.). Note, if the chain of indirect causes are events, the probability of all of the events happening is the probability of each of the events multiplied by the others. Where each of the events are independent, then the probabilities are simply the product of the multiplication of each. However, the probabilities may be dependent or conditional. For example, the occurrence of event A may make the occurrence of event B more or less probable. An example of probabilities along a causal chain is a case of a plaintiff whose lawyer failed to obtain building permits. The plaintiff claims that if he had obtained the permits he would have built a stadium, teams would have played in the stadium, fans would have come, and he would have made a great deal of money. In a similar sequence, had the lawyer obtained a liquor permit the plaintiff would have leased the location

depend upon the resistance or encouragement the cause encounters along the chain of indirect causation. The cause is like a traveling billiard ball; the effect it produces depends on the path it takes. Where the sequence of causation is indirect, as in three billiard balls (A, B, and C) striking one another following a single pool shot, the effect of ball A on ball C, and indeed the path ball A takes after it first strikes ball B, is sensitively dependent on the precise position of ball B when ball A struck it. To make the example more realistic, also imagine that all three balls are moving and tugging at each other. From the perspective of the colliding balls, the effect is as much due to the trajectory of the striking ball as to the position and direction of the ball being struck. Thus, in a direct causal sequence where Able shoots and kills Baker, the causation seems, and indeed may be, obvious. But in an indirect causal sequence, for example, where Able told Baker, who told Connor, who told Don, who told Edgar, the effect on Edgar at the end of the causal chain may be quite different from the cause—Able's statement to Baker at the beginning. Moreover, in an indirect causal sequence the effect of a cause may be largely, if not entirely, unpredictable ex ante. One has to *parse* out the causes ex post.

The tam ox that gored was considered autonomous from its owner. So too the market is (or at least appears to be) autonomous from investors; the proverbial "invisible hand" of the market is at work. Although market prices should in theory reflect investors' consensus as to value, on occasion

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and opened a bar, patrons would have come, and the plaintiff would have made a great deal of money. In such instances, where the plaintiff seeks to recover consequential damages, the plaintiff's prior track record is important. Absent a track record such damages are too speculative and inappropriate. *See* Kenford Co. v. County of Erie, 493 N.E.2d 234 (N.Y. 1986); Brown v. Samolin & Bock, 168 A.D.2d 531 (N.Y. App. Div. 1990); Creative Inception, Inc. v. Andrews, 50 A.D.2d 553 (N.Y. App. Div. 1975).

This is demonstrated by the "want of a nail" fallacy. For want of a nail the shoe was lost. That may be probable. For want of a shoe the horse was lost. That may be probable. For want of a horse the rider was lost. That may be probable. For want of the rider the message was lost. That may be probable. For want of the message the battle was lost. That may be probable. For want of the battle the kingdom was lost. That may be probable. Yet even though each causal link is more probable than not, it is not probable that for want of a nail the kingdom was lost.

Assume that there are four independent subsequential causal links and the likelihood of each is slightly more than 50%. The joint probability of all occurring is roughly 6.25%, as follows:

$$\frac{50}{100} \times \frac{50}{100} \times \frac{50}{100} \times \frac{50}{100} = \frac{6.25}{100}$$

prices stray far from values.[155] The market will occasionally do things that investors do not intend to happen. These fluctuations seem abnormal and unexpected to investors. Therefore, while no one would dispute that the market is proverbially as "strong as an ox," some might feel that on occasion it appears as though it were proverbially as "dumb as an ox" as well. At best, the market's message is Delphic—the price and no more—and fickle to boot. The market does not say what to buy or sell or at what price. The market does not even reveal how many shares were bought at an inflated price. Since share velocity is unknown, even when the case on liability is lost by the defendant, the judgment will only be in the amount of mispricing per share (a few dollars or cents), not in the aggregate.[156] A per share rather than an aggregate judgment does not have to be bonded in order to pursue an appeal. After the first stage of the trial, there are further proceedings in which the owners of shares who are eligible to claim damages are invited to come forward to make a claim. In response to those who make a claim, the defendants have the right to attempt to rebut the presumption of reliance afforded by *Basic, Inc. v. Levinson*.[157]

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[155] An example was the 1998 bond crisis set off by the Russian default and the Long Term Capital Management near-default. *See* Alan Cowell, *And the Band Played On*, N.Y. TIMES, Mar. 12, 2000, § 3, at 5, col. 1 (reviewing NICHOLAS DUNBAR, INVENTING MONEY (1999)).

[156] The velocity of share turnover is important: Assume 100 million shares traded hands. Did 10 million shares turn over ten times, 20 million shares turn over five times, 50 million shares turn over twice, or 100 million shares turn over once? Damages are two, five, or ten times as much depending on the degree of last-in-first-out ("LIFO") or first-in-first-out ("FIFO") share turnover assumed (i.e., the degree to which one assumes the last share bought was the first share sold or the first share bought was the first share sold). Where the inflation band is increasing, as is typically the case, the higher the share velocity, the lower the number of damaged shares. The projected number of damaged shares in a high-velocity market is like Chichikov's serfs in Gogol's Dead Souls: truly invisible hands of the market for they do not exist! Indeed, assuming an increasing inflation band and extreme LIFO turnover, damages approach zero. Conversely, assuming a declining but highly volatile inflation band, when damages are measured at small intervals using an extreme FIFO turnover, damages approach infinity. Reality, gauged a variety of ways, tends to be closer to the former. Data of actual share ownership should be gathered and analyzed empirically and an appropriate multi-trader model used as well. *See* Andrew R. Simmonds, *Fraud-on-the-Market, The Quest for Mispricing and the Search for the Class—Is Any One Out There?*, *in* PRAC. L. INST. 1992 SECURITIES LITIG. Vol. 2 at 555; *see also* Kenneth R. Cone & James E. Laurence, *How Accurate are Estimates of Aggregate Damages in Securities Fraud Cases?*, 49 BUS. LAW. 505 (1994); Simmonds et al., *supra* note 7, at 132.

[157] Basic, Inc. v. Levinson, 485 U.S. 224 (1988).

Just as the microstructure of causation between the two oxen in the GOR was a mystery, for the most part the microstructure of the stock market has been a mystery as well.[158] Often, for various reasons, relatively few shareholders ever make claims. The lack of damaged shares (despite the enormous recorded volume of trades), the failure of eligible shareholders to receive or respond to claims notices, and the inherent disinterestedness of many shareholders in making claims acts as another de facto limitation on the exposure presented in securities litigation.

XI. A CASE IN POINT: THE NUMBERS GAME

Like oxen that herd or team together, the constituencies that make up the market also interact with each other on an ongoing basis. Where there is interaction, it is not just the defendant's misrepresentation that causes the market price to change by some amount; other forces within the market itself contribute to the change in price as well. It is not only the goring ox that is active; often the victim is also involved in the circumstances that led up to its death. Corporations and would-be investors in their shares interact indirectly through the market. The market does not necessarily merely relay information from a particular corporation to potential buyers of the corporation's securities. The parties on either end of the chain of causation act upon their set of information, such as it is.

A proverbial example is the situation where a company misses its earnings by only a penny,[159] yet its share price declines significantly. Indeed, earnings estimates do not have to be missed to trigger a deluge.[160] According to SEC Chairman Arthur Levitt, the cause of such anomalies is often the routine and widespread practice of corporations communicating

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[158] The "invisible hand" of the market in Adam Smith's time was compared to the engineer in the pit at a French opera who makes all the stage machinery work with wheels and movements, but is never seen. *See* IAN SIMPSON ROSS, THE LIFE OF ADAM SMITH 167 (1995).

[159] *See* Gretchen Morgenson, *Forecasts Made Rosy for Investors, But Results Are Sometimes Paler*, N.Y. TIMES, Dec. 21, 1999, at A1 ("A penny is not worth much nowadays except, oddly enough, on Wall Street. There, a penny a share in company earnings can mean the difference between a stock that soars and one that skids."); *see also* Francois Degeorge et al., *Earnings Management to Exceed Thresholds*, 72 J. BUS. 1 (1999).

[160] *See* Morgenson, *supra* note 159 ("Word from an influential analyst that [Qualcomm] would meet but not exceed earnings estimates sent the stock tumbling.").

with major investors and analysts "in a game of nods and winks."[161] This practice not only raises concern regarding "selective disclosure,"[162] but more pertinently indicates that the market creates both the message and the environment that gives the message its meaning. Fred Schwed put it best in his Wall Street classic, "Where Are the Customers' Yachts?": the market is composed of "thousands of erring humans, of various degrees of good will, solemnly engaged in the business of predicting the unpredictable."[163]

Analysts and other pundits are rewarded for correctly predicting the future, which in its most tangible form is the amount of the subject corporation's next earnings announcement. Quite naturally, in this uncertain endeavor they look to the company for "guidance." But critics, such as perennial accounting gadfly Abraham Briloff, "fault[ ] analysts for spending so much energy trying to predict quarterly earnings . . . inciting company managements to jump through hoops to make the numbers."[164] Moreover, due to the uncertainties of the business (such as "hockey sticking" of sales)[165] corporate managers cannot predict what their numbers will be until after, at the end, or close to the end of the quarter. Thus, analysts predict what the future number will be relying in part upon statements or hints from the company when both realize that the informa-

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[161] Arthur Levitt, Chairman, Securities and Exchange Commission, Remarks entitled "The 'Numbers Game'" delivered at the N.Y.U. Center for Law and Business (Sept. 28, 1999) (transcript available from the N.Y.U. Center for Law and Business). *See also* Carol J. Loomis et al., *Lies, Damned Lies, and Managed Earnings*, FORTUNE, Aug. 2, 1999, at 74; Gretchen Morgenson, *When a Rosy Picture Should Raise a Red Flag*, N.Y. TIMES, July 18, 1999, at 6.

[162] *See* Selective Disclosure and Insider Trading, Securities Act Release No. 7787, Exchange Act Release Act No. 42,259, 17 C.F.R. pts. 230, 240, 243, 249 (1999) (Dec. 20, 1999) (giving excellent background regarding selective disclosure to analysts); John C. Coffee, Jr., *Securities Law Selective disclosure*, NAT'L L.J., Mar. 11, 2000, at B5.

[163] FRED SCHWED, JR., WHERE ARE THE CUSTOMERS' YACHTS? 195 (1940).

[164] Thomas S. Mulligan, *Can You Trust the Numbers? SEC Turns Up the Heat*, L.A. TIMES, May 23, 1999, at C1. Abraham Briloff is a retired accounting professor at Baruch College of the City University of New York. *See id.*

[165] "Hockey sticking" refers to the appearance on a graph of sales figures during a quarterly accounting period. Sales levels remain flat until late in the quarter when they spike upwards. A disproportionate amount of the company's sales in each quarter occur late in the period, thereby reducing predicability. *See* Greg Ip, *Analyst Discovers Order in the Chaos of Huge Valuations for Internet Stocks*, WALL ST. J., Dec. 27, 1999, at C1.

tion they are giving and receiving is relatively unreliable and the exercise's only purpose is to drum up interest.

Naturally, where the criterion of success is to meet or beat expectations about earnings results, many corporations and their managers do just that. Purportedly, almost twenty percent of the recent corporate earnings reports followed by First Call came in at a penny over the analysts' consensus estimates.[166] Chairman Arthur Levitt regards the "Numbers Game" as an incentive for managers to "smooth" financial results, using such devices as "cookie jar" and "big bath"[167] accounting to create reserves for rainy days. Yet investors, judging from their investment decisions, do not seem to dislike "smoothing" until it abruptly stops.[168] They appear to like the predictability it provides. Of course, that some investors for a time liked "smoothing" does not mean that Chairman Levitt is incorrect in wanting Wall Street to change its longstanding ways. It does, however, elucidate the problems investors face in claiming to be victims of "fraud" when like soldiers, sailors, pirates, fishermen, cargo and ship owners, and owners of oxen, they are all in the venture together.[169] Much of the problem is the

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[166] *See* Gretchen Morgenson, *Market Watch; The Earnings Waltz: Is the Music Stopping?*, N.Y. TIMES, Oct. 24, 1999, § 3, at 1; John C. Bogle, Speech entitled "Viewpoint: Mutual Fund Investment Policies and Corporate Governance" Delivered at the Corporate Governance and Shareholders Rights Committee Meeting, The New York Society of Securities Analysts (Oct. 20, 1999).

[167] The "smoothing" of numbers refers to artificially making results of operations appear, from an accounting point of view, to be more uniform over time than they really are. "Cookie jar" accounting refers to maintaining hidden sources of money to take in as income from an accounting perspective as desired. "Big bath" accounting refers to taking large losses currently so as to make future operations appear more profitable. *See* Stephanie N. Mehta & Ann Grimes, *Gambits and Gadgets in the World of Technology*, WALL ST. J., Jan. 14, 1999, at B4.

[168] *See* Bogle, *supra* note 166 ("Louis V. Gerstner Jr., chairman of I.B.M., had been a master of the earnings game until last Thursday when he stunned investors with a 1 percent [sic] drop in hardware sales in the third quarter and forecast weakness in coming quarters. I.B.M. shares fell 15 percent." Analysts have been able to somehow predict the earnings of General Electric within 2% of actual results for the past 10 quarters in a row, an accuracy said to be a one-in-a-billion chance. "Wall Street clearly endorses the managed earnings that corparate America targets."); *see also* JOSHUA RONEN & SIMCHA SADAN, SMOOTHING INCOME NUMBERS: OBJECTIVES, MEANS, AND IMPLICATIONS (1981).

[169] *See* William O. Fisher, *The Analyst-Added Premium as a Defense in Open Market Securities Fraud Cases*, 53 BUS. LAW. 35 (1997) (arguing that when a company is not responsible for analysts' too-rosy forecasts, damages should be

market-wide charade that information has a greater predictive value than it really has. As Federal Reserve Chairman Greenspan put it, "[F]rom time to time . . . investors suffer an abrupt collapse of comprehension of, and confidence in, future economic events. . . . [T]his type of behavior has characterized human interaction with little appreciable difference over the generations. Whether Dutch tulip bulbs or Russian equities, the market price patterns remain much the same."[170] Sharp drops tend to occur when investors have placed extraordinarily high values on stocks. According to one pundit:

> Since investors buy growth stocks for what they will be earning many years later, a tiny change in outlook can have a drastic impact on the present value of the company's lifetime earnings. . . . [It is like] a piece of artillery aiming wrong by one degree. If the target is 10 feet away, it makes no difference. If the target is the moon, it will miss by thousands of miles.[171]

However, this logic is fallacious. It is probably naive to think that one can hit the moon, Jules Verne-style, by a well-aimed shot from the Earth. Presumably, adjustments to the course will be required along the way. The cause of a stock price drop in these circumstances is not solely the fault of management in misprojecting by a small amount. No great meaning should be ascribed to small or transitory differences.[172]

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reduced by the price inflation thereby caused).

[170] Alan Greenspan, Chairman, Federal Reserve Board, Remarks entitled "New Challenges for Monetary Policy" Delivered at a Symposium Sponsored by the Federal Reserve Bank of Kansas City in Jackson Hole, Wyoming (Aug. 27, 1999) (available at <http://www.bog.frb.fed.us/boarddocs/speeches/1999/19990827.htm>) (last updated Aug. 27, 1999).

[171] Greg Ip, *When Bad Things Happen to Big Firms: Volatility Now Rocks the Larger Stocks*, WALL ST. J., Oct. 22, 1999, at C1.

[172] A number of courts have found news objectively immaterial notwithstanding an accompanying large stock price drop. *See, e.g.*, Klein v. General Nutrition Cos., 186 F.3d 338 (3d Cir. 1999) (comparable same-store sales declined by 3% to 6% and price fell to $14.00; price had been $21.50 in a public offering less than four months earlier); Parnes v. Gateway 2000, Inc., 122 F.3d 539, 547 (8th Cir. 1997) (finding an overstatement of assets by 2% of net worth not material); Glassman v. Computervision Corp., 90 F.3d 617, 621, 633 & n.26 (1st Cir. 1996) (ruling a "minor drop of a few percent [between 3% and 9%] is not adequate to support the claim that the *difference* in backlog levels between quarters was material;" stock price fell 30% in one day); *In re* Convergent Tech. Sec. Litig., 948 F.2d 507, 511, 514 (9th Cir. 1991) (ruling a 10% quarterly revenue shortfall immaterial; stock

The SEC's response has been that if the market considers the immaterial (the proverbial "penny a share" miss) material, so will the SEC. Therefore, the SEC recently announced that auditors should not rely exclusively on quantitative benchmarks, particularly the well-known five percent test of materiality.[173] The SEC recognizes that objectively immaterial causes seem to cause disproportionate material consequences in securities prices. In the SEC's view, this should require heightened disclosure.[174] But, from a damages standpoint, this should not create responsibility for sensitive initial conditions that cause disproportionate causes and effects. For example, at the end of 1999, Cisco Systems, Inc. had a price to earnings ratio of more than 100, while Qualcomm, Inc. had a price to earnings ratio of more than 300![175] With such high valuations, a small surprise in earnings might start an avalanche in share value. Does that mean that the managers of these companies are obliged to gauge trends better than managers of companies with much lower price to earnings ratios? If the stock prices of the currently highflying internet "dot com" companies with enormous stock prices and scant earnings come tumbling down, as it has been widely predicted they will, who will be to blame? The GOR and FOM would suggest that, since the connection between information (both from the corporation and the market) and the demand for the corporation's stock is indirect and attenuated, not all of a severe decline in price that accompanies information entering the market should be recoverable as damages.

XII. CONCLUSION

The reminder of the Goring Ox Rule for the fraud on the market theory is that indirect causation produces disproportionate results.[176] Therefore,

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price declined 17% in two days.); Wenger v. Lumisys, Inc., 2 F. Supp.2d 1231,1238, 1248-49 (N.D. Cal. 1998) (holding an 8% quarterly revenue and 9% quarterly earnings shortfall immaterial; stock price had risen from $8 a share to $30 and then fell to $7); Shuster v. Symmetricom, Inc., 1997 WL 2694490 at *8 (N.D. Cal. 1997) (finding the alleged fraudulent transaction representing only 2% of quarterly revenue not material); *In re* Silicon Graphics, Inc. Sec. Litig., 970 F. Supp. 746, 750 (N.D. Cal. 1997) (holding a 5% quarterly revenue shortfall immaterial; stock declined from $45 to $22); Ferber v. Travelers Corp., 802 F. Supp. 698 (D. Conn. 1992) (concluding that a failure to disclose $585 million in second mortgages representing 1% of assets and 3% of real estate portfolio was immaterial).

173 *See* 1999 SEC STAFF ACCTG. BULLETIN.

174 *See id.*

175 *See* Greg Ip, *Older Internet Stocks Lose Spark, But Other Web Names Grab Torch*, WALL ST. J., Nov. 15, 1999, at C1.

176 *See* DAUBE, *Direct and Indirect Causation*, *supra* note 28.

scienter is inversely correlated to causation. The more indirect the causation, the more the unforeseen consequences that arise from one's acts, and the greater the culpable conduct needed to achieve one's goals. (Or conversely, the more direct the cause, the more certain the effects and the less culpable the conduct required.) Thus, where damages are indirectly caused, the lower the level of culpable conduct, all things being equal, the lower the resultant harm due to the wrong and the lower the causally related and recoverable damages.[177] A lesser amount of culpable conduct in securities litigation suggests a lower amount of causally related damages. Oftentimes, fraud is a dynamic process in which the malefactor, in communicating with the market, modifies his or her actions in response to investors' reaction to the market's reaction. In this situation the indicia of fraud are the communications back and forth between the malefactor and the market qua transmitter of information, and the investor and his "unpaid agent," the market qua valuer of information.

In our system of a relatively low standard for fault, a single instance of scienter may suffice to create liability (unlike the muad or "thrice-warned" standard of the GOR required for the imposition of full damages). Hence, as in the GOR, the rule of partial damages applies. Where the investor relies upon the market to be his "unpaid agent," the investor should absorb the portion of his "loss" ascribable to "his unpaid agent." It is because of the indirectness of causation in FOM securities litigation that a rule of splitting the loss or lesser recovery is appropriate. This can occur by an apportionment of the investor's loss among the various causes that contributed to it and only awarding in damages that portion attributable to the defendant's actions.

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[177] *See id.*