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Ryan Shannon
University of Michigan Law School

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THE “ENLIGHTENED BARBARITY”[†] OF INCLUSIVE
FITNESS AND WRONGFUL DEATH: BIOLOGICAL
JUSTIFICATIONS FOR AN INVESTMENT THEORY
OF LOSS IN *WYCKO V. GNODTKE*

Ryan Shannon*

Wrongful death laws should permit and encourage courts and juries to consider the survivors' investment in decedents when determining wrongful death damages, given new biological justifications for this theory of loss. The investment theory of damages, which permits an award of damages based on the investment of financial resources relatives make in one another, originated in Michigan's courts in the early 1960s, but as of present day has been largely abrogated. In the context of modern understandings of evolutionary biology, including kin selection theory and sociobiology, the investment theory of recovery accords with the goals of corrective justice as it restores plaintiffs to the resource state they were in prior to making an investment in the decedent and enables plaintiffs to reinvest those same resources in other relatives to recoup lost fitness.

INTRODUCTION

In 1960, the Michigan Supreme Court adopted a novel theory of recovery for survivors in wrongful death actions—the investment theory of recovery—which permitted parents to recover the money spent raising a child to the age of his or her death.¹ While the opinion was heralded² as a major break with the Victorian Era

[†] Powers v. City of Troy, 156 N.W.2d 530, 534 (Mich. 1968) (criticizing an investment theory of recovery).

* University of Michigan Law School, J.D. expected 2010; Michigan State University, B.A. 2003. The author is grateful to Ashley Thompson, Julia Finkel, Margia Corner, and the *University of Michigan Journal of Law Reform* Notes Office and editorial staff for their excellent research and editorial work. The author would also like to thank Jill Rauh and the staff of the Benton Harbor Library for their thorough assistance with locating and parsing primary materials. The author is also grateful to Janet Shannon and the State of Michigan Library for their research assistance.

1. Wycko v. Gnodtke, 105 N.W.2d 118 (Mich. 1960).

2. See, e.g., Blair *ex rel.* Brown v. Califano, 650 F.2d 840, 843 (6th Cir. 1981); Elliott v. Willis, 442 N.E.2d 163, 168 (Ill. 1982); Boland v. Greer, 422 N.E.2d 1236, 1237 (Ind. 1981) (Hunter, J., dissenting to denial of transfer); Wardlow v. Keokuk, 190 N.W.2d 439, 449 (Iowa 1971) (Stuart, J., dissenting); Fussner v. Andert, 113 N.W.2d 355, 359 n.9 (Minn. 1961); Dawson v. Hill & Hill Truck Lines, 671 P.2d 589, 591 (Mont. 1983); Siciliano v. Capitol City Shows, Inc., 475 A.2d 19, 26–27 (N.H. 1984) (Douglas, J., dissenting); Green v. Bittner, 424 A.2d 210, 214 (N.J. 1980); Gary v. Schwartz, 339 N.Y.S.2d 39, 45 (Sup. Ct. 1972); Hopkins v. McBane, 427 N.W.2d 85, 90 (N.D. 1988); Keaton v. Ribbeck, 391 N.E.2d 307, 310 (Ohio 1979); Anderson v. Lale, 216 N.W.2d 152, 156 (S.D. 1974) (describing *Wycko* as “landmark”); Clymer v. Webster, 596 A.2d 905, 913 (Vt. 1991).

conception of a child's value, which was based primarily on the child's labor and monetary contributions, courts outside of Michigan almost universally rejected the investment theory.³ Even in Michigan, the theory had been largely abandoned by the early part of the 1970s.⁴

Since the Michigan Supreme Court's decision in *Wycko v. Gnodtke* in 1960, there have been considerable advances in the science of family behavioral psychology.⁵ Kin selection theory and the related notions of inclusive fitness and intra-species altruism give biological context to the investment human beings make in one another.⁶ Moreover, the rising, though controversial, synthesis between law and biology offers reasons for adopting laws that comport with basic biological principles.⁷

This Note argues that wrongful death laws should permit and encourage courts and juries to consider the survivors' investment in decedents when determining wrongful death damages, and proposes a new biological justification for this theory of loss. Part I describes the history of wrongful death recovery and the origin and development of the investment theory of damages in Michigan in 1960. Part II demonstrates and develops the proposed reform and identifies limitations to a theory of recovery based on lost investment. Part III argues that the investment theory of reform, when set in the context of modern understandings of evolutionary biology and human behavior, is in accordance with the goals of corrective justice. Part IV describes recent scholarship in the inte-

3. See, e.g., *Dugas v. Nat'l Aircraft Co.*, 310 F. Supp. 21, 28 (E.D. Pa. 1970) ("Michigan stands alone in its adoption of the theory that pecuniary loss includes the loss of the investment in the child as one of its elements."); *Kogul v. Sonheim*, 372 P.2d 731, 732-33 (Colo. 1962) ("In spite of [*Wycko v. Gnodtke*], we have but recently approved [the net pecuniary loss rule], and no good purpose would be served by an extended discussion here." (citations omitted)); *Jones v. Carvell*, 641 P.2d 105, 108-11 (Utah 1982) (rejecting not only the loss of investment theory, but also a loss of opportunity theory advanced by the mother-plaintiff, who claimed she might have worked had she not spent time raising her child); *Danculovich v. Brown*, 593 P.2d 187, 196 (Wyo. 1979) (expressing concern that rich families can invest more money in children than poor families, but both experience similar emotional loss). *But see Shondel v. McDermott*, 775 F.2d 859, 863 (7th Cir. 1985) (stating in dicta that "[i]f a child is killed, a minimum estimate of the loss to the parents can be based on the time and money that the parents expended on raising the child; they would not have incurred these costs had they not anticipated offsetting benefits.").

4. See *D'Ambra v. United States*, 481 F.2d 14, 20 n.14 (1st Cir. 1973).

5. See generally Catherine A. Salmon & Todd K. Shackelford, *Toward an Evolutionary Psychology of the Family*, in *FAMILY RELATIONSHIPS: AN EVOLUTIONARY PERSPECTIVE* 3 (Catherine A. Salmon & Todd K. Shackelford eds., 2007); discussion *infra* Part III.A.

6. See discussion *infra* Parts III.A, IV.A.

7. See, e.g., Owen D. Jones & Timothy H. Goldsmith, *Law and Behavioral Biology*, 105 COLUM. L. REV. 405 (2005).

gration of law and biology, which advocates for the adoption of laws attuned to human behavior.

I. A BRIEF HISTORY OF THE EMERGENCE OF INVESTMENT THEORY IN WRONGFUL DEATH ACTIONS

A. *Wycko v. Gnodtke*⁸

On the evening of August 26, 1957, John Wycko, Jr., his younger brother, Robert, and three other members of their Boy Scout troop walked alongside California Road just outside of New Troy, Michigan.⁹ The five members of the newly formed Troop No. 55 had just been dismissed from an evening meeting at the New Troy firehouse and, early the next morning, the troop had plans to go to Camp Wilderness, just down the road in Berrien County.¹⁰ Situated at the Southwestern-most edge of Michigan's Lower Peninsula, Berrien County's sandy soils and lakeside climate created the perfect environment for fruit farms,¹¹ and John Wycko, Jr. spent many of his summers picking berries with his brother on his father's farm.¹² But on this night, John was with friends, looking forward to a late-summer camping trip.

That evening marked the first time since the creation of the troop that John and Robert Wycko had not received a ride home.¹³ During their two-mile trek, a car traveling in excess of fifty miles-per-hour clipped both brothers; the driver did not stop.¹⁴ John died before reaching the nearest hospital, and Robert died shortly afterwards.¹⁵ The two boys were the only children of John Wycko, Sr. and his wife.¹⁶ Two hours after the accident, the driver, a seventeen-year-old farm boy named Armand Gnodtke, walked into the Berrien County Jail and surrendered to the sheriff on the advice of his older brother.¹⁷ He had not seen the children walking alongside the road that night, and after he hit them he considered stopping,

8. 105 N.W.2d 118 (Mich. 1960).

9. *Hit-Run Killer of 2 Gives Up!*, THE NEWS-PALLADIUM, Aug. 27, 1957, at 1.

10. *Id.*

11. See LEW A. CHASE, RURAL MICHIGAN 206-07 (1922).

12. *Wycko*, 105 N.W.2d at 125.

13. *Hit-Run Killer of 2 Gives Up!*, *supra* note 9.

14. *Id.*

15. *Id.*

16. *Id.* Mrs. Wycko's first name does not appear in the published case materials, nor in the newspaper stories regarding the loss of her sons.

17. *Id.*

but instead drove home, explaining the damage to the car by telling his parents he had collided with a post.¹⁸

John Wycko, Sr. sued Gnodtke for damages resulting from his sons' deaths. At the trial for John, Jr., the jury heard John, Sr., testify that his son was dependable and trustworthy, and that, like many teens in rural America, he was a valuable worker on the family farm.¹⁹ Wycko's counsel asked the trial judge to instruct the jury to consider "[t]he investment of the parents in their child from the time of his birth"²⁰ The trial judge refused to give this instruction.²¹ The jury awarded John Wycko, Sr. \$14,000 in damages, plus \$979.50 "for funeral and burial expenses."²² The trial judge determined that the damages awarded were excessive and nearly double what a fourteen-year-old could have earned. As a result, he ordered a new trial unless John Wycko, Sr. remitted \$6,500 of the verdict amount.²³

Four years earlier, the Michigan Supreme Court had settled upon a calculus for determining damages in wrongful death cases involving minors. In *Courtney v. Apple*,²⁴ a case involving the death of a toddler in an automobile accident, the Michigan Supreme Court determined that damages in wrongful death actions involving minors should be based on "[t]he difference between probably contributed earnings, during minority, to a parent, and the cost of maintaining and educating such child until majority."²⁵ Now, in *Wycko*, the court faced a case where the jury had made a determination out of line with that formula, and the justices had a chance to do away with the "[u]nreal nature of the computation"²⁶

Justice Talbot Smith, who had vigorously dissented four years earlier in *Courtney*,²⁷ first reviewed the background of wrongful death statutes. He started with Lord Campbell's Act,²⁸ which provided for "such damages as [the jury] may think proportioned to

18. *Id.*

19. *Wycko v. Gnodtke*, 105 N.W.2d 118, 125 (Mich. 1960).

20. *Id.* at 124.

21. *Id.*

22. *Id.* at 119.

23. *Id.*

24. 76 N.W.2d 80 (Mich. 1956).

25. *Id.* at 84.

26. *Wycko*, 105 N.W.2d at 119 (citing *Courtney v. Apple*, 76 N.W.2d 80, 87-98 (Smith, J., dissenting)).

27. *Courtney*, 76 N.W.2d at 87-98.

28. Fatal Accidents Act, 1846, 9 & 10 Vict., c. 93 (Eng.); *Wycko*, 105 N.W.2d at 119. For a more thorough background on wrongful death statutes, see Stuart M. Speiser & Stuart S. Malawar, *An American Tragedy: Damages for Mental Anguish of Bereaved Relatives in Wrongful Death Actions*, 51 TUL. L. REV. 1, 5-8, 17-32 (1976).

the injury resulting from such death."²⁹ Nonetheless, early case law in the United Kingdom³⁰ and the mirror statutes enacted by most states, including Michigan, initially limited recovery to pecuniary damages under the pecuniary loss rule.³¹ The pecuniary loss rule does not recognize mental anguish or the emotional ties between family members; instead, the rule dictates that "[w]rongful death damages are measured by the financial contributions . . . that the decedent could have been expected to make to his survivors had he lived, minus his personal consumption expenses."³²

Next, Justice Smith reviewed Victorian-era case law demonstrating the pecuniary loss rule's effect. Essentially, parent-plaintiffs could recover if their children worked in factories and would have returned home with wages.³³ Justice Smith observed that the underlying justification for this model of compensation had weakened with the change in the social and economic status of children:

The rulings reflect the philosophy of the times It was the generation of the debtor's prisons, of some 200 or more capital offenses, and of the public flogging of women. It was an era when ample work could be found for the agile bodies and nimble fingers of small children. Defoe's England was not long past.³⁴

Calling the lost wages analysis "barbarous" and stating that the notion that it "[s]hould control our decisions today" was a "[r]eproach to justice," Justice Smith rejected "[t]his remote and repulsive backwash of time and civilization."³⁵

Instead, Justice Smith sought an analysis that would compensate Mr. Wycko, and other parent-plaintiffs for the "[p]ecuniary value of a human life"³⁶ Noting that judges and philosophers have struggled with the "repugnance"³⁷ of assigning monetary value to a

29. Fatal Accidents Act § 2.

30. See, e.g., *Blake v. Midland Ry. Co.*, 18 Q.B. 93 (1852).

31. *Wycko*, 105 N.W.2d at 119; Speiser & Malawar, *supra* note 28, at 2–7. Speiser and Malawar also discuss the doctrine of solatium, which awards losses to family members for grief from wrongful death, regardless of pecuniary loss, and has been followed in Scotland since before the Fatal Accidents Act.

32. Andrew J. McClurg, *Dead Sorrow: A Story About Loss and a New Theory of Wrongful Death Damages*, 85 B.U. L. REV. 1, 20 (2005) (citing W. PAGE KEETON ET AL., PROSSER & KEETON ON TORTS § 127, at 949–50 (5th ed. 1984)).

33. *Wycko*, 105 N.W.2d at 120; *Duckworth v. Johnson*, (1859) 4 H. & N. 653, 157 Eng. Rep. 997 (Exch.); *Bramall v. Lees*, (1857) 29 L.T.O.S. 111 (Exch.).

34. *Wycko*, 105 N.W.2d at 120 (citation omitted).

35. *Id.* at 121.

36. *Id.* at 122.

37. *Id.* at 122 n.22 (quoting *Hyatt v. Adams*, 16 Mich. 180, 191–92 (1867)).

human life, Justice Smith nonetheless recognized the duty of the court to devise a remedy:

The pecuniary value of a human life is a compound of many elements. . . . [W]e must consider the expenses of birth, of food, of clothing, of medicines, of instruction, of nurture and shelter. . . . [A]n individual member of a family has a value to others as part of a functioning social and economic unit. This value is the value of mutual society and protection, in a word, companionship. . . . [I]t is not the privilege of him whose wrongful act caused the loss to hide behind the uncertainties inherent in the very situation his wrong has created.³⁸

The Michigan Supreme Court reinstated the original jury verdict of \$14,000, reversing the order granting a new trial subject to remittitur.³⁹ With its decision in *Wycko*, the Michigan Supreme Court became the first state supreme court to approve of the “investment theory” of damages for the wrongful death of a child.

B. The Reception, Modification, and Partial Rejection of Wycko

Nine months before *Wycko*, the Michigan Supreme Court’s holding in *Elliott v. A.J. Smith Contracting Co.*⁴⁰ may have foreshadowed the court’s adoption of the investment theory of recovery.⁴¹ In *Elliott*, the court reviewed an award of \$20,000 to the family of a five year-old, who was struck while crossing the street by the defendant’s truck.⁴² In upholding the award, the court reviewed the appropriateness of statements made by the plaintiff’s counsel, which were laden with Biblical references about the value of a single life.⁴³ Justice Talbot Smith, who wrote the majority opinions in both *Wycko* and *Elliott*, stated:

38. *Wycko*, 105 N.W.2d at 122–23.

39. *Id.* at 123.

40. 100 N.W.2d 257 (Mich. 1960).

41. In 1965, Justice Paul Adams noted that Justice Talbot Smith had started the Court’s retreat from the pure form of the pecuniary loss rule in Smith’s dissent in *Courtney v. Apple*, 76 N.W.2d 80, 87 (Mich. 1956), when Smith “recoiled” from the notion “[t]hat the value of the life of a child or of any human being is such that there can be a recovery for funeral expenses and nothing more.” *Currie v. Fiting*, 134 N.W.2d 611, 612–13 (Mich. 1965).

42. 100 N.W.2d at 259.

43. *Id.* at 269 (Kelly, J., dissenting) (quoting the Bible and alluding to the coming holiday of Good Friday).

What, in dollars, was the value of the life of this boy? Counsel's opening words, in the paragraphs complained of, spoke of his reluctance to discuss the value of life in these terms. "Now," he said, "I must needs [sic] come to the question of money." His approach to the value of the life of a child was couched entirely in biblical terms. . . . He could, of course, have argued strictly in monetary, in budgetary, terms. A child eats so much per day. He gets sick and must be treated and nursed. He goes to school and must have books. Upon reflection, however, are not all those expense items? Is there, in truth, any money *damage* suffered?⁴⁴

It is apparent from Justice Smith's opinion in *Elliott* that he was developing an investment theory in the months leading up to *Wycko*. While in *Elliott* he questioned whether expenditures made on food, nursing, medicine, and education were merely "expense items," in *Wycko*, Justice Smith cast these same costs ("[t]he expenses of . . . food, . . . of medicines, of instruction, of nurture and shelter") as components of "[t]he pecuniary value of a human life."⁴⁵ In both cases, Justice Smith's opinion won the support of five of the court's eight justices, and a switch of one vote in either instance potentially would have prevented the investment theory from reaching the light of day. Opening the way for the court to limit the application of his theory, Justice Smith retired in 1961, shortly after authoring *Wycko*.⁴⁶

The Michigan Supreme Court did not review the investment theory again until 1965.⁴⁷ In *Wilson v. Modern Mobile Homes, Inc.*, a jury found a trailer manufacturer negligent and awarded Harold Wilson \$25,000 after his ten-year-old daughter, Jean Anne, was electrocuted while crawling underneath a camping trailer to

44. *Id.* at 264.

45. 105 N.W.2d at 122–23.

46. Michigan Supreme Court Historical Society, Talbot Smith, <http://www.micourthistory.org/bios.php?id=83> (on file with the University of Michigan Journal of Law Reform).

47. *See* *Wilson v. Modern Mobile Homes, Inc.*, 137 N.W.2d 144 (Mich. 1965); *Reisig v. Klusendorf*, 134 N.W.2d 634 (Mich. 1965); *see also* *Currie v. Fiting*, 134 N.W.2d 611 (Mich. 1965) (affirming damages for companionship but not addressing recovery of lost investment). The Colorado Supreme Court was the first outside of Michigan to review a similar theory of recovery after Michigan's adoption in *Wycko*, though in that case, the investment theory was rejected. *Kogul v. Sonheim*, 372 P.2d 731, 732 (Colo. 1962) (rejecting plaintiff's theory that damages should be "[t]he replacement value of the child as measured by the cost of infantile hospitalization and care, clothing, support and education up to the time of the child's death").

retrieve a ball.⁴⁸ The trial judge gave instructions in line with the holding in *Wycko*:

[Y]ou must consider the money value of the life of Jean Anne Wilson. . . . [Y]ou cannot shirk this difficult problem of evaluation. . . . The money, life—value of a human life is a compound of many elements. . . . [Y]ou must consider the expense of birth, of food, of clothing, of medicines, of instructions, or nurture and shelter. And it is for that reason the court has permitted the plaintiff to testify as to the cost of bringing up the child from birth up to the age of ten years old at the time of her death, and also as to the care that has been given to this child. Moreover, . . . an individual member of a family has a value to others as part of a functioning social and economic unit.⁴⁹

The defendant appealed, asking that the court overrule *Wycko* and instead use a valuation of damages “requir[ing] deduction of the companionship, society and comfort received during the lifetime of the decedent, as well as the cost of procuring the companionship [from the value of total potential companionship].”⁵⁰ Instead, the court reaffirmed the holding of *Wycko*, concluding that “[a] parent may properly recover the cost of the acquisition of such society and comfort, and a jury is capable of ascertaining such damages”⁵¹ *Wilson* offered an example of a trial where the parent-plaintiffs were permitted to testify as to their investments in their child, and the jury was permitted to consider these investments when determining damages. It was, however, the high water mark of the investment theory.

Just as in *Wycko*, and *Elliott* before it, the court’s eight justices split five to three in upholding the award; the decision in *Wilson*, however, generated five separate opinions.⁵² The court’s most junior justice, Justice Michael O’Hara,⁵³ concurred in upholding the award, but wrote that he agreed “[t]hat *Wycko* be reconsidered as suggested by Mr. Justice Kelly and Mr. Justice Black.”⁵⁴ Black dis-

48. 137 N.W.2d at 144–46.

49. *Id.* at 149–50.

50. *Id.* at 146–47.

51. *Id.* at 147.

52. *Id.* at 144.

53. *Wilson* was decided in October 1965. Justice O’Hara had been the deciding vote in a case in May of that year that upheld a jury award on similar grounds, though the court did not expressly use *Wycko*’s investment theory. *Currie v. Fiting*, 134 N.W.2d 611 (Mich. 1965).

54. 137 N.W.2d at 149. In *Reisig v. Klusendorf*, which the Michigan Supreme Court decided in May 1965, Justices Kelly and Dethmers expressed in their dissent that the time had

sented, noting that "*Wycko* has grown since it was handed down to bizarre if not monstrous proportions," and that, in deciding *Wycko*, the court had not predicted a final argument of the type given to the jury.⁵⁵

Over the latter half of the decade, the Michigan Supreme Court expressed doubt over the future of the investment theory, though the theory was unaffected in its application by lower courts. In 1968, the court considered whether Michigan's wrongful death statute allowed recovery for the death of a stillborn fetus.⁵⁶ Seven justices agreed that it did not.⁵⁷ Justice Brennan, who had joined the court as its newest member in 1967, wrote an excoriating concurrence in which he lambasted *Wycko* as "[e]nlightened barbarity" since it sought to reduce the value of human life to the same level as farm animals or machinery.⁵⁸ The following year, however, the Michigan Court of Appeals nevertheless upheld a wrongful death award of \$4,000 to surviving parents for "[t]he loss of investment for the five years and seven months during which" their son lived.⁵⁹

The 1970s marked a sea change in wrongful death damages calculations in Michigan.⁶⁰ First, in March 1970, the Michigan Supreme Court decided *Breckon v. Franklin Fuel Company*, which overturned *Wycko* in part, holding that Michigan's wrongful death statute⁶¹ did not permit recovery for the loss of companionship.⁶² Instead, the court in *Breckon* determined that the statute permitted recovery for only pecuniary injuries and an enumerated list of non-pecuniary losses.⁶³ This holding, however, did not prevent the Michigan Court of Appeals from remanding a case for a

come to review *Wycko* because "only five of the present Court were members in 1961 when *Wycko* was decided, three of those five signing the majority opinion and two the dissenting opinion." 134 N.W.2d 634, 636 (Mich. 1965).

55. 137 N.W.2d at 150–51.

56. *Powers v. City of Troy*, 156 N.W.2d 530 (Mich. 1968) (interpreting MICH. COMP. LAWS §§ 691.581–583 (1948), *superseded by statute*, Revised Judicature Act of 1961, § 2922, 1961 Mich. Pub. Acts 416, 522).

57. *Powers*, 156 N.W.2d at 530.

58. *Id.* at 534 (Brennan, J., concurring) ("The majority in *Wycko* tell us, though without citation of judicial authority, finding by the jury, or even reference to sociological handbooks, that companionship is obtainable on the open market. If it be so in Lansing or Ann Arbor, or even in certain sections of Detroit, it is not a commodity generally bought and sold by the citizens of Michigan.").

59. *Estate of Dauer v. Zabel*, 172 N.W.2d 701, 709–10 (Mich. Ct. App. 1969).

60. Note that even as Michigan's wrongful death laws were reformed, Pennsylvania's federal courts were rejecting investment theory.

61. MICH. COMP. LAWS §§ 691.581–583 (1948).

62. *Breckon v. Franklin Fuel Co.*, 174 N.W.2d 836, 840–41 (Mich. 1970).

63. *Id.* The enumerated losses in Michigan's wrongful death statute then included "reasonable compensation for the pain and suffering, while conscious, undergone by [the] deceased" and "reasonable medical, hospital, funeral and burial expenses." MICH. COMP. LAWS § 691.582 (1948).

determination of damages in line with *Wycko*'s investment theory later that same year.⁶⁴ Furthermore, *Breckon* spurred the Michigan State Legislature to amend the state's wrongful death statute in 1971 to explicitly allow for recovery for the loss of companionship.⁶⁵ Shortly thereafter, the Michigan Court of Appeals determined that the investment theory of *Wycko* was unaffected by the decision in *Breckon*, characterizing the measure of loss not as companionship, but rather as the pecuniary cost of acquiring the companionship of the decedent.⁶⁶ Conceivably, under the 1971 amendment a parent-plaintiff could simultaneously pursue recovery under both the investment theory for pecuniary loss and the statute for the non-pecuniary loss of companionship. This has not been the case: plaintiffs and courts have adopted companionship as the dominant rubric for analyzing loss in wrongful death actions. As the First Circuit noted in *D'Ambra v. United States*:⁶⁷

Wycko has not been followed, to our knowledge, in other jurisdictions as to the "lost investment" theory; in fact, the emphasis in Michigan has been more on the loss of society and companionship . . . which we adopt herein. Moreover, to the extent that a proper balance might be struck by a minimum recovery (to assure a recovery for the loss of a very young child) supplemented by proof of "lost investment" such a resolution is particularly within the province of the legislature.⁶⁸

II. THE PROPOSED REFORM

This Note proposes that state legislatures should amend wrongful death statutes to explicitly adopt the loss of investment theory of recovery for wrongful death actions. The investment theory of

64. *Haupt v. Yale Rubber Co.*, 185 N.W.2d 161, 163 (Mich. Ct. App. 1970) (overturning a jury award of \$40,000 for the wrongful death of a seven-year-old as inconsistent with the record and stating that "[u]pon remand, some of the relevant factors to be considered in determining pecuniary loss include, but are not limited to, the following: Expenses of birth, of food, of clothing, of medicine, of instruction, of nurture, of care and shelter, and loss of services.").

65. Act of July 28, 1971, No. 65, 1971 Mich. Pub. Acts 111-12; *Estate of Scott v. Burger King Corp.*, 291 N.W.2d 174, 177-78 (Mich. Ct. App. 1980) ("The 1971 amendment to the act expressly added loss of society and companionship to the items of damages, thereby enacting the case law that had begun with *Wycko*, which had interpreted 'pecuniary loss' to include companionship." (citation omitted)).

66. *Rohm v. Stroud*, 192 N.W.2d 388, 389 & n.1 (Mich. Ct. App. 1971).

67. 481 F.2d 14 (1st Cir. 1973).

68. *Id.* at 20 n.14 (citation omitted).

recovery, as that term is used in this Note, provides a system of determining and awarding damages to survivors based on their investment in the decedent. In order to recover the investment, this theory requires merely that survivors present evidence of their expenditures—the financial resources—that they devoted to the decedent. Justice Smith's formulation is a part of this definition, and proposes that this value is a proxy for the value of the lost pieces of survivors' "functioning social and economic unit," and a proxy for their lost companionship. Rather than present jurors or judges with the task of a nebulous determination under the rubric of lost companionship, the investment theory instead presents a simple and straightforward formula for fixing the damages of surviving relatives.

The adoption of the investment theory of recovery can be effected either by a legislative overhaul of states' wrongful death statutes, or by an expanded interpretation of an already enumerated form of damage calculation. The Michigan Supreme Court's determination that the loss of parental investment was a type of "pecuniary injury" in *Wycko* is an example of the latter, as Justice Smith explicitly noted that *Wycko* was "[r]estricting the losses to pecuniary losses, the actual money value of the life of the child"⁶⁹ The Michigan Supreme Court, however, struggled with this interpretation for years, even in the face of legislative silence.⁷⁰ Naturally, narrow statutes require plaintiffs to push the square peg of investment theory into the round hole of "pecuniary loss," "solatium,"⁷¹ or some other form of enumerated injury, as was the case in *Wycko*. But in some jurisdictions, the language governing the classes of recovery in wrongful death actions is broad. In jurisdictions permitting "such damages as [the jury] may think proportioned to the injury" or some other approximation of the broad language from Lord Campbell's Act,⁷² the statutory language, if not the court, welcomes new theories of recovery.⁷³

Statutory amendment is the most clear-cut path to the adoption of investment theory. The following is an excerpt from Michigan's current wrongful death statute listing recoverable damages, and the bracketed material demonstrates the proposed reform:

69. *Wycko v. Gnodtke*, 105 N.W.2d 118, 123 (Mich. 1960).

70. See *Crystal v. Hubbard*, 324 N.W.2d 869, 878 (Mich. 1982) ("[I]t marked neither the beginning nor the end of judicial debate over the appropriateness of attributing to the Legislature agreement with the broader judicial interpretation of 'pecuniary injury' . . .").

71. See, e.g., COLO. REV. STAT. § 13-21-203.5 (2008); see also discussion *supra* note 31.

72. Fatal Accidents Act, 1846, 9 & 10 Vict., c. 93 (Eng.).

73. See, e.g., CAL. CIV. PROC. CODE § 377.61 (West 2009) (California's wrongful death statute) ("In an action under this article, damages may be awarded that, under all the circumstances of the case, may be just . . .").

In every action under this section, the court or jury may award damages as the court or jury shall consider fair and equitable, under all the circumstances including reasonable medical, hospital, funeral, and burial expenses for which the estate is liable [and compensation for the loss of reasonable investment in the decedent by another, including but not limited to the expense of birth, of food, of clothing, of medicines, of instruction, of nurture and shelter]; reasonable compensation for the pain and suffering, while conscious, undergone by the deceased person during the period intervening between the time of the injury and death; and damages for the loss of financial support and the loss of the society and companionship of the deceased.⁷⁴

Currently, the Michigan statute limits recovery to the decedent's "spouse, children, descendants, parents, grandparents, brothers and sisters."⁷⁵ There is no reason for the statute to limit recovery to any class of relatives, however, because the amount of recovery under the investment theory would be relative to each individual family member's ability to demonstrate their pecuniary investment in securing the decedent's companionship. The expectation is that distant relatives will invest a minimal amount in the first instance, and the requirement that their investment is "reasonable" will necessarily limit their recovery. The additional onus of showing evidence of their investment will present a practical bar to their recovery even if the statute does not. Moreover, by leaving the class of potential plaintiffs open, the statute would dispel criticisms that

74. MICH. COMP. LAWS § 600.2922(6) (Lexis 2004). As a second example, the following is an excerpt from New York's wrongful death statute:

The damages awarded to the plaintiff may be such sum as the jury or, where issues of fact are tried without a jury, the court or referee deems to be fair and just compensation for the pecuniary injuries resulting from the decedent's death to the persons for whose benefit the action is brought. In every such action, in addition to any other lawful element of recoverable damages, [the reasonable costs of investment in the decedent by another, including but not limited to the expense of birth, of food, of clothing, of medicines, of instruction, of nurture and shelter], the reasonable expenses of medical aid, nursing and attention incident to the injury causing death and the reasonable funeral expenses of the decedent paid by the distributees, or for the payment of which any distributee is responsible, shall also be proper elements of damage.

N.Y. EST. POWERS & TRUSTS LAW § 5-4.3(a) (McKinney 1999).

75. MICH. COMP. LAWS § 600.2922(3) (2004). California's statute extends recovery to those "[w]ho would be entitled to the property of the decedent by intestate succession." CAL. CIV. PROC. CODE § 377.60(a) (West 2009). The laws of intestacy are in accord, to some degree, with kin selection theory. See *infra* notes 129–132 and accompanying text.

it leaves non-relative, adoptive parents in the lurch when another is responsible for the death of their child.

The proposed reform also counters concerns that wealthy parents will recover considerably larger damage awards than poor parents by allowing for the recovery of only "reasonable investment." To further combat potential inequalities, courts could permit external evidence showing the average cost of raising a child to the age of majority as evidence of the reasonableness of the investment,⁷⁶ and recovery could be based on this cost, prorated to the age of the child at death.

While Justice Smith's original formula presented investment theory as a pure proxy for "companionship," the proposed reform need not displace "companionship" as it exists in the statute. Michigan's courts have looked, in some instances, to the quality of a family relationship—rather than the amount invested in that relationship—to determine its value to the survivor, and have indicated that damages can include the loss of future companionship.⁷⁷ While a survivor claimant would certainly realize the bulk of the value of "companionship" under the investment theory, the preservation of that term in the statute permits the jury to increase, at its discretion, an award to capture the intangible remainder existing in the quality of the emotional, rather than functional, relationship. Moreover, certain investments, especially those related to nursing and care in the home, will not have a readily provable receipt value for the survivor to present as evidence in the court.⁷⁸ Leaving companionship in place as an avenue to recovery empowers juries to capture these types of intangible losses.

More important, perhaps, than the methods by which state legislatures might adopt the reform, are the underlying justifications for doing so. In the next section, this Note posits that the justifications for an adoption of investment theory come from an integrated understanding of biology and law.

76. MARK LINO, U.S. DEP'T OF AGRIC., MISC. PUB. NO. 1528-2006, EXPENDITURES ON CHILDREN BY FAMILIES (2006).

77. See *McTaggart v. Lindsey*, 509 N.W.2d 881, 884 (Mich. Ct. App. 1993) (upholding the trial court's reduced damages for companionship to a parent who had "[a]lmost completely shirked his parental duties"); *Claim of Carr*, 471 N.W.2d 637, 640 (Mich. Ct. App. 1991) ("There is, of course, no precise formula for determining damages for loss of a loved one's society and companionship. . . . The only reasonable measure of the actual destruction caused is to assess the . . . relationship . . . in terms of objective behavior . . ."); *Lamson v. Martin*, 451 N.W.2d 601, 602 (Mich. Ct. App. 1990) ("[T]he very concept of 'loss of companionship' suggests damages that occur in the future.").

78. The survivor might, for example, present their investment of time spent singing lullabies to a baby under the rubric of "companionship" rather than "investment."

III. INVESTMENT AND BIOLOGY: FOUNDATIONAL PRINCIPLES AND THE INTERSECTION WITH LAW

Modern understandings of evolutionary biology justify the adoption of investment theory in wrongful death actions. There is little reason, however, to incorporate these biological justifications into the language of the proposed reform. The jury's quantification of the loss of damages is dependent only on the plaintiff's ability to demonstrate past monetary investment—not their ability to demonstrate how those terms relate to the biological impetus for those investments. Such integration would likely cause controversy and unnecessarily stymie the presentation of evidence at trial by requiring testimony from psychological and social theory experts. The biological justification is not a requirement or even a desired component of the reform, but merely a buttressing argument for its adoption.

A. *The Concepts of Fitness and Family*

A counterargument often raised to the investment theory of recovery is that the duty to expend resources to raise a child terminates with the child's death, and therefore the pecuniary situation of the parent-plaintiff is actually improved by the relief of that duty.⁷⁹ But this theory of pecuniary value misses perhaps the most basic biological truth, a truth that *Wycko* danced around as it upheld an investment theory of recovery: children are valuable to parents, or more generally, relatives are valuable to one another. *Wycko's* pronouncement—that “an individual member of a family has a value to others as part of a functioning social and economic unit”⁸⁰—could have easily come directly out of an evolutionary biology textbook.⁸¹

In evolutionary biology, the term “fitness” describes an organism's ability to successfully reproduce its genes in its environment.⁸²

79. See, e.g., *Goad v. Evans*, 547 N.E.2d 690, 705–06 (Ill. App. Ct. 1989); cf. *Grand Trunk W. Ry. v. Gilpin*, 208 F. 126, 130 (7th Cir. 1913) (“It is complained that the trial judge erred in omitting to charge the jury to deduct from the value of the services of the wife her cost of maintenance to the husband. . . . It is true the husband is legally bound to provide suitable clothing and maintenance for his wife, but this duty affords no presumption of fact.”).

80. *Wycko v. Gnodtke*, 105 N.W.2d 118, 122 (Mich. 1960).

81. See, e.g., JOHN MAYNARD SMITH, *THE THEORY OF EVOLUTION* 193–95 (Canto ed., Cambridge Univ. Press 1993) (1958).

82. JOHN ALCOCK, *THE TRIUMPH OF SOCIOBIOLOGY* 24 (2001); Elliott Sober, *The Two Faces of Fitness*, in 2 *THINKING ABOUT EVOLUTION: HISTORICAL, PHILOSOPHICAL, AND POLITICAL PERSPECTIVES* 309, 309 (Rama Shankar Singh et al. eds., 2001) (“Fitness was used

Fitness is most affected by mechanisms of natural selection that operate on genes and behaviors influencing reproductive success, that is, genes and behaviors in parents that improve or impair the quantity and viability of their children.⁸³ Fitness does not, however, stop with direct lineage; "inclusive fitness" is another measure of an organism's ability to promote the presence of its genes in its environment, and can be facilitated through seemingly altruistic behavior toward siblings and other relatives.⁸⁴ Together, parental care behaviors and altruistic behaviors by relatives fall into what biologists term "kin selection," since in both instances, the relative increases the viability of a kin-member, resulting in a reciprocal increase in its own fitness.⁸⁵

The study of human behavior within the framework of evolutionary biology goes by many names. Among these are the connected fields of "biocultural evolution,"⁸⁶ "human behavioral ecology,"⁸⁷ "evolutionary psychology,"⁸⁸ and more broadly, the field

to describe an organism's vigor, or the degree to which organisms 'fit' into their environments. . . . Success concerns not just the robustness of offspring but their number. As a result, we now regard viability and fertility as two components of fitness.").

83. David C. Queller & Joan E. Strassmann, *Quick Guide: Kin Selection*, 12 CURRENT BIOLOGY R832 (2002). For an in-depth explanation of parental investment, see Robert L. Trivers, *Parental Investment and Sexual Selection*, in SEXUAL SELECTION AND THE DESCENT OF MAN: THE DARWINIAN PIVOT 136, 136 (Bernard G. Campbell ed., 2006) (1972).

84. Richard L. Michalski & Harald A. Euler, *Evolutionary Perspectives on Sibling Relationships*, in FAMILY RELATIONSHIPS: AN EVOLUTIONARY PERSPECTIVE 185, 187–88 (Catherine A. Salmon & Todd K. Shackelford eds., 2008); see also Lawrence S. Sugiyama, *Physical Attractiveness in Adaptationist Perspective*, in THE HANDBOOK OF EVOLUTIONARY PSYCHOLOGY 292, 295–303 (David M. Buss ed., 2005) ("Juveniles differ in their social value to . . . parents . . . in their probable value as reproductively successful descendants. . . . In parentally investing species, we expect adaptations that generate parental allocation of resources . . . in response to . . . the probability that the juvenile will be able to translate investment into future reproductive success . . ."). See generally ROBERT TRIVERS, SOCIAL EVOLUTION (1985).

85. RICHARD DAWKINS, THE SELFISH GENE 107 (3d ed. 2006) ("The truth is that all examples of child-protection and parental care . . . are examples of the working in nature of the kin-selection principle. The critics are of course familiar with the widespread existence of parental care, but they fail to understand that parental care is no less an example of kin selection than brother/sister altruism."); Salmon & Shackelford, *supra* note 5, at 5–6.

86. See, e.g., JOHN H. BODLEY, ANTHROPOLOGY AND CONTEMPORARY HUMAN PROBLEMS 26 (5th ed. 2007) ("Biocultural evolution involves changes through time in the frequency of either genes or cultural information in human societies. Like biological reproduction and genetic transmission, cultural transmission is the most basic evolutionary process that produces changes in the frequency of the basic cultural ideas that help produce human behavior.").

87. See, e.g., Lee Cronk, *Human Behavioral Ecology*, 20 ANN. REV. ANTHROPOLOGY 25, 25 (1991) ("Human behavioral ecology may be defined as the study of the evolutionary ecology of human behavior.").

88. See, e.g., Leda Cosmides et al., *Introduction: Evolutionary Psychology and Conceptual Integration*, in THE ADAPTED MIND 3, 3 (Jerome H. Barkow et al. eds., 1995) ("Evolutionary psychology is simply psychology that is informed by the additional knowledge that evolutionary biology has to offer, in the expectation that understanding the process that designed the human mind will advance the discovery of its architecture.").

of “sociobiology,” which encompasses in some sense all three of the aforementioned fields.⁸⁹ These different disciplines posit, and depend on, the notion that the development of animal behavior, including human behavior, is linked to that behavior’s effect on individual fitness:

[N]either sociobiology nor evolutionary psychology requires that humans be . . . self-consciously desirous of achieving personal genetic success [A]nimals, ourselves included, need not be alert to the ultimate evolutionary consequences of one’s desires in order to behave in ways that tend to increase the production of offspring. . . . [W]hen a human smacks his lips at the sight of a large hamburger on the barbecue grill, we can be certain that [he is not] motivated to consume these calorie-rich items by a proximate desire to advance his reproductive success. However, variation among . . . humans in the past in their desire to consume high-calorie foods almost certainly had reproductive consequences, thereby affecting the evolution of the proximate food preferences currently present⁹⁰

The pursuit and accumulation of wealth “tends broadly to be consistent with the proximate goals that lead to reproductive success,”⁹¹ and the ability to capture and control resources is a predictor of reproductive success. In humans, where financial wealth can be seen as a proxy for these resources, it is likely that individuals will adopt behaviors leading to an increased capacity for obtaining wealth, to the extent that these behaviors do not interfere with others that increase fecundity.⁹²

Though muddled by the rapidly changing environments in which humans have lived in the last hundred thousand years, the ability to control resources still has an apparent effect on parents’ ability to raise numerous and viable offspring in the modern world.

89. ALCOCK, *supra* note 82, at 24.

90. *Id.* at 26–27.

91. Jonathan Wells & Simon Strickland, *Biological Ends and Human Social Information Transmission*, in SOCIAL INFORMATION TRANSMISSION AND HUMAN BIOLOGY 97, 111 (Jonathan Wells et al. eds., 2006).

92. See Bobbi S. Low, *Sex, Wealth, and Fertility: Old Rules, New Environments*, in ADAPTATION AND HUMAN BEHAVIOR: AN ANTHROPOLOGICAL PERSPECTIVE 323, 323 (Lee Cronk et al. eds., 2000) (“Males who get control of unusually large or rich resources have more offspring than other males In human evolutionary pasts, . . . the same pattern seems clear for men.”).

The investment is typically large,⁹³ and large enough that both parents share an interest in preventing their spouse from procreating with other partners, because it diverts funds away from shared offspring.⁹⁴ Families have an average expenditure of roughly \$200,000 over the minority years of a child, and perhaps more than that when the investments of other relatives are considered.⁹⁵ Of course, many human behaviors prove maladaptive, and other behaviors are difficult to contextualize due to rapid social and environmental shifts over the last ten thousand years.⁹⁶ Nonetheless, the effect of selection on child-rearing behaviors remains strong since it has direct consequences for reproductive success. The biological impetus for a parent's love and financial investment in children is to raise offspring that will, in turn, prove reproductively successful when the children reach adulthood.⁹⁷

By the time children reach the age of majority they have become their parents' most valuable assets. And as one would expect, legal parenthood, with its attached rights to direct investment and behavior habituation, is typically a valuable state to natural parents;⁹⁸ one need look no further than custody cases in family court to see how parents will struggle to maintain control over their children. Professor of political philosophy Hillel Steiner has suggested that parents are in fact owners of their children, at least for the first few

93. For a detailed breakdown of the cost of raising a child to the age of majority, see LINO, *supra* note 76, at iii ("Depending on age of the child, the [annual] expenses range . . . from \$10,600 to \$11,660 for families in the middle-income group . . .").

94. See DAWKINS, *supra* note 85, at 146–50. See generally David J. Herring, *Child Placement Decisions: The Relevance of Facial Resemblance and Biological Relationships*, 43 JURIMETRICS J. 387 (2003) (proposing that, since men unconsciously look to facial resemblance as a way of preventing cuckoldry in investing in children, child welfare decision makers should consider facial resemblance when placing children).

95. LINO, *supra* note 76, at ii.

96. Jerome H. Barkow et al., *New Theoretical Approaches to Cultural Phenomena*, in THE ADAPTED MIND 625, 625–26 (Jerome H. Barkow et al. eds., 1995) ("Why does human behavior appear to be functionally patterned in some respects, but obviously nonfunctional, or even maladaptive, in others? The answer lies in the fact that mechanisms designed to perform well under one set of conditions will often perform poorly under changed conditions. Our adaptations were designed (i.e., selected) to operate in the Pleistocene context in which they evolved . . ."); cf. Low, *supra* note 92, at 323 ("Even in monogamous, late-marrying societies . . . resource acquisition aided fertility.").

97. SMITH, *supra* note 81.

98. David Archard, *What's Blood Got to Do with It?: The Significance of Natural Parenthood*, 1 RES PUBLICA 91, 98 (1995). ("A . . . reason for thinking that natural parents should be legal or social parents is that they are the best suited to care for their own children. Biology disposes them to love their offspring, and to make sacrifices on their behalf. This is a powerful and influential claim. It also has a great deal of plausibility."). Archard notes, however, that "[i]t is clear that natural parents need not be good parents. The widespread incidence of child abuse is sufficient proof of that. Nor need natural parents be the only good parents. Adoptive and foster parents can be, and frequently are, lovingly devoted to the children they care for." *Id.*

years of the children's lives, since parents provide for the means of production while the child is without means to provide for itself.⁹⁹ There is space within the concept to argue that a lack of parental investment—neglect, for example—terminates the parent's "ownership" and his or her ability to direct behavioral decisions affecting his or her fitness.

Broadening the analysis to incorporate inclusive fitness, it is clear that surviving brothers and sisters, and perhaps those even further down the family tree, experience loss as well. It is both common sense and long-settled zoological theory that siblings invest time and resources in one another's success, and recoup considerable benefits, both genetic and social, as a result of those investments.¹⁰⁰ Parents with multiple children have to apportion limited resources, and their children incur costs to their direct fitness as a result of being raised alongside additional siblings.¹⁰¹ For brothers and sisters, who vie against one another for their parents' limited resources and simultaneously strive to buoy one another's fitness,¹⁰² the void left by the death of a sibling displaces a critical element in the "functioning social and economic unit."¹⁰³ This is an underlying reason for the increased success of kinship foster care, and why child welfare decision makers prefer to place foster children with older siblings when possible.¹⁰⁴

Social biologists have run into problems when trying to explain the family behaviors associated with adoptive parenting, since the genetic tie, which in theory is the underlying basis for the direction

99. Hillel Steiner, *Silver Spoons and Golden Genes: Talent Differentials and Distributive Justice*, in *THE GENETIC REVOLUTION AND HUMAN RIGHTS* 133, 139–40 (Justine Burley ed., 1999).

100. See Queller & Strassman, *supra* note 83, at R832 ("Selection normally favors a gene if it increases reproduction, because the offspring share copies of that gene, but a gene can also be favored if it aids other relatives, who also share copies."); Stuart A. West, Andy Gardner & Ashleigh S. Griffin, *Quick Guide: Altruism*, 16 *CURRENT BIOLOGY* R482 (2006) ("[K]in selection theory provides an explanation for altruism between relatives. By helping a close relative reproduce, an individual still passes on its own genes to the next generation, albeit indirectly. So from the point of view of the gene, an altruistic behaviour can be selfish.").

101. Hillard S. Kaplan & Steven W. Gangestad, *Life History Theory and Evolutionary Psychology*, in *THE HANDBOOK OF EVOLUTIONARY PSYCHOLOGY* 68, 72 (David M. Buss ed., 2005) ("[P]arents have limited resources to invest in reproduction and, hence, additional offspring must reduce average investment per offspring.").

102. DAWKINS, *supra* note 85, at 128.

103. *Wycko v. Gnodtke*, 105 N.W.2d 118, 122 (Mich. 1960).

104. David J. Herring, *Kinship Foster Care: Implications of Behavioral Biology Research*, 56 *BUFF. L. REV.* 495, 524 (2008) ("[A] fundamental component of evolutionary theory, inclusive fitness, allows one to formulate a hypothesis that children are likely to receive better treatment in kinship foster care placements than in non-kin placements. . . . On average, close kin are likely to invest more and provide more benefits than more distant kin."); see also June Carbone & Naomi Cahn, *Which Ties Bind? Redefining the Parent-Child Relationship in an Age of Genetic Certainty*, 11 *WM. & MARY BILL RTS. J.* 1011, 1025–39 (2003).

of parental behavior, does not exist. One explanation is that strong "parental and cultural desires" have led to an increase in adoptions in modern times.¹⁰⁵ Evidence shows adoption rarely occurred in human history before the modern era, but there is a dearth of evolutionary studies seeking to explain the phenomenon.¹⁰⁶ The vast majority of parenting behavior is triggered by external cues; parents' response mechanisms in past environments resulted in "parental investment in genetic offspring, but these same mechanisms can be redirected toward nongenetic offspring in the novel environments of today."¹⁰⁷ Regardless of the origin of the desire to invest, an adoptive parent still makes an investment in line with his or her willingness to provide.¹⁰⁸ Because a state's public interest in the welfare of children is furthered by adoption,¹⁰⁹ and because there is no strong policy or adequate moral argument for limiting recovery to genetic relatives, individuals who choose to make investments in non-related children should also be able to recover under the investment theory.

B. The Law and Biology Movement

There has been significant scholarship in recent years over the interplay between the evolutionary basis for human behaviors and

105. Catherine A. Salmon, *Parent-Offspring Conflict*, in *FAMILY RELATIONSHIPS: AN EVOLUTIONARY PERSPECTIVE*, 145, 157 (Catherine A. Salmon & Todd K. Shackelford eds., 2008).

106. *Id.* at 156. While further study may make the behavioral reasons for adoptive parenting more apparent, the task of defending an entire discipline by reconciling adoptive behavior with sociobiology is not a task for this Note, and is best left to leaders in the field. See, e.g., Laura Hamilton, Simon Cheng & Brian Powell, *Adoptive Parents, Adaptive Parents: Evaluating the Importance of Biological Ties for Parental Investment*, 72 *AM. SOC. REV.* 95 (2007).

107. Beverly I. Strassman & Ruth Mace, *Perspectives on Human Health and Disease from Evolutionary and Behavioral Ecology*, in *EVOLUTION IN HEALTH AND DISEASE* 109, 113 (Stephen C. Stearns & Jacob C. Koella eds., 2d ed. 2008); Hamilton, Cheng & Powell, *supra* note 106, at 99–100 ("In the past, humans had fewer resources and often lived in close kin networks. The presence of a genetic stranger was unlikely. Now, however, humans' 'innate psychological predispositions that promote an intense desire for children [may] permit the formation of close relationships with infants and children of strangers.' These underlying mechanisms may actually (if accidentally) facilitate adoption. As a result of these evolutionary blunders, adoptive parents may invest as if their children were their own biological sons and daughters." (quoting Joan B. Silk, *Human Adoption in Evolutionary Perspective*, 1 *HUM. NATURE* 25, 39 (1990)).

108. See discussion *infra* Part IV.B.

109. It has not always been the case that the state took a role in the social policy of adoption. Modern adoptions, which emphasize child welfare over the interests of the adopter, are a uniquely American invention, and state activity in promoting adoption did not occur in earnest until the 1950s and 1960s, when "larger social themes of post-war optimism and mobility" encouraged social workers to push for adoption's "prominent role as social policy." BARBARA MELOSH, *STRANGERS AND KIN: THE AMERICAN WAY OF ADOPTION* 4 (2002).

the development of legal systems.¹¹⁰ One strain of current scholarship identifies longstanding policies that comport with the principles of evolutionary biology, and then analyzes laws in that context. A second strain identifies potential reforms comporting with or justified by these same principles, and argues for their adoption. Both types of scholarship bolster the argument for the adoption of the investment theory of recovery: the former because it demonstrates that behaviors associated with kin selection have been the basis of a variety of successful and ancient laws; the latter because it posits that certain benefits result when the legal system is responsive to basic human behaviors. First, however, it is important to recognize the perils of mixing evolutionary biology and law.

1. The Pitfalls of Evolutionary Analysis in Law

The use of evolutionary analysis in the law got off to a rocky start. In *Lochner v. New York*, Justice Holmes famously rejected the survival-of-the-fittest theory¹¹¹ advanced by the bakeries against their overworked bakers:

The liberty of the citizen to do as he likes so long as he does not interfere with the liberty of others to do the same, which has been a shibboleth for some well-known writers, is interfered with by school laws, by the Postoffice [sic], by every state or municipal institution which takes his money for purposes thought desirable, whether he likes it or not. The 14th Amendment does not enact Mr. Herbert Spencer's Social Statics.¹¹²

Holmes's pronouncement clearly rejects the notion that human laws should commingle with newfound notions of animal behavior. Yet Holmes would alter his position three years later when he joined in the unanimous decision in *Muller v. Oregon*.¹¹³ The Court buttressed its decision permitting state laws that limit hours for women laborers by noting both the physiological differences between genders and the notion that "[t]he physical well-being of

110. See discussion *infra* Part III.B.2.

111. The phrase "survival of the fittest" was coined by Herbert Spencer, but is not completely coextensive with natural selection, as the latter includes sexual selection. See 1 HERBERT SPENCER, *THE PRINCIPLES OF BIOLOGY* 444 (1864).

112. *Lochner v. New York*, 198 U.S. 45, 75 (1905) (Holmes, J., dissenting); HERBERT SPENCER, *SOCIAL STATICS: OR, THE CONDITIONS ESSENTIAL TO HAPPINESS SPECIFIED, AND THE FIRST OF THEM DEVELOPED* (1851).

113. 208 U.S. 412 (1906).

woman becomes an object of public interest and care in order to preserve the strength and vigor of the race."¹¹⁴ Certainly Holmes had changed his views by the time he wrote the majority in *Buck v. Bell*,¹¹⁵ upholding a statute that forced sterilization on the mentally retarded:

The judgment finds the facts that have been recited and that Carrie Buck 'is the probable potential parent of socially inadequate offspring, likewise afflicted, that she may be sexually sterilized without detriment to her general health and that her welfare and that of society will be promoted by her sterilization,' and thereupon makes the order. . . . It is better for all the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. . . . Three generations of imbeciles are enough.¹¹⁶

There has been considerable advancement in the sophistication of both legal systems and evolutionary analysis since the days of Justice Holmes,¹¹⁷ but some modern commentaries remain cautious on the use of evolutionary analysis in the law. For one, the notion that basic biological principles can predict human behavior smacks of reductionism.¹¹⁸ A second criticism follows the concept described in Part III.A: many human behaviors are maladaptive, and certainly at a higher rate than for other animals since human habitats have changed rapidly in relation to the evolutionary timescale.¹¹⁹ In codifying laws responding to an evolutionary analysis of human behaviors, lawmakers run the risk of reinforcing maladaptive behaviors beyond their natural end. Finally, "[m]aking a claim or giving evidence that a behavior has evolved . . . says nothing about how such a behavior should be viewed from a moral

114. *Id.* at 421.

115. 274 U.S. 200 (1927).

116. *Id.* at 207.

117. And there have been blunders. For a discussion of the Supreme Court's misguided approach to racism and eugenics in the 1940s, see DAVID L. FAIGMAN, *LABORATORY OF JUSTICE: THE SUPREME COURT'S 200-YEAR STRUGGLE TO INTEGRATE SCIENCE AND THE LAW* 130–60 (2004).

118. See DANIEL C. DENNETT, *DARWIN'S DANGEROUS IDEA: EVOLUTION AND THE MEANINGS OF LIFE*, 81 (1995) ("[S]ocieties are composed of human beings, who, as mammals, must fall under the principles of biology that cover all mammals. . . . No sane scientist disputes this bland reading; the assembled Justices of the Supreme Court are as bound by the law of gravity as is any avalanche, because they are, in the end, also a collection of physical objects.").

119. Barkow et al., *supra* note 96, at 625–26.

stance. In fact, using what is to justify what ought to be is referred to as the naturalistic fallacy.”¹²⁰ One can make a conceptual distinction between a “good” in the evolutionary realm (i.e., a condition or impetus propagating traits useful for survival) and a “good” in the broader sense of human social values (i.e., an ethical good).¹²¹ Put another way, an evolutionary fact does not necessarily have existential meaning, though it has often served as a proxy for meaning throughout human history.¹²²

Still, there has been a resounding cry from scholars for the integration of biology and law, and there is currently a synthesis occurring between the Law and Economics and the Law and Biology movements.¹²³ Scholars are calling for integration between our understanding of human behavior with how we react to those behaviors in law. Professor Owen D. Jones, one of the leaders of the Law and Biology movement, explains:

It is entirely unclear to me that, in the end, even the imperfect introduction of behavioral biology into legal thinking would be more costly than unduly delaying that introduction, if the window on human behavior thereby gained may afford us some meaningful opportunity to reduce behaviors that we deem detrimental, and to encourage behaviors we deem constructive.¹²⁴

2. Embracing an Evolutionary Explanation for the Origin of Law

Professor Owen D. Jones has dedicated several recent articles to an evolutionary analysis of property rights and the endowment ef-

120. Salmon & Shackelford, *supra* note 5, at 3–4.

121. See Jones & Goldsmith, *supra* note 7, at 485 (“One cannot move from facts to normative conclusions without passing through a prism of human values. Values arise, of course, from many social and political influences. And, perhaps confusingly at first, some values are themselves inevitably influenced by biological and evolutionary processes. But wherever values come from, it is clear that facts are never good or bad in themselves.”).

122. See *id.* at 484–85.

123. For a discussion concerning Gary S. Becker’s integration of biology and economics, see *infra* note 157 and accompanying text. See also Terrence Chorvat & Kevin McCabe, *The Brain and the Law*, 359 PHIL. TRANSACTIONS ROYAL SOC’Y LONDON BIO. SCI. 1727 (2004); E. Donald Elliott, *The Genome and the Law: Should Increased Genetic Knowledge Change the Law?*, 25 HARV. J.L. & PUB. POL’Y 61 (2001); *infra* note 176 and accompanying text.

124. Owen D. Jones, *Evolutionary Analysis in Law: Some Objections Considered*, 67 BROOK. L. REV. 207, 225 (2001).

fect.¹²⁵ The ability of an individual to defend and maintain territory, and to exploit the natural resources and mating opportunities within that territory, are of obvious importance in natural selection.¹²⁶ Human property rights, both for real property and accumulated wealth, issue in some part from this evolutionary principle.¹²⁷ The ancient doctrine of primogeniture, for example, can also be seen as a rule comporting with evolutionary behavior: the first-born son, having survived the longest, is also the son most likely to bear traits necessary for survival and, by extension, most likely to be successful in reproducing.¹²⁸

A second example can be found in the law of intestacy, which appears very early in legal history, and is likely much older still.¹²⁹ The law, adopted in some fashion by most states, provides for inheritance of an intestate decedent by the "next of kin," sometimes with limitations for inheritance by distant relatives:¹³⁰

In recognition of the nearly universal desire to favor descendants, and in particular, children, the law has created the doctrine of undue influence to overturn gifts to nonlineal descendants, second spouses, lovers, friends, loyal housekeepers,

125. See, e.g., Owen D. Jones et al., *Endowment Effects in Chimpanzees*, 17 *CURRENT BIOLOGY* 1704 (2007) (exploring the evolutionary underpinnings of the endowment effect); Owen D. Jones, *Time-Shifted Rationality and the Law of Law's Leverage: Behavioral Economics Meets Behavioral Biology*, 95 *Nw. U. L. REV.* 1141, 1154 (2001) (describing "endowment effect[s]" as "certain psychological inertia" affecting "the final allocation [of resources] irrespective of transaction costs" [in Coase Theorem analysis]).

126. Cf. BERNARD CAMPBELL, *HUMAN EVOLUTION* 346 (4th ed. 1998) (describing the tendency of primate species to defend an "area containing resources absolutely essential for survival").

127. See Jones & Goldsmith, *supra* note 7, at 474; see also MICHAEL GILBERT, *THE DISPOSABLE MALE: SEX, LOVE, AND MONEY—YOUR WORLD THROUGH DARWIN'S EYES* 83 (2006) ("Over time, as . . . human groupings grew larger, social issues became more complex. . . . Almost all communities endorse some concept of individual property and develop rules of succession and inheritance."); Jones, *supra* note 125, at 1193.

128. Lawrence Frolik notes that "[m]erely having children is not enough [to satisfy desire for a genetic legacy], [f]or they must be raised to maturity and be established well enough that they in turn can carry on the family line." Lawrence A. Frolik, *The Biological Roots of the Undue Influence Doctrine: What's Love Got to Do with It?*, 57 *U. PITT. L. REV.* 841, 874, 877 n.194 (1996) ("Primogeniture has been explained in Darwinian terms as the means by which a wealthy father, by leaving everything to one son, gives him the economic status and means to become a successful adulterer and beget many bastard children. A wealthy daughter gains no such advantage."). See Sugiyama, *supra* note 84, at 295–303. For a general discussion on the policy considerations behind intestacy laws and inheritance, see David V. DeRosa, *Intestate Succession and the Laughing Heir: Who Do We Want to Get the Last Laugh*, 12 *QUINNIPIAC PROB. L.J.* 153 (1997).

129. DeRosa, *supra* note 128, at 154–55 (describing Roman and Biblical laws of intestacy).

130. *Id.* at 153–54.

and the like, and, relying on intestacy laws, direct the inheritance to the testator's descendants.¹³¹

The effect of the law is to promote the distribution of an individual's collected resources to those who share his bloodline (and, unconsciously, the effect is to increase the resources available to those bearing the individual's genes); it promotes his inclusive fitness after death by increasing the resources his offspring or other relatives will expend on their own inclusive fitness:

The attraction and the stability of the undue influence doctrine are attributable to its grounding in basic, instinctual human attitudes towards one's offspring. Simply put, it is human nature for decedents to promote the interests of their descendants even if others . . . seem more deserving based upon their behavior.¹³²

Reasoning by analogy, an investment theory of recovery should be attractive because it too is "ground[ed] in basic, instinctual attitudes towards one's offspring."

The integration of law and biology can also be seen in recent scholarship related to other areas of law. The Gruter Institute, established in 1981 by Margaret Gruter, is an example of the increased scholarly focus on integrating law and biology more generally.¹³³ The Institute has supported the use of evolutionary analysis in studying the foundations and history of law in many areas—rape statutes, child support laws, notions of fairness, prostitution laws—all while operating under the central tenant that "human legal behavior is both facilitated and constrained by our biological nature."¹³⁴ The Institute's stated mission is to promote "[i]nterdisciplinary research and teaching designed to inform law, economics, and other social sciences about the latest scientific findings about human behavior. . . . [S]cientists associated with the Institute see a need for the law and other social sciences to be informed about the biological bases of human behavior"¹³⁵ The existence of the Institute would seem to indicate that, at least with

131. Frolik, *supra* note 128, at 843.

132. *Id.*

133. See GRUTER INST. FOR LAW & BEHAV. RES., MISSION: ADVANCING INTERDISCIPLINARY RESEARCH AND TEACHING IN LAW AND THE BIOLOGICALLY INFORMED BEHAVIORAL SCIENCES, http://www.gruter.org/index.php?option=com_content&task=view&id=31&Itemid=88888936 (on file with the University of Michigan Journal of Law Reform).

134. *Id.* (quoting Margaret Gruter, founder of the Gruter Institute).

135. *Id.*

regard to certain areas of legal scholarship, the momentum for the synthesis between law and evolutionary analysis is increasing.

IV. MAKING THE PLAINTIFF WHOLE: THE INTERSECTION OF CORRECTIVE JUSTICE AND INCLUSIVE FITNESS

The biological argument for adoption of the investment theory is the same as the biological rationale for a tort system more generally. In their 2005 article, *Law and Behavioral Biology*, Owen D. Jones and Timothy H. Goldsmith identify the "evolutionarily-influenced concerns" of several areas of law.¹³⁶ Property law, for example, issues from the evolutionary concern of controlling private resources; procedural law is a way to efficiently solve intra-group conflicts; and tort law responds to the evolutionary concern of non-injury to "body; resources; [and] reputation."¹³⁷ Each system of modern law, on some level, is designed to effect a protective barrier of incentives and disincentives around an individual's fitness. Jones and Goldsmith explain:

We inevitably tend . . . to care most about things that were relevant to survival and reproduction throughout evolutionary time. For instance, . . . [w]e seek to be secure in both our property and in our bodies, and this desire likely helped give general form to criminal law and tort law. . . . These features are almost undoubtedly an outgrowth of the effects of evolutionary processes on human brains functioning in social environments.¹³⁸

A. Corrective Justice Theory & Biology

The corrective justice theory of torts proposes that the purpose of damages is "to place the plaintiff in the position that she would have enjoyed if the tort had never been committed."¹³⁹ In *Sullivan v. Old Colony Street Railway Co.*, Justice Rugg, for the majority of the Massachusetts Supreme Court, wrote that the system of awarding damages to torts plaintiffs is "[a] practical instrumentality for the administration of justice. The principle on which it is founded is

136. Jones & Goldsmith, *supra* note 7, at 474.

137. *Id.*

138. *Id.* at 467–68.

139. RICHARD A. EPSTEIN, *CASES AND MATERIALS ON TORTS* 774 (8th ed. 2004).

compensation. Its object is to afford the equivalent in money for the actual loss caused by the wrong of another."¹⁴⁰

While seemingly disparate areas of study, population genetics and evolutionary psychology share an undeniable link with corrective justice theory: the foundational texts of both disciplines originated in the same man, Aristotle. Aristotle's *History of Animals* marks, to many, the inception of zoology,¹⁴¹ and he developed the theory of corrective justice in his *Nicomachean Ethics*:

Hence the unjust being here the unequal, the judge endeavours to equalize it: inasmuch as when one man has received and the other has inflicted a blow, or one has killed and the other been killed, the line representing the suffering and doing of the deed is divided into unequal parts, but the judge endeavours to make them equal by the penalty or loss he imposes, taking away the gain.¹⁴²

The scholarship of corrective justice builds on Aristotle's conception, and proposes that the goal of torts damages is to "restor[e] a preexisting equilibrium."¹⁴³

Investment theory, when placed in the context of biology, corresponds with corrective justice because it returns lost fitness to the investor, balancing the equilibrium. The value awarded to the parent-plaintiffs in *Wycko* can be cast as the replacement value for viable offspring.¹⁴⁴ In theory, the parent-plaintiffs have been restored their parental investment and will now have the ability to redistribute the investment to other offspring or kin, thereby increasing their inclusive fitness to an approximation of what it was

140. 83 N.E. 1091, 1092 (Mass. 1908).

141. See, e.g., VERN L. BULLOUGH, SCIENCE IN THE BEDROOM: A HISTORY OF SEX RESEARCH 9 (1994) ("Historically, the most influential premodern author on sexual activity among animals . . . was . . . Aristotle, whose *History of Animals* . . . can be regarded as the foundation . . . of Western zoology . . ."); RICHARD OWEN, THE HUNTERIAN LECTURES IN COMPARATIVE ANATOMY: MAY-JUNE 1837 91 (Phillip Reid Sloan ed., 1992) ("Zoological Science sprang from [Aristotle's] labours, we may almost say, like Minerva from the Head of Jove, in a state of noble and splendid maturity." (citations omitted)).

142. ARISTOTLE, THE NICOMACHEAN ETHICS 275, Bekker no. 1132a4 (H. Rackham trans., 1926) (citations omitted).

143. JOHN C.P. GOLDBERG, ANTHONY J. SEBOK & BENJAMIN C. ZIPURSKY, TORT LAW: RESPONSIBILITIES AND REDRESS 461 (2004). For a more in-depth analysis of corrective justice and the theoretical concept of making tort plaintiffs "whole," see Ernest J. Weinrib, *Corrective Justice in a Nutshell*, 52 U. TORONTO L.J. 349 (2002). For a defense and explanation of the current posture of corrective justice theory, see Ernest J. Weinrib, *Correlativity, Personality, and the Emerging Consensus on Corrective Justice*, 2 THEORETICAL INQUIRIES L. 107 (2001).

144. See generally *Gangemi v. Nat'l Health Labs*, 677 A.2d 1163 (N.J. Super. Ct. App. Div. 1996) (holding that evidence of the replacement value of domestic services is admissible in determining damages for wrongful death).

before the death of their child.¹⁴⁵ Genetic relatedness—the ratio of common genes between two individuals—correlates with the amount of resources an individual will invest in the success of relatives.¹⁴⁶ J. B. S. Haldane, the father of population genetics and one of the earliest ethologists to develop a theory of kin selection, once said that he would not risk his life to save his drowning brother, but "would to save two brothers, or eight cousins."¹⁴⁷ The same model might be applied to the distribution of damages, granting a percentage of the recovery to each surviving relative commensurate with their genetic relatedness. Alternatively, courts could just as readily restore inclusive fitness by granting the award to whoever can prove an investment in the decedent, since this latter quanta will likely correspond with genetic relatedness anyway.¹⁴⁸

By adopting the investment theory of damages, the law would create an incentive barrier to deadly tortious conduct. Aristotle's theory of corrective justice speaks of a "gain" by the actor committing the tortious conduct.¹⁴⁹ In modern terms, the gain has often been cast as the increased liberty of the tortious actor in committing

145. Cf. *Neal v. Saga Shipping Co.*, 407 F.2d 481, 488 (5th Cir. 1969) (approving of family's recovery "[f]or the loss of nurture and guidance . . ." after death of husband and father).

146. Kermyt G. Anderson, *Relatedness and Investment in Children in South Africa*, 16 HUM. NATURE 1, 2 (2005). Using a sample size of over 11,000, Anderson "randomly selected one child from each household . . . and calculated the average genetic relatedness of the other household members to the focal child." *Id.* at 1. He then "examine[d] whether the coefficient of relatedness predicts greater household expenditures on food, on health care, and on children's clothing. . . . The results are consistent with an inclusive fitness model: Households invest more in children who are more closely related." *Id.* While there is sure to be variation in parenting behaviors across cultures, one would nonetheless expect the more general implication to hold true across national boundaries due, ostensibly, to the connection between the origin of parenting behavior and genetic relatedness. Although adoption behaviors obviously depart from this correlation, the variation can be explained by acknowledging that parental behaviors developed (in evolutionary scale) in the context of genetic families and are now being exhibited outside of that context due to changes in social or cultural mores. For a discussion regarding investment in children by non-genetic relatives, see *supra* notes 105–109 and accompanying text.

147. RICHARD McELREATH & ROBERT BOYD, *MATHEMATICAL MODELS OF SOCIAL EVOLUTION: A GUIDE FOR THE PERPLEXED* 82 (2007) (quoting Haldane). Haldane had calculated the ratios of genetic relatedness of two brothers (with whom he would share half of his alleles) or eight cousins (with whom he would share one-eighth) and then computed the number that would be required to match his own sacrifice. This mathematical formula was provided formally by the evolutionary biologist W.D. Hamilton, in Hamilton's Rule, which posits that "altruism is favoured when $rb > c$; where c is the fitness cost to the altruist, b is the fitness benefit to the recipient and r is their genetic relatedness." See West, Gardner & Griffin, *supra* note 100, at R482. One can see that Haldane slightly underestimated the exact number of relatives required, since the formula dictates that self-sacrifice will only be favored where the resulting benefit is greater than rather than equal to zero (requiring 3 brothers or 9 cousins).

148. See Anderson, *supra* note 146.

149. ARISTOTLE, *supra* note 142, at 275, Bekker no. 1132a4.

the tort.¹⁵⁰ In an inclusive fitness sense, the gain by the tortious actor might be seen differently if one starts from a premise that the world has limited resources, and that the more members of a species in existence, the more effort is required to obtain an equal apportionment of those limited resources. By killing (whether negligently or otherwise) another member of the species, one not only lessens the effort he will have to undertake to obtain an equal share of resources, but increases the fitness of his own offspring, who will no longer have to compete with the dead individual or his progeny for the limited resources. In this framework, a torts remedy reduces the tortious actor's incremental benefit and instead reflexively damages his individual fitness. By threatening the bad actor with a loss of inclusive fitness, investment theory reconfigures his calculation of what behaviors are in his own self-interest.¹⁵¹ If applied over time, it could, in theory, "select out" behaviors resulting in tortious conduct.¹⁵²

Aspects of investment theory are in tension, however, with the theory of natural selection. One could argue that the decedent lost the game of natural selection. Certainly intra-species competition is a form of selective pressure,¹⁵³ and individuals without the traits to outlast the dangerous behaviors of other members of their species are, arguably, just as fairly cast as victims of selection as they are victims of tortious conduct. Where do we draw the line between "natural selection loser" and "tort claimant?" This argument misses two notions about law and humanity. First, law is, in its most basic and beautiful sense, a human effort to reduce intra-species selective pressure.¹⁵⁴ Second, comparative liability regimes currently employed in tort law mean that the final recovery can take into account and "select" against the decedent's own behaviors. The

150. See GOLDBERG, SEBOK & ZIPURSKY, *supra* note 143, at 461.

151. See Richard A. Epstein, *The Varieties of Self-Interest*, 8 SOC. PHIL. & POL'Y 102, 102 (1990) ("The initial inquiry asks why self-interest (to be suitably qualified to take into account inclusive fitness) is regarded as a constant of human behavior. The explanation derives more from the biological and less from the social. The powerful pressures of natural selection weed out any organisms for whom (genetic) self-interest is not the paramount consideration." (citation omitted)).

152. See Jones & Goldsmith, *supra* note 7, at 477-79. The mechanism is obvious: the tort actor loses fitness because he or she loses financial resources; the reduced fitness correlates with a reduced representation of the gene or behavior in the next generation. Because the selection pressure would have to be applied equally and applied over many generations, it seems unlikely that legal policy would have any meaningful effect on the distribution of heritable traits related to tortious conduct, though somewhat more likely that it would affect the distribution of habituated behavior.

153. See generally MICHAEL BEGON, MARTIN MORTIMER & DAVID J. THOMPSON, *POPULATION ECOLOGY: A UNIFIED STUDY OF ANIMALS AND PLANTS* 29-37 (3d ed. 1996).

154. See Jones & Goldsmith, *supra* note 7, at 477-79.

ability of a system to compensate the loser in intra-species selection correlates to the individual's risk assessment when spending resources to shield his fitness: if he can act with the knowledge that the system will restore his fitness when a human causes his loss, he will be more likely to allocate resources to shield himself against other selective pressures.¹⁵⁵ Adoption of the investment theory of recovery would promote a social system—a system of laws—that reduces expenditures on human rivalry, and instead combines those human efforts that contribute to common survival.

B. Support From Other Integrated Fields

Some in the Law and Economics movement have also advanced an investment theory of recovery. Both Richard Posner and Nobel-prize winning economist Gary Becker have proposed investment theory as a viable method for compensating survivors in wrongful death actions. In *An Economic Analysis of Law*, Posner writes:

A minimum estimate of the parents' loss, which could be used as the basis for the award of damage to them, is their investment (of both money and time, the latter monetizable on the basis of market opportunity costs) in the rearing of the child up to the date of its death.¹⁵⁶

Becker echoed similar sentiments in *A Treatise on the Family*.¹⁵⁷ Becker's analysis of investment theory, which started as early as 1960,¹⁵⁸ is extended in *A Treatise on the Family* to include the notion of "dynastic utility"—"a parental anticipation that unborn generations provide a kind of living monument to deceased ancestors."¹⁵⁹

155. See *id.* at 463–64. Jones and Goldsmith's "Law of Law's Leverage" is conceptually similar to the notion that humans expend resources and adopt behaviors because of the risks associated with various selective pressures.

156. RICHARD POSNER, *AN ECONOMIC ANALYSIS OF LAW* 150–51 (2d ed. 1977).

157. GARY S. BECKER, *A TREATISE ON THE FAMILY* (1981). Becker's analysis of human behavior and its relationship to economics is expansive. See Gary S. Becker, *Nobel Lecture: The Economic Way of Looking at Behavior*, 101 J. POL. ECON. 385 (1993); Gary S. Becker, *Fertility and the Economy*, 5 J. POPULATION ECON. 185 (1992); Gary S. Becker, *A Reformulation of the Economic Theory of Fertility*, 103 Q.J. ECON. 1 (1988); Gary S. Becker, *Altruism in the Family and Selfishness in the Market Place*, 48 ECONOMICA 1 (1981); Gary S. Becker, *Altruism, Egoism, and Genetic Fitness: Economics and Sociobiology*, 14 J. ECON. LITERATURE 817 (1976).

158. Gary S. Becker, *An Economic Analysis of Fertility*, in *DEMOGRAPHIC AND ECONOMIC CHANGE IN DEVELOPED COUNTRIES* 209, 226–28 (Nat'l Bureau of Econ. Research ed., 1960).

159. Thomas R. Ireland & John O. Ward, *Valuing the Life of a Child: Broadening the Investment Approach*, 7 J. FORENSIC ECON. 179, 179 n.1 (1994) (describing BECKER, *A TREATISE ON THE FAMILY*, *supra* note 157).

This concept parallels inclusive fitness, albeit in a discourse void of the terms commonly used in biology.

In their article, *Valuing the Life of a Child: Broadening the Investment Approach*, Thomas R. Ireland and John O. Ward promote the investment approach to a theory of damages because parental investment “is a much more meaningful indicator of the value parents place on a child than any estimate of lost services and financial support.”¹⁶⁰ What better calculation of the value of a child’s life, they posit, than the “‘willingness to pay’ calculation” of the amount parents have contributed to raising the child?¹⁶¹ Ireland and Ward argue that investment costs should be measured over the life of the child to the age of majority—not just to the date of death, but instead to the age of twenty-one—reasoning “[w]hat the parents lost is the flow of benefits that would have accrued throughout their life-times, including dynastic possibilities of grandchildren and future generations, *not* the amount they had already invested.”¹⁶²

This notion, however, misses the forest for the trees: once one accepts there are other avenues for getting genes into the next generation, say by investing in other relatives and thereby increasing inclusive fitness, the death of a child no longer means the end of “dynastic possibilities.” Restoring a lost investment in one child allows for a new investment in other relatives (short the opportunity costs), and “inclusive fitness” recognizes these lateral relatives, such as brothers and sisters, as avenues to genetic representation in the world at large. Siblings who have lost their own individual investments in a deceased brother or sister can be made whole by receiving damages that return their investment, since they can invest that money in themselves (directly increasing their own fitness) or other relatives (increasing their inclusive fitness and, because they are related to the decedent, the decedent’s inclusive fitness as well). The conceptual web of genetic relatedness among family members assures that a returned investment will be spread throughout the meshwork of genes, and the decedent’s dynastic interests will survive his death.

160. *Id.* at 179.

161. *Id.* at 180.

162. *Id.* at 181.

C. Application Beyond Wrongful Death Actions of Minors

Inclusive fitness justifications would also permit recovery for the deaths of elderly relatives or relatives who have lost their capacity for fecundity. Investment usually flows down the family tree, but some portion of it is returned by younger generations as they strengthen their assets in older relatives. Grandparents, aside from being a reservoir of useful information and skills, play an important role in human childcare as surrogates for busy parents,¹⁶³ and non-reproductive relatives can increase their own fitness by investing their time in the offspring of other relatives. The Michigan Court of Appeals may have put it best five years after *Wycko*, when they affirmed an award of damages to adult children for the wrongful death of their parents:

A family unit, including all of its members, whether living under the same roof or not, is still a family unit. As a rule parents as they grow older acquire more wisdom and appreciation for their children, grandchildren, and the family unit. This enables them to exert through their concern, love, and companionship valuable guidance to the other members of the family, and strengthen the effective service of the family as a unit.¹⁶⁴

Since children are not likely to make large investments in parents, the investment theory of recovery would likely result in a small award.

Recovery would also be justified at the other end of life, where mothers could demonstrate the wrongful death of viable fetuses. In *Jones v. Karraker*, the Illinois Supreme Court upheld a jury award of \$125,000 for the wrongful death of a viable fetus due to medical malpractice.¹⁶⁵ Deciding that limiting damages for a

163. The "Grandmother Hypothesis" proposes a model whereby the average human lifespan was extended as a result of selection for family groups who had older, non-reproductive females who could invest in grandchildren while reproductive mothers shifted investments to increased reproduction. See, e.g., Kristen Hawkes et al., *The Grandmother Hypothesis and Human Evolution*, in ADAPTATION AND HUMAN BEHAVIOR: AN ANTHROPOLOGICAL PERSPECTIVE 237 (Lee Cronk et al. eds., 2000); Nick Blurton Jones et al., *Older Hadza Men and Women as Helpers: Residence Data*, in HUNTER-GATHERER CHILDHOODS 214, 220–24 (Barry S. Hewlett & Michael E. Lamb eds., 2005).

164. *Westfall v. Venton*, 137 N.W.2d 757, 761 (Mich. Ct. App. 1965).

165. 457 N.E.2d 23 (Ill. 1983). Cf. Christopher P. Edwards, Note, *DiDonato v. Wortman and Wrongful Death of a Viable Fetus in North Carolina: The Case Against Unreasonably Restricting Damages*, 66 N.C. L. REV. 1291, 1299 (1988) ("[B]y 1986 thirty-five jurisdictions had afforded estates of viable fetuses the opportunity to recover damages by way of wrongful death actions."). The mother's cause of action for the cost of pregnancy would not, however, be part

child—including an unborn fetus—was better left to legislative pronouncement,¹⁶⁶ the court upheld the verdict without analysis as to the pecuniary loss to the mother, or any mention of a special relationship between a mother and an unborn fetus.¹⁶⁷ The jury in *Karraker* could not have relied on a theory of pecuniary loss; a fetus cannot provide financial support through wages or earning.¹⁶⁸ Neither could it have relied on an investment theory similar to the one put forth in *Wycko*,¹⁶⁹ where the child survived birth and the parent-plaintiff spent money raising the child for fourteen years. It is also not likely that the jury relied on the concept of genetic investment as posited by evolutionary psychologists. Still, underneath their determination that a viable fetus was worth \$125,000 must exist some tacit acknowledgment that parents value their own healthy children.

Certainly a fetus does represent an investment by the mother.¹⁷⁰ Mammalian mothers expend significant energy, time, and undergo physiological strain to produce a viable fetus.¹⁷¹ In cases like *Karraker*, where negligence results in the death of an otherwise viable fetus, the costs of employing and providing medical fees for a surrogate mother are a good proxy for the value lost.¹⁷² The opportunity costs associated with the time spent on a non-viable fetus are also likely to be high, especially given the planning that human mothers put into pregnancy and the spacing of births. Moreover, certain costs, related to courtship and family planning, are incurred prior to conception.¹⁷³ At least one court has refused to

of the fetus' estate; that action would have to fall into some special consideration for third parties under an investment theory like that in *Wycko*.

166. *Karraker*, 457 N.E.2d at 25.

167. *Id.* at 24–26.

168. Some courts have given compensation for the wrongful death of minors without requiring any demonstration of quantifiable investment. *See, e.g.*, *Haumersen v. Ford Motor Co.*, 257 N.W.2d 7, 17–18 (Iowa 1977) (finding the plaintiff-parents did not need to present evidence of the cost of maintenance in minority for recovery for nonspecific loss of services); *Lake Erie & W.R. Co. v. Chriss*, 105 N.E. 62, 63–64 (Ind. App. 1914) (“[W]here the facts as to the age, sex, education, health, disposition, and general characteristics of the child are proven, and the situation and condition in life of the parents . . . are shown, there is evidence from which the jury . . . may assess substantial pecuniary damages . . .”).

169. *Wycko v. Gnodtke*, 105 N.W.2d 118, 122–23 (Mich. 1960).

170. Fathers are also likely to make a significant investment in the health of a fetus (e.g., by providing resources to the pregnant mother).

171. GEOFFREY MILLER, *THE MATING MIND: HOW SEXUAL CHOICE SHAPED THE EVOLUTION OF HUMAN NATURE* 86 (2001).

172. *See* Lorraine Ali & Raina Kelley, *The Curious Lives of Surrogates*, *NEWSWEEK*, Apr. 7, 2008, at 45 (“[T]ypically, surrogacy agreements in the United States involve payments of \$20,000 to \$25,000 to the woman who bears the child.”).

173. *See* Trivers, *Parental Investment*, *supra* note 83, at 145–50 (“In the human species, for example, a copulation costing the male virtually nothing may trigger a nine-month investment by the female that is not trivial After a nine-month pregnancy, a female is more or

extend a claim for wrongful death to the loss of pre-embryos not implanted in a mother's womb, reasoning that viability is a prerequisite to wrongful death.¹⁷⁴ It is possible to make a mother-plaintiff whole, at least in a corrective justice sense, in a wrongful death action for the loss of her fetus; *Karraker* represents an attempt by a jury to do just that, and the award comports with the notion of genetic investment.¹⁷⁵

The *Wycko* court could not explicitly rely on biological theories of the value of children as a justification for compensation. The lexicon did not exist in 1960, nor the advanced scholarship promoting a synthesis between evolutionary psychology and law.¹⁷⁶ But the argument does not require that the *Wycko* jury was alert or even conscious to the evolutionary origins of their intuitions about survival or reproduction. It is a feature of the scholarship of behavioral biology that the explanation follows the behavior,¹⁷⁷ and, in this case, the evolutionary explanation followed the legal behavior of the *Wycko* jury.

CONCLUSION

Investment theory is consistent with corrective justice when placed in the context of the biological concept of inclusive fitness, and the current synthesis between law and biology supports its adoption to help quantify recovery in wrongful death cases. Neither Justice Talbot Smith, nor the jury sitting in Berrien County, Michigan in 1959, could have used inclusive fitness as a justification for granting John Wycko, Sr. the cost of raising his son to the

less free to terminate her investment at any moment but doing so wastes her investment up until then.").

174. *Jeter v. Mayo Clinic Ariz.*, 121 P.3d 1256, 1265, 1271–72 (Ariz. Ct. App. 2005) (upholding plaintiff's action for the negligent destruction of the pre-embryos). *But see Wiersma v. Maple Leaf Farms*, 543 N.W.2d 787 (S.D. 1996) ("Parents may seek redress regardless of whether their unborn child was viable.").

175. For an example of a court acknowledging the importance of genetic relatedness and the related costs of pregnancy, see *Johnson v. Calvert*, 851 P.2d 776 (Cal. 1993) (awarding maternal rights to the genetic mother rather than the surrogate mother under California's parentage statute). There are scenarios in which mothers make investments in fetuses which are not genetically their own (as a surrogate or as a woman implanted with an egg of another woman fertilized by her husband). Women in this situation have demonstrated Ireland and Ward's "willingness to pay." See *supra* text accompanying notes 160–162. They have also demonstrated the same "parental and cultural desires" which buttress the argument for recovery in the case of other adoptive parents. See *supra* text accompanying notes 105–110.

176. See E. Donald Elliott, *Law and Biology: The New Synthesis?*, 41 ST. LOUIS U. L.J. 595 (1997).

177. See ALCOCK, *supra* note 82, at 24.

age of fourteen. In 1959, they did not even have Becker's analysis of the loss of "dynastic utility."¹⁷⁸ Instead, the jury looked at Wycko and saw a man who had lost both of his sons to the negligence of another, and understood, in an ancient and fundamental sense, that this meant the end of his direct line.¹⁷⁹ Today, we have this same intuition, but it is now buttressed by a deeper understanding through biology of how and why humans invest in one another. This understanding gives us not only the reasoning, but also the impetus to adopt an investment theory model of recovery in wrongful death cases.

178. Ireland & Ward, *supra* note 159, at 179 n.1 (discussing BECKER, A TREATISE ON THE FAMILY, *supra* note 157).

179. Courts have struggled to articulate a reason that explains this intuition. See discussion *supra* note 168.