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Aggregating Happiness: A Framework For Exploring Compensation For Lost Years Of Life

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AGGREGATING HAPPINESS: A FRAMEWORK FOR EXPLORING COMPENSATION FOR LOST YEARS OF LIFE

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This Article addresses two questions: (1) Should a plaintiff be able to be compensated in tort for having his life shortened by a defendant's tortious behavior (e.g., by medical malpractice or exposure to carcinogens)? and (2) If he should be compensated, in what amount?

This Article primarily explores these questions in the context of cases in which a victim has his expected future shortened by a tort, but in which he has not yet died. In a case of this type, the fact that the victim is still alive makes it possible to compensate the victim himself directly for the value of life-years. But the law generally fails to compensate plaintiffs for these losses—a position that is in great tension with the commonsense intuition that having one's life shortened is one of the most serious harms that one can incur. If this commonsense intuition is correct, the law's rule against compensation for a person whose life is shortened is arguably in need of reform.

In order to address these issues, this Article draws upon a novel framework that the author has proposed elsewhere for (1) understanding and systematizing our approach to private law remedies in general, and (2) addressing the specific question of whether, and, if so, how much, a person should be compensated for lost years of life. According to this framework, the goal of private law remedies is, and should be, returning a party to the position he was in, before the harm incurred, in terms of happiness (or, perhaps, another feature of a person's welfare that might similarly be thought to be intrinsically valuable). After sketching the proposed framework, this Article then significantly develops it, expands upon it, and applies it.

More specifically, the Article applies the author's three-step approach for determining compensation for lost years of life: (1) Determining which "happiness aggregation function" to espouse, (2) determining how much happiness, according to one's happiness aggregation function of choice, a plaintiff lost as a result of the harm; and (3) determining how much financial compensation will bring about a transfer of happiness to the plaintiff that will equal the amount that he lost (according to one's happiness aggregation function of choice). The Article explains how we should carry out these steps, and it addresses key questions that arise along the way.

Introduction

This Article addresses two questions: (1) Should a plaintiff be able to be compensated in tort for having his life shortened by a defendant's tortious behavior (e.g., by medical malpractice or exposure to carcinogens)? and (2) If he should be compensated, in what amount?

More specifically, the determinations at issue here are about how to compensate for a particular component of a claim arising out of the tortious shortening of life: how to compensate for the harm of failing to experience the years of life that were lost (the victim's "hedonic loss"[1]). The legal system could confront cases of plaintiffs seeking a remedy for the harm of lost life-years in two contexts. First, a case might be brought after a victim has died. In such a case, although a remedy for the lost life-years arguably might be warranted in order to bring about optimal incentives for future tortfeasors,[2] it could be argued that plaintiffs should not recover for this harm because this harm was to the victim himself who no longer is alive and able to be compensated.[3] This Article, however, primarily explores a second context in which plaintiffs might seek a remedy for the harm of lost life-years: cases in which a victim has his expected future shortened by a tort, but in which he has not yet died. In a case of this type, the fact that the victim is still alive makes it possible to compensate the victim himself directly for the value of life-years. Thus, even if compensation for lost life-years is not warranted in cases where the victim is dead, it might still be warranted in cases where the victim is still alive.

An exploration of the law's treatment of these cases reveals two things. First, the law generally fails to compensate plaintiffs for lost years of life—a position that is in great tension with the commonsense intuition that having one's life shortened is one of the most (if not *the most*) serious harms that one can incur. If this commonsense intuition is correct, the law's rule against compensation for a person whose life is shortened is arguably in serious need of reform. Second, the status quo appears to not be the result of analysis, but, rather, it appears to be due to path dependence. Accordingly, the analysis carried out in this Article is long overdue.

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1. For usage of the term "hedonic loss," see Eric A. Posner & Cass R. Sunstein, *Dollars and Death*, 72 U. Chi. L. Rev. 537, 544 (2005); Jennifer H. Arlen, *An Economic Analysis of Tort Damages for Wrongful Death*, 60 N.Y.U. L. Rev. 1113, 1113–14, 1119–22 (1985).

2. *See, e.g.*, Posner & Sunstein, *supra* note 1; Arlen, *supra* note 1; Michael Pressman, *Hedonic-Loss Damages that Optimally Deter: An Alternative to "Value of a Statistical Life" that Focuses on Both Decedent and Tortfeasor*, 72 Hastings L.J. (forthcoming 2021).

3. Some might argue, however, that, even if the victim cannot be compensated for the lost life-years, it would be appropriate for her estate to be compensated for this harm.

In order to address these issues, this Article draws upon a novel framework that I have proposed elsewhere[4] for (1) understanding and systematizing our approach to private law remedies in general, and (2) addressing, more specifically, the question of whether, and, if so, how much, a person should be compensated for lost years of life. According to this framework, the goal of private law remedies is, and should be, returning a party to the position he was in, before the harm incurred, *in terms of happiness* (or, perhaps, in terms of some other feature of a person's welfare that might be thought to be intrinsically valuable). This Article explains and addresses several key nuances of this formulation.

After sketching this framework that I have proposed, this Article then significantly develops and expands upon the framework—both by exploring how it should be applied and by addressing a variety of new questions that arise in doing so. Thus, this Article leaves the reader with a considerably more robust and detailed framework, as well as with the tools with which to apply it.

More specifically, the particular framework that this Article develops for determinations of compensation for lost years of life involves three steps: (1) Determining which "happiness aggregation function" to espouse, (2) determining how much happiness, according to one's happiness aggregation function of choice, a plaintiff lost as a result of the harm; and (3) determining how much financial compensation will bring about a transfer of happiness to the plaintiff that will equal the amount that he lost (according to one's happiness aggregation function of choice). The Article explains how we should carry out these steps, and it addresses key questions that arise along the way.

Although this Article does not provide conclusive answers to the questions of whether, and, if so, how much, a person should be compensated for having his life shortened, it (1) provides us with a novel framework in which, and the tools with which, to answer these important and urgent questions, and (2) in addition to laying this foundation, it canvases the arguments in favor of and against the various possible answers.

The Article proceeds as follows:

While most cases of private law harms do not have as a result the shortening of the expected length of a person's life—and while even fewer have the result that the person's life is shortened but he is not

4. *See* Michael Pressman, *Calculating Compensation Sums for Private Law Wrongs: Underlying Imprecisions, Necessary Questions, and Toward a Plausible Account of Damages for Lost Years of Life*, 53 MICH. J.L. REFORM (forthcoming 2020) [hereinafter Pressman, *Calculating Compensation Sums for Private Law Wrongs*].

immediately killed—there are some that do. Part I begins by describing the factual situations in which these torts might occur. Part I then proceeds to explore the law's treatment of these cases, and it turns out that the law almost as a rule does not allow a person to be compensated in situations where a person is harmed by having his life shortened. Prima facie, this suggests that the law is saying that a person is not harmed by having his life shortened. Part I explores various practical reasons why we might not allow a person to be compensated for having his life shortened even if we do think that he is harmed by having his life shortened (including the fact that often a person who has his life shortened will die immediately and not be alive to bring a suit), but Part I concludes that these reasons are not sufficient reasons for denying compensation across the board to such plaintiffs. Part I thus suggests that courts are indeed saying that a person who has his life shortened is not harmed. This, however, is in great tension with commonsense intuitions that having one's life shortened is one of the most serious harms that one can incur. If our intuitions are correct, then it seems that the law must be changed.

Part II then sketches out the general framework that I have proposed elsewhere[5] for (1) understanding and systematizing our approach to private law remedies in general, and (2) addressing, more specifically, the question of whether, and, if so, how much, a person should be compensated for lost years of life. In so doing, Part II provides a few key preliminary discussions that will set the stage for this Article and that will aid the reader in understanding the topics that will be addressed. Among these discussions are introductions to the private-law-remedies notion of "the level that one was at"[6] and the various imprecisions in its formulation, which have gone unnoticed, but which come to the fore when we recognize that the law's typical focus on a person's financial position is merely used as a proxy for one's position in terms of happiness (or, perhaps, some other feature of a person's welfare that similarly might be thought to be intrinsically valuable): (1) how to quantify the happiness level of a moment of experience; (2) the temporal question of which portion of one's life—be it one's whole life, a temporal chunk thereof (e.g., one's future), or single specific moments—should be the relevant portion of a person's existence used for determining the position that one was in, is now in, or will be returned to; and (3) if the relevant portion of one's life is a period extended over time that includes more than one conscious moment of one's life, the question of what function to use (be it sum-

5. *See* Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4.
6. *See id.* at 6.

aggregative, averaging, or something else) to determine the value of the whole, given the value of its parts. Part II then focuses on the third imprecision, exploring the way in which the law confronts it and is, as a result, forced to grapple with how best to articulate a more precise formulation. The main context in which the law confronts this imprecision is in "different-numbers cases".[7] The most important way in which the law confronts different-numbers cases involves the determinations that courts must make regarding how to compensate plaintiffs in tort law for having their lives shortened by a defendant's tortious behavior. After showing that the law *does in fact confront* different-numbers problems, Part II shows that different-numbers problems are very difficult to resolve—and thus that it is difficult to articulate a plausible account of how to value lost years of life. This is largely because it is extremely difficult to articulate a plausible account of how to trade off quantity of life and quality of life.

Thus, by the end of Part II, the Article will have set the foundation for the core discussions and analyses of the Article (to take place in Parts III and IV) by explaining what questions we need to answer if we want to make progress on the questions of (1) whether a person can be harmed by having his life shortened; (2) if so, how much of a harm this is, and the related, and, indeed, corresponding, questions of; (3) whether a person should be compensated in tort for having his life shortened; and (4) if so, how much a person should be compensated for this. Or, said differently, the stage is set for determining whether commonsense intuitions are correct, and thus whether the law is indeed in as serious of a need of reform as it appears to be.

In Parts III and IV, this Article seeks to answer these four related questions. To do so, this Article offers—and attempts to carry out—a novel three-step process: Step 1: determining the most plausible aggregation mechanism; Step 2: determining how much happiness, according to one's aggregation mechanism of choice, a plaintiff lost as a

7. "Different-numbers cases" are a category of cases that this Article will introduce and provide numerical examples of so that the reader can more vividly grasp the nuts and bolts of "different-numbers problems," the issues they raise, and why they are so difficult to satisfactorily resolve. Although different-numbers problems are a problem that philosophers confront, it has not been recognized that they are a problem that the law also must confront. As far as I can tell, there has not been a single discussion about different-numbers problems in the context of the law—not in academic literature, in case law, or anywhere else. Notwithstanding the lack of discussions of different-numbers problems in the context of law (and thus also notwithstanding the lack of there being a recognition that the law confronts different-numbers problems), however, there are situations in which the law must confront them. It is of great importance (1) that we become aware of how and when the law confronts them, and (2) that we come up with a satisfactory solution to these problems so that we can ensure that the law gets the right result in these important situations.

result of the harm; and Step 3: determining how much financial compensation will bring about a transfer of happiness to the plaintiff that will equal the amount that he lost (according to one's aggregation mechanism of choice).

Part III sets out to carry out Step 1. As Part III shows, however, seemingly all possible accounts of the most plausible aggregation mechanism are afflicted by having significantly counterintuitive implications. Thus, to make progress, one must canvass the various points in favor of and the various points against the different possible solutions so that one's decision is as good as possible. Despite considering the ins and outs of the various candidate theories, Part III ultimately does not conclusively put its weight behind any single theory as the most plausible account.

Part IV then carries out Step 2 and Step 3. In light of the difficulty of settling on a single aggregation mechanism as the most plausible in Step 1, Part IV carries out Step 2 for each of the possible answers to Step 1. It sketches out what the various possible aggregation mechanisms would give as answers to the questions of whether a person can be harmed by having his life shortened, and if so, how much of a harm (in terms of happiness) this is. For the purposes of private law remedies, however, we need to do more than merely determine how much a person has been harmed in terms of happiness by having his life shortened. We also must determine how much (monetary) compensation will bring the aggrieved party back to the level that he was at before incurring the harm. Part IV thus also carries out Step 3. Ultimately, Step 3 is the same regardless of which aggregation mechanism one espouses, so Part IV's discussion of Step 3 applies regardless of which aggregation mechanism one espouses at Step 1.

Lastly, the Article closes with a brief conclusion. Although this Article does not provide conclusive answers to the questions of whether, and, if so, how much, a person should be compensated for having his life shortened, it provides us with the tools with which to answer these important questions. In so doing, the Article aims to provide a contribution that is both theoretical and practical, and which aims to further both fairness and efficiency.

I. Harms that Shorten Lives: Factual Situations, Legal Rules, and Possible Legal Rationales

A. Situations in Which a Person Is Harmed by Having His Life Shortened, and How the Law Treats These Cases

1. Situations in which a person is harmed by having his life shortened

While most cases of private law harms do not have as a result the shortening of the expected length of a person's life, there are some that do.[8] The following are some examples of situations that can result in lives being shortened: (1) medical malpractice; (2) torts of exposure to dangerous substances, such as asbestos, smoking, or other carcinogens; (3) torts of accidents, such as car accidents involving reckless driving, or construction accidents; and also (4) intentional torts, including but not limited to murder. These are some of the main examples of cases where lives can be shortened, but other examples exist as well. Of these various examples, all can shorten lives, and some of them can also involve variants where not only is a life shortened but it is brought to an immediate end.

To elaborate on one of these categories of cases, and to see how it might be an example of a harm that shortens a person's life, consider an example of medical malpractice.[9] An example of a typical fact pattern might be the following: A doctor negligently fails to correctly diagnose a disease or negligently fails to call for a procedure that would show the existence of a disease. The patient then discovers the disease a year later, at which point the disease is at such an advanced stage that nothing can be done to cure it, and it is estimated that the patient has one year left to live. If, however, the patient had become aware of the disease a year earlier, it could have been easily treated and cured, and the patient, based on his age, would have had an expected remaining life length of thirty years. Thus, as a result of the doctor's negligence, the patient's expected length of remaining life at the time of the negligence was shortened from thirty years to two years.

Additionally, as stated above, all four of the categories mentioned above (the non-exhaustive list of examples of ways in which a person's

8. The reader should note that the text in this Section, which provides background for the Article's main contributions in Parts III and IV, *infra*, includes excerpts from my similar discussion in Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4. These excerpts are included here (1) to improve the reader's understanding of the later portions of this Article, and (2) for the reader's convenience—so he or she need not search for the relevant discussions in the article from which the excerpts are taken.

9. *See* John D. Hodson, Annotation, *Medical Malpractice: "loss of chance" causality*, 54 A.L.R. Fed. 10 (4th ed., 1987).

life could be shortened) could result potentially in a shortening of life that is brought about by an immediate death or by a death that is not immediate. The example of medical malpractice, just given, happened to involve a non-immediate death, but a variant of that case could have been offered that would involve immediate death. To further illustrate a possible case where the shortening of life is brought about by an immediate death, though, I offer additional examples from the third and fourth category above. On the one hand, in the context of negligence, there are cases where a person is killed immediately by another person's negligent operation of a motor vehicle. On the other hand, in the context of an intentional tort, there are cases where a person murders another person and where the murderer is the defendant in a civil case arising out of the murder. In both of these cases, as with the original example of medical malpractice, a person's life has been shortened. In these two latter cases, however, a person is not left with any remaining life at all.

Thus, there are various categories of cases in which a person can have his life shortened. Further, for all of these categories, the death that brings about the shortening of the person's life can be an immediate one or a non-immediate one, and if it's a non-immediate one, the death can happen at any possible point in time in a person's future.

Before continuing, it is important to be clear about how prevalent these cases of a person having his life shortened are. Cases where a person's life is shortened certainly do not constitute the majority of cases where a person is harmed. Much to the contrary, they constitute the vast minority of cases in which a person is harmed. Notwithstanding this, these cases are not to be ignored. They do not constitute a category of cases that is narrow, obscure, or merely relegated to the periphery of the law. Thus, they undoubtedly deserve our close attention.[10]

2. *The law regarding situations in which a person is harmed by having his life shortened*

When a life is shortened due to a private law harm, there typically are two categories of civil claims that can be brought. One can be brought by the person whose life was shortened, and the other can be

10. Further, although the following point is not one that is necessary for justifying the focus on these types of cases, there also is reason to believe, as I argue elsewhere, that the prevalence (and importance) of these cases in the law is likely to grow significantly in the future as various technologies develop—and for several other reasons. *See* Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4, at 57–60.

brought by family members of the person whose life was shortened. I'll mention the second category first.

The claims of the family of the person whose life has been shortened come in a few forms, some of which are the following: (1) The family can get damages for financial losses due to the person whose life was shortened being unable to earn wages and provide financially for his family due to his death, and (2) The family can get damages for non-economic losses due to the death, be it a wrongful death claim by the family or a consortium claim by the spouse of the deceased.[11] These suits involving the claims of the family are thus brought not only *by* people other than the person whose life was shortened, but also *on their own behalf*.[12] In other words, these claims are not being brought by the family on behalf of the harms to the person whose life was shortened; rather, these claims are for harms that were incurred by the family members themselves. Additionally, and importantly, not only is it the case that these claims can be brought by the family members, but it is also the case that they are *unable* to bring any claims for harms to the person whose life was shortened.

The other category of claims can be brought by the very person whose life was shortened. If a person dies immediately, this prevents a claim being brought by the person whose life is shortened.[13] If, however, a person does not die immediately, he can bring claims for the harms that he incurred. Let's assume that the harm not only shortens

11. Arlen, *supra* note 1, at 1117–18 (citing W. KEETON, D. DOBBS, R. KEETON & D. OWEN, PROSSER AND KEETON ON THE LAW OF TORTS, § 127, at 949 (5th ed. 1984)).

12. *Id.*

13. Although the decedent himself cannot bring a claim, claims can be brought on his behalf through survival actions wherein the estate of the decedent brings an action against the tortfeasor for any causes of action that the decedent possessed at the time of his death. In the case of an immediate death, however, there arguably will not be a person who experiences the types of losses listed in this paragraph. Arguably, however, the victim who dies immediately will still incur the harm described in the following paragraph—a loss of wellbeing due to the loss of life-years themselves. As the following discussion will make clear, the Article's focus will be on how the law handles this loss—of wellbeing due to the loss of life-years themselves. In light of the fact that this will be the focus of the Article, I will leave aside questions regarding the ability of plaintiffs to bring survival actions on behalf of decedents for the other possible losses. Even with respect to the topic of the loss of wellbeing due the lost life-years themselves, there will be interesting questions that I will bracket. I will be exploring whether a victim who does not die immediately should be able to recover for his loss of future life-years. I will be bracketing the question of whether, for a victim who dies immediately, a claim should be able to be brought on his behalf for this loss. I will simply assume that such a decedent cannot be compensated. If, however, one thinks that the law should allow for victims who do not die immediately to recover for their loss in wellbeing due to the lost life-years, there will then be an interesting further question of whether this loss should be recoverable in suits on behalf of the victim after the victim has died. For the purposes of this Article, I leave this question aside, and I only focus on cases where the victim himself is able to personally be compensated for his loss in wellbeing due to his loss of life-years.

the person's life, but it also has an impact on the years he does live after the harm is incurred. In such a case, the person can bring claims of various forms, including the following: (1) claims for financial losses due to medical bills, (2) claims for financial losses due to the inability to earn wages (while alive, but due to, say, being injured), and (3) claims for non-economic losses due to pain and suffering.[14]

With respect to the category of claims brought by the person whose life is shortened, there is a huge omission (and also a second, smaller omission). What in many cases is seemingly and quite possibly the worst harm of all of the harms incurred by the person is something that he cannot bring a legal claim for: He is unable to bring a claim for being harmed by having his life shortened—i.e., for the harm of lost years of life.[15] While this is the big omission in the law, there is also another harm that the person cannot bring a claim to recover for: non-economic losses due to the psychological pain and suffering that is experienced because of the knowledge that one's life has been shortened and or that one's death is approaching.[16]

While we generally do not allow these last two types of claims, there are exceptions. A handful of courts have allowed recovery for a claim, brought by a person whose life has been shortened, for the non-economic losses due to the psychological pain and suffering that is experienced because of the knowledge that one's life has been shortened or that one's death is approaching.[17] Even these few courts, however, did not allow recovery for a claim for the harm incurred due to lost years of life themselves.[18]

There are, however, a few examples of cases where courts have allowed recovery for a claim for the harm specifically of having one's life shortened.[19] This, however, is extremely rare and two of the very

14. Arlen, *supra* note 1, at 1118.

15. The shortening of one's life expectancy is *not* per se a compensable category of damages in an action for personal injury. *See* Downie v. United States Lines Co., 359 F.2d 344 (3d Cir. 1966). The loss of wellbeing incurred due to the loss of life-years themselves not only is typically not a tort that one can recover for, but this loss also is not compensable under the umbrella of other torts—such as, for example, intentional infliction of emotional distress.

16. *See* Tyminski v. United States, 481 F.2d 257, 271 (3d Cir. 1973) (finding that "there is no state law authority to support a separate award for shortening life's expectancy" and that the District Court's inclusion of such an award in determining the level of pain and suffering damages was erroneous).

17. *See, e.g.*, O'Leary v. United States Lines Co., 111 F. Supp. 745 (D. Mass. 1953); Farrington v. Stoddard, 115 F.2d 96 (1st Cir. 1940).

18. *Farrington*, 115 F.2d at 101.

19. A few cases dealt with the specific question of whether a reduction in life expectancy is compensable. *See, e.g.*, Downie v. United States Lines Co., 359 F.2d 344, 347–48 (3d Cir. 1966); McNeill v. United States, 519 F. Supp. 283, 289 (D.S.C. 1981); James v. United States, 483 F.

few examples are *Alexander v. Scheid*,[20] an Indiana Supreme Court case, and *Downie v. United States Lines Co.*, a Third Circuit case.[21]

As for how these few courts calculated the amount of compensation for having one's life shortened, seemingly very little analysis went into the decision of how much compensation to provide.[22] The courts simply assumed that the amount of compensation should be calculated by (1) employing something functionally equivalent to what I will in this Article call "total-utilitarian ("TU")-type aggregation"[23] and (2) providing a certain amount of compensation to the plaintiff for each year by which the person's life was shortened.[24]

As I will discuss in Parts III and IV, a measure of compensation of this sort could very well turn out to be a plausible (i.e., correct or good) measure of compensation, but this is far from obviously the case. Rather, there are various possible aggregation functions (and thus TU-type aggregation is not the only option), and the determination of which aggregation function is most plausible requires careful analysis and the answer is far from clear. Further, even if one does espouse TU-type aggregation, there is important analysis involved in determining what amount of financial compensation would make a person whole, restoring to the person the value that he otherwise would have lost (as determined by TU-type aggregation).

Thus, in sum, although the general rule is that courts do not allow a person to recover compensation for having his life shortened, there are a (very) few courts that have provided compensation in such cases. Even these courts that have provided compensation to a person for having his life shortened, however, provided very little insight into both (1) why a party should be compensated, and (2) given that a party should be compensated for having his life shortened, how to quantify the value of this harm, and how to determine how much financial compensation is the appropriate amount to compensate a person for that amount of lost value.

Supp. 581, 586–87 (N.D. Cal. 1980). *See also* Schultheis & Rheingold, *Making Up for Lost Time: Recovering for Shortened Life Expectancy*, 19 TRIAL 44 (Feb. 1983).

20. Alexander v. Scheid, 726 N.E.2d 272 (Ind. 2000).

21. Downie v. United States Lines Co., 359 F.2d 344 (3d Cir. 1966).

22. *Alexander*, 726 N.E.2d at 281; *Downie*, 359 F.2d at 347.

23. "TU-type aggregation" is a measure—which I will introduce in Part II—according to which the value of a number of lost years is equal to the *sum* of the value that would have been experienced by the person in each temporal portion of those years. *See infra* Part II.

24. *Alexander*, 726 N.E.2d at 281; *Downie*, 359 F.2d at 351.

B. Exploring the Law's Treatment of Shortening-of-Life Issues and Assessing Whether the Position Is A Good One

1. Determining what the law is saying about shortening-of-life issues

Although claims brought by and on behalf of the family members arise out of an event that harmed a person and shortened his life, these claims are not only brought by the family members, but they are also claims brought for a remedy on their own behalf. Thus, the purpose of these claims is to bring the *family members* back to the position[25] that they were in before the harm that they incurred. Barring the existence of facts about how the family members' life expectancies are affected by the shortened life of the person whose life was first shortened, these claims are not being brought for the harm of any loss of years that they incurred (or for the lost years of their relative), but rather the claims are being brought for the ways in which the years in their life (which would have existed regardless of whether the original tort in question occurred) have been made worse by the shortening of the relative's life. Thus, we can leave these claims aside from now on.

With respect to the claims brought by the shortened-life claimant,[26] consider a distinction between two possible sources of harm. On the one hand, there can be harm incurred by the person with respect to the years in which he does still live. On the other hand, there can be harm incurred by the person due to having lost years of his life.

As a general matter, the law seems happy to compensate a person for the harms that he experiences during the years he still lives. As I stated above, the one exception to this seems to be that the law generally does not compensate the person for the psychological pain and suffering that he experiences during these years that is due specifically to the knowledge of the fact that his life has been shortened and the fact that his death is approaching (as opposed to other pain and suffering that he experiences during his remaining years of life, which he is generally able to get compensation for).[27] Going forward, however, I will leave aside this wrinkle and state generally that the law does in fact allow a person to be compensated for all of the harms that he experiences during the years that he still lives.[28]

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25. As I argue in Section II.A.2, *infra*, we should understand the law's goal (of returning a plaintiff to the position he was in before the harm that he incurred) as referring to the position that the plaintiff was in in terms of *happiness*.

26. This is the term I will use to refer to the person whose life has been shortened by the tort.

27. *See* Tyminski v. United States, 481 F.2d 257, 271 (3d Cir. 1973).

28. This general statement is of course subject to the elements of a claim being established. For example, with respect to torts, I am not suggesting that a person could be compensated without establishing each of the elements of a tort claim—i.e., duty, breach, but-for causation,

The law, however, is unwilling to compensate a person for the harm incurred by the person due to having his life shortened.[29] Consider the result here for the person who dies immediately and for the person who will live for a while before dying.

As for the person who dies immediately: Obviously this person will not be able to recover anything, because he will be dead before a suit can be filed and long before he would be able to receive an award from the court. This practical fact thus makes it difficult to know what the law's view would be about whether we should compensate a person for having his life shortened if he were alive and thus able to be compensated. On the one hand, it could be that the law does think that a person should be compensated for the harm of having his life shortened, but the fact that he is dead renders the question moot because he is therefore unable to be compensated.[30] On the other hand, it could be that the law does not think that a person should be compensated for the harm of having his life shortened, and even if he were alive and able to be compensated, we would not compensate him.

Perhaps, however, we can glean greater insight into whether the law thinks that a person should be compensated for having his life shortened if we look at a scenario where a person's death is not immediate. A person whose life is shortened but who does not die immediately would thus at least be alive and would, practically speaking, be able to bring a claim for his loss if this were a claim recognized by the courts.

As for the person who will live for a while before dying: This person will potentially be harmed both by having his remaining years affected, and by losing years of his life. As for the harm due to effects on

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proximate causation, and injury. The assumption I am making is merely that if the elements of a claim are established, the law does allow a person to be compensated for all of the harms that he experiences during the years that he still lives.

29. *In re* Joint E. & S. Dist. Asbestos Litig., 726 F. Supp. 426, 430 (E.D.N.Y. 1989) (noting that a majority of American courts have rejected the shortening of life expectancy as an element of damages); Verni *ex rel.* Burstein v. Harry M. Stevens, Inc., 387 N.J. Super. 160, 204 (App. Div. 2006) (finding that "shortened life expectancy is not an element of loss of enjoyment of life damages in an action for personal injury"); Jay M. Zitter, *Excessiveness or adequacy of damages awarded for injuries causing mental or psychological damages*, 52 A.L.R. FED. 1 (5th ed., 1997) (discussing the array of remedies and damages available to plaintiffs in personal injury cases and suppling an overview of federal case law that challenges tort law's inability to compensate plaintiffs for mental and psychological harms associated with physical injuries – including loss of enjoyment of life and loss of life expectancy). The *Verni* court reasoned,

> The distinction between loss of enjoyment of normal activities and loss of enjoyment of the years taken from a person due to catastrophic injury may be narrow, but it exists. Contemplation of damages for a shortened life expectancy injects not only an incalculable element of damages, but also a plea to unbridled emotion that is not designed to produce a damage award free from passion.

Verni, 387 N.J. Super. at 205.

30. *See generally* Farrington v. Stoddard, 115 F.2d 96, 101 (1st Cir. 1940).

the years of life that he does still live, he will be able to recover for these harms. The person will not be able to recover, however, for the harm of losing years of life.

Unlike in the case of the person who dies immediately, we can infer from the scenario of non-immediate death what the law's position is on whether a person should be compensated for having his life shortened. The law seems to clearly be saying that a person should not be compensated for having his life shortened.[31] Further, it seems that we can perhaps infer from this that the law is saying that a person is not harmed by having his life shortened. After all, we think that people generally should be compensated for harms, and in a case of non-immediate death, there is nothing in terms of practicality of the situation that is preventing us from allowing a person to sue and recover for having his life shortened. Yet, despite this, we still do not allow a person to recover for having his life shortened.

In sum, the law does not allow recovery for a claim for the harm *to the person whose life is shortened* for the lost years of life.[32] In the context of immediate death, it is unclear whether this is due to practicalities of the situation or a theoretical position, but in the context of non-immediate death—where the practicalities of the situation do not prevent a person from suing and recovering—it becomes clear that the inability of a person to recover is due to a theoretical position of the courts that a person should not be able to be compensated for having his life shortened. Further, given that private law remedies seek to compensate a person for the harm he has incurred, the law seemingly is telling us that a person is not harmed by having his life shortened.[33]

2. Considering an objection to my interpretation

One might, however, object to my claim that the law is telling us that a person is not harmed by having his life shortened.[34] One might

31. *See In re Joint E.*, 726 F. Supp. at 430; *Verni*, 387 N.J. Super. at 204; Zitter, *supra* note 29.

32. *See In re Joint E.*, 726 F. Supp. at 430; *Verni*, 387 N.J. Super. at 204; Zitter, *supra* note 29.

33. Further, recall that while the family members are able to recover for harms resulting from the shortened life (i.e., the lost years of the person whose life is shortened), this recovery for the family members is not for the harm of losing years of life incurred by the person whose life is shortened. Rather, as I stated earlier in this Section, this recovery is for harms incurred by the family members themselves *during their years of life*. Thus, the fact that the law allows recovery for family members in these cases does not constitute any reason at all to think that the law is saying that a person can be harmed by having his life shortened (losing years of life). The law is just saying that a person can be harmed by the premature death of one of their loved ones. This in no way casts doubt on the fact that the law continues to deny that the person who has his life shortened is in any way harmed by the loss of years of life.

34. Excerpts from the text in this Section are included in my discussion of this topic in Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4. The excerpts are

say that, while it is true that we do not allow a person to get compensated for having his life shortened, this is not necessarily due to the law having a position that no harm occurs to that person. Rather, one might say, it is the case that the law thinks that a person is harmed when he has his life shortened, but there are other reasons why, despite the person incurring a harm, we do not allow him to get compensated. One such reason, as discussed above, might be the fact that when people have their lives shortened, they often die immediately, and this prevents them from being able to get compensated. But, as discussed above, this is not a satisfactory explanation because it does not apply to cases where death is not immediate. There might, however, be additional explanations, also rooted in practical considerations, for why the law might not allow a person to be compensated for having his life shortened even if the law thinks that the person is harmed in this way.

a. A first possible explanation

Perhaps, for example, one might argue that the reason that courts do not allow a person to get compensated for having his life shortened is not that the person is not harmed by this, but rather, that we just are not equipped to make life expectancy estimates with any confidence when a person's life expectancy might be affected by an event but the death is not immediate.[35]

While this explanation might have some prima facie plausibility, it fails for two reasons. First, we do make life expectancy estimates all the time. These estimates are made both (a) in society in general, and also (b) specifically by the courts, albeit in other contexts. Second, even if it were not for the fact that we do make estimates in various types of cases, there are some cases that are so clear cut in terms of it being obvious that a person has had his life shortened, that even if we usually do not have confidence in our estimates about life expectancy, these cases would and should constitute exceptions.

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included here (1) to improve the reader's understanding of that article, and (2) for the reader's convenience—so he or she need not search for the relevant discussions in this Article.

35. Another point that is related to this is that perhaps we do not think we are equipped to make estimates with any confidence about a person's future happiness levels. This on its own, however, does not provide a plausible explanation for why we might not allow a person to be compensated for having his life shortened. As long as we think that a person would be happy enough that he would be benefited by additional years of life, then an inability to accurately estimate exactly how happy the person would be does not seem to be a reason to withhold compensation to a person. Difficulty in articulating future happiness levels would more appropriately come into play in determining *how much* compensation a person should receive for having his life shortened, not the prior question of whether he should be compensated at all.

First, as for when and where we do currently make and employ estimates regarding life expectancy: For one, estimates about life expectancy are made all the time by insurance companies and also by agencies estimating ages for earnings and retirement. Second, courts make estimates regarding life expectancy in various contexts as well.[36] They do so for the purposes of determinations of certain losses other than the loss of life-years; in particular, they do so in the context of certain financial losses. As a matter of fact, we need not look far from our current topic in order to find examples of this. Life expectancies are taken into account when determining the amount of compensation that family members should receive in cases where they sue on their own behalf for the harms that they incur as a result of their spouse's death, and this occurs in the following ways.[37]

In determining how much a spouse should receive, courts take into account life expectancy in a few ways. For one, in determining how many years of lost wages a spouse will incur as a result of her spouse's death, courts look at how many more years of expected life her husband would have lived.[38] Additionally, courts also estimate the life expectancy of the spouse for the purposes of how much money is appropriate for a consortium claim—with the greater the estimated remaining life expectancy before the death of the now-deceased husband, the greater the compensation amount.[39] In sum, the point is that courts are in fact capable and willing to makes estimates about life expectancy and various similar issues of this sort—and the foregoing discussion provides a few examples of this.

In addition, even if it were not the case that courts were currently capable of and willing to make estimates regarding life expectancy in various contexts, some cases are such obvious cases of a life being shortened that an inability to make accurate estimates in more complicated cases should not cast doubt on our ability to make estimates in these simpler cases. For example, suppose that we have a case of a healthy twenty-year-old who finds out that as a result of a harm, he has six more months to live. While we might not know with precision how long he would otherwise live, it seems clear that his life has been shortened, and a potential inability to make an accurate estimate of how many years he has been deprived of should not prevent him from

36. Life expectancy estimates are made, even in the context of wrongful death cases, for the purpose of determining the financial support that a spouse would have received from the decedent. *See, e.g.*, *In re* Delmoro, 48 Misc. 3d 628, 631 (N.Y. Sur. 2015).

37. *Id.*

38. *Id.*

39. *Id.*

being able to recover for the loss of at least some number of years of life. A lack of precision in estimates regarding how many years have been lost would not explain a complete bar on recovery of compensation for years lost.[40]

b. A second possible explanation

There is another possible explanation for why courts might not allow recovery for the harm of having one's life shortened. And I think that this explanation might very well play at least some role in explaining the inability to recover for having one's life shortened. Further, to the extent that a conclusion of this Article is that there should be compensation for a person whose life is shortened, the consideration here will be a potential obstacle, and it will be a topic that will be relevant to carefully consider when we start to determine the details and specifics of how, when, and in which situations, in practice, our rules should compensate a person for lost years of life.

The concern here is that in order for a person to be able to bring a claim for having his life shortened, he will have to be alive (i.e., the harm will have to be due to a non-immediate death), but in the cases in which a person is still alive, not only is the life expectancy estimate often difficult to make, but it also will often be difficult to know whether the event in question will in fact lead to future death at all. There are two (somewhat related) components to this concern. First, there is the concern about uncertainty regarding life expectancy estimates. Secondly, however, there is a concern about pre-emptive suing and whether a claim would be ripe.

Suppose that a person is injured and brings various claims against a defendant. Further, suppose that one of these claims is that there is an increased chance that he will die in fifteen years from a malfunction of, say, his heart. Since tort claims typically all must be brought together, the claim about shortened life is brought now despite it not being clear that the harm will come to fruition. Further, these shortened life claims will often be probabilistic, and they thus might seem speculative and conjectural. This might not be able to be avoided, though, because if one waits to bring the tort claim until the harm comes to fruition, this might be too late, because the coming to frui-

40. There are of course situations in the law where there are efficiencies associated with having a uniform rule despite the ability to have a somewhat more tailored approach. Thus, there are indeed other factors that would be relevant to the analysis here. Notwithstanding this, it does seem fair to say at this point at least that some cases are such clear cases of a life being shortened that, if the law does view lost years of life as a harm, it is hard to imagine that, all things considered, a complete bar would be the optimal rule.

tion of the claim might entail an immediate death at that point. This would mean the person would not be able to be compensated for the harm of the shortened life.

Thus, the problem for some of these shortened-life claims seems to be that on the one hand, they are only certain when the death occurs, but, on the other hand, the person can only be compensated while he is still alive. Thus, it seems that a person should at least potentially be able to be compensated earlier on in life even if the death is not certain, but, on the other hand, we typically do not award compensation for claims that are conjectural, probabilistic, and not yet ripe.

This type of conundrum, it seems, might be a practical reason that courts have typically not allowed compensation for a person whose life has been shortened. Even this, however, could only be a partial explanation of the current law, because there are various cases that avoid these concerns by having a future death that for one reason or another is particularly certain, despite its being in the future.

Thus, it seems that to the extent that a person should be compensated for a shortened life, these concerns about "pre-emptiveness," "speculativeness," ripeness, and lack of certainty should not stand as a bar that prevents a person from recovering compensation for having his life shortened. Notwithstanding this, these concerns are important. To the extent that a conclusion of the Article is that there should be compensation for having one's life shortened, it seems that we will confront important questions about how pre-emptive, speculative, certain, and ripe a claim can or must be for there to be compensation. Perhaps there will need to be a threshold articulated for how certain a particular future death must be for it to be the basis of a claim for a shortened life. Perhaps claims for shortened life will have to meet a threshold such as "reasonably certain," or something of this sort. Despite the fact that it is not immediately clear how courts should or would best deal with prospective claims of the nature discussed here, it seems that various options would present themselves for how we can deal with them in a principled manner.

Typically, in private law, compensation is awarded for harms that have already occurred.[41] In most cases, a remedy after the fact can provide sufficient compensation. The case I am considering is unique, however, because there can be no compensation after the fact for a person who has died. Thus, the only way compensation can be provided in these cases is to provide a person with compensation before

41. *See* Arlen, *supra* note 1, at 119 (discussing the *ex post* valuation of damages – i.e. after the harm occurred).

the harm has come to fruition (i.e., before the person has died). This, however, leads to the concerns regarding certainty, ripeness, and preemptiveness discussed here. Perhaps, if we determine that compensation should be awarded for cases of shortened life, we can adopt guidance for fashioning this type of a prospective remedy from other areas that confront similar problems. For example, while most remedies are retrospective, injunctions and preliminary injunctions are prospective.[42] They are employed when a retrospective remedy would fail to sufficiently compensate a plaintiff and where the harm incurred would be "irreparable harm."[43] If we determine that there should be compensation for a person whose life is shortened, perhaps the domain of compensation for shortened life can, in its attempt to create a workable and reasonable system, employ some of the practical tools that are employed in the domain of injunctions.[44]

Lastly, as I have alluded to and as I explain in depth elsewhere,[45] there are reasons to think that the continued development of technology will improve certainty in estimates regarding both life expectancy and regarding what the future effects will be of occurrences in the present, and there is also reason to think that this increased knowledge and accuracy in our predictions might lead us to have lessened concerns about providing compensation on the basis of estimates regarding future occurrences—such as a future death that is caused by a tort and causes a person's life to be shorter than it otherwise would have been.

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42. *See* JAMES LAMBERT HIGH, A TREATISE ON THE LAW OF INJUNCTIONS (1880).

43. *Id.*; John Leubsdorf, *The Standard for Preliminary Injunctions*, 91 HARV. L. REV. 525, 540 (1978).

44. While perhaps the topic of compensation for shortened lives can indeed seek guidance from the domain of injunctions due to the fact that both involve prospective remedies that are preemptive and somewhat conjectural, it is important to be clear that there is a difference between compensation for shortened lives and injunctions: Compensation for a shortened life involves money damages whereas injunctions do not. Thus, if we do begin to award compensation for shortened lives, prospective awards of money damages will be treading on new terrain and confront various questions that the context of injunctions does not. To name just one, questions would arise about whether a plaintiff who successfully recovers for having his life shortened, but who ends up living longer than expected and not having his life shortened would thus need to return his monetary award to the defendant after time passes and it turns out conclusively that the expected harm did not come to fruition. This type of situation of course would not arise in the context of injunctions.

45. *See* Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4, at 58–60.

3. *Summary regarding what the law is saying about shortening-of-life issues*

In sum, it seems that there are some important practical explanations for why it might be that we do not allow recovery of compensation for a shortened-life claimant. To the extent that one or more of these explanations (or perhaps multiple explanations jointly) were to explain our disallowance of recovery for these claims, it then would not necessarily be the case that the law is stating that a person is not harmed by having his life shortened.

As I have argued above,[46] though, it seems as though the practical explanations do not cover all cases, and thus it seems that even if these practical considerations are important and relevant, they do not fully explain our disallowance of recovery for having one's life shortened. Thus, it does seem that the law likely, in at least some cases, is saying that a person is not harmed by having his life shortened. Thus, for this reason alone, it will be crucial to explore the question of whether the law is right about this: Is it the case that a person in fact is not harmed by having his life shortened?

Even, however, if the practical explanations did fully cover all cases where we disallow recovery for these claims, and thus even if the practical explanations did fully explain our disallowance of recovery, it would still be crucial that we address the question of whether a person is harmed by having his life shortened. First of all, it is an interesting question. But as for why it is crucial, there is the possibility that the practical circumstances and technology will change such that the practical considerations no longer would apply and no longer would counsel in favor of disallowing recovery. Further, as I have stated, this is not only a mere possibility (which would itself be sufficient reason for us to explore the question here of whether a person is harmed by having his life shortened), but there are strong reasons to think that our technology's development will make this quite likely.[47] In light of this, even if the practical considerations did fully account, at present, for our disallowing these claims, it would still be crucial to explore the question of whether a person is harmed by having his life shortened.

The various foregoing points justify my inquiry[48] into whether a person is harmed by having his life shortened. However, in light of the fact that I have stated that the practical considerations do not fully

46. *See supra* Section I.B.2.

47. *See* Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4, at 162–67.

48. *See infra* Part III.

cover all cases and thus do not fully explain our disallowance of recovery, I will assume throughout the rest of this Article that the law currently is stating that a person is not harmed by having his life shortened. It may or may not be the case that the law is stating this, but, given the considerations that I have discussed, it is not an unreasonable assumption.

Accordingly, I now proceed under the assumption that the law does state that a person is not harmed by having his life shortened.

4. Outlook: Assessing whether the law's position on shortening-of-life issues is a good one

The question now is what we should make of the fact that the law says that a person is not harmed by having his life shortened. Prima facie, it seems as though the law is making a mistake by saying that a person is not harmed in this way. After all, it seems as though most people would view the shortening of one's life—be it via an immediate death or by a death that is further into the future—to be among the most severe harms that one could possibly incur.

Thus, I now turn to the questions of whether a person is harmed by having his life shortened and, if so, how much of a harm this is. As we will see, the answers to these questions will be a function of which "happiness aggregation function"[49] we espouse as most plausible.

II. Returning a Person to the Hedonic Position He Was in Before the Harm Incurred: Imprecisions and Key Questions

The goal of this Article is to make progress in answering the questions of: (1) whether a person can be harmed by having his life shortened; (2) if so, how much of a harm this is, and the related, and, indeed, corresponding, questions of; (3) whether a person should be compensated in tort for having his life shortened; and (4) if so, how much a person should be compensated for having his life shortened. In order to do so, some key groundwork needs to be done to set the foundation for this inquiry. I have carried out this groundwork elsewhere,[50] but this Part provides the portions of the groundwork that the reader needs for the purposes of this Article. The reader should note that the text in this Part, which provides background for the Article's main contributions in Parts III and IV, *infra*, includes excerpts

49. This term will be explained in Part II's discussion. *See infra* Part II.

50. Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4.

from my similar discussion elsewhere.[51] These excerpts are included here (1) to improve the reader's understanding of the later portions of this Article, and (2) for the reader's convenience—so he or she need not search for the relevant discussions in the article from which the excerpts are taken.

A. A Few Preliminary Discussions

Arguably the entire purpose of private law remedies is to make an aggrieved party whole, or, said differently, the purpose of private law remedies arguably is to bring a person back to "the position that he was in," or to "*the level that he was at*" before incurring the harm that he incurred.[52] Different remedies in different areas of private law have different doctrines, but they all employ this notion of bringing a person back to the level that he was at.[53]

Despite being a notion that sits at the very core of private law remedies (and, indeed, being ubiquitous in the law, more generally), the notion of "the level that one was at" is imprecise in various ways—even though these imprecisions have seemingly gone unnoticed. The first step in identifying the imprecisions is to recognize that the law's typical focus on a person's financial position is merely used as a proxy for one's position in terms of happiness (or, perhaps, some other feature of a person's welfare that similarly might be thought to be intrinsically valuable).[54] Once the shift is made to understanding "the level

51. *Id.*

52. *See id.* at 6.

53. *Id.*

54. Even law-and-economics theorists will in almost all cases agree to this. (Even Richard Posner, whose original view was that tort law's goal is to maximize wealth—as opposed to happiness or something else that has clear value—has changed his view over the years. Instead of espousing a view of tort law according to which tort law seeks to maximize economic efficiency (i.e., maximize wealth), he now espouses a view according to which tort law seeks to maximize happiness. *See* Richard Posner, *Wealth Maximisation and Tort Law: A Philosophical Inquiry*, *in* PHILOSOPHICAL FOUNDATIONS OF TORT LAW (David G. Owen ed., Oxford Univ. Press 1995).) After all, money does not have intrinsic value. It has merely instrumental value. Money has value because of the goods it enables a person to buy, and these goods are valuable because of how they affect a person's life. More specifically, these goods are valuable because of how they affect a person's conscious experiences—how a person's happiness is affected. It can be contested that everything of value boils down to happiness, but this is not an unreasonable or outlandish assumption, and it is one under which I will operate. Furthermore, while there might be some who do not believe that everything of value boils down to happiness (perhaps instead maintaining that things such as health or friendships or things of this nature have intrinsic value), even people in this camp will still probably at least agree that money is merely of instrumental value, and that money is not one of the things that has intrinsic value.

Thus, despite there being good reasons for operating in money (and I do not at all contest that our operating in money is fully justified), however, it is important to be clear that money is used as a proxy for happiness (or some other good that we think has intrinsic value). Thus, while we

that one is (or was) at" in terms of happiness, various key imprecisions come to the fore: (1) how to quantify the happiness level of a moment of experience; (2) the temporal question of which portion of one's life—be it one's whole life, a temporal chunk thereof (e.g., one's future), or single specific moments—should be the relevant portions of a person's existence used for determining the position that one was in, is now in, or will be returned to; and (3) if the relevant portion of one's life is a period extended over time that includes more than one conscious moment of one's life, the question of what function to use (be it sum-aggregative, averaging, or something else) to determine the value of the whole, given the value of its parts.

Before explaining the third imprecision, an analysis of which will occupy this entire Article, I first briefly (1) explain that the first imprecision can be sidestepped and (2) provide a straightforward account regarding the second imprecision.

The first imprecision is regarding how to quantify happiness at a particular moment.[55] I address this question in depth elsewhere,[56] however, and I conclude that even if private law remedies aim to return a party to the level he was at, understood in terms of happiness, the law can operate satisfactorily even without articulating either a theoretical or a practical account of how to quantify happiness at a particular moment.[57] Thus, for the purposes of this Article, I will leave aside the question of how to quantify the amount of happiness in a particular moment. I will simply assume not only that we can articulate a metric for quantifying happiness at a particular moment, but that we in fact already have such a metric that is commonly used, and

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typically talk in terms of money when we talk about returning a person to the position that he was in or the level that he was at if not for being harmed by another party, what we really want is to bring a party back to the happiness level that he would have been at but for the event that harmed him, and what we really want is for this to be brought about by the defendant transferring a certain amount of happiness back to the plaintiff. Thus, in sum, "the level that one is at" is a notion both in terms of money and happiness, but the happiness version has intrinsic importance and the money version has mere instrumental importance.

55. *See* Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4.

56. *Id.*

57. This is because: (1) Despite the fact that we as a society do not have a commonly used metric for quantifying the happiness of a moment of experience, this does not pose a problem for the law because we can in fact articulate a metric to quantify the happiness of a moment of experience (and the way in which we could do so is very similar to the way in which we articulate metrics for physical properties such as length and mass), and (2) Not only does the lack of a metric not pose a problem for the law, but it turns out that we do not need to articulate any specific metric, because it does not matter for the purpose of any prescriptions or assessments which metric we adopt. The results would be the same regardless of which metric we choose to employ.

that we can employ this metric to determine how much happiness exists at a particular moment of a person's conscious experience.[58]

The second imprecision regarding the notion of "returning a person to the happiness level that he was at" is an imprecision with respect to what we mean in terms of the dimension of time. After all, it seems that a person's happiness level is something that is a property of a conscious experience at a particular moment of time. In light of this, we need to be more precise when we say that we want to return a person to a particular level of happiness.

In saying that we want to return a person to a level of happiness, what moment in time of a person's life is the relevant moment for assessing the level of happiness that a person was at before the harm? The moment right before the harm occurred? Additionally, since a level of happiness is a property of a particular moment of experience, which moment of a person's life is it that we are trying to increase the happiness of to match that prior moment? In light of these questions, it seems that we need to make sense of two things: The temporal component of the happiness level that a person was at before the harm, and also the temporal component of the happiness level that we are attempting to bring a person to (since we obviously cannot go back and change the happiness level at any moment in the past).

There seem to be various possible answers to these questions about the temporal nature of the phrase "the happiness level that one is at." I consider these at length elsewhere,[59] but, in short, I argue that the most plausible account does not involve assessing the happiness level of any single moment for the purposes of determining the happiness that one was at before the harm or that one is brought to after the provision of a remedy. Instead, I argue that we must broaden our temporal focus beyond a single moment and beyond pairs of moments, and that the most plausible account involves *groups* of moments.

I offer two options that capture extended periods of time. First, perhaps we are seeking to return a person's happiness level for his *whole future* to what it would have been if not for the harm. Second, another option is that perhaps we are seeking to return a person's happiness level for his *whole life* back to what it would have been if not for the harm. I tentatively state that, given that we cannot change the past, it

58. In Section III.B.2.d, *infra*, I will briefly scale back this assumption and probe further some questions related to how we quantify happiness of a particular moment, but, leaving aside the purposes in that specific section, I will assume throughout the remainder of this Article that we need not further probe or question how we can or do quantify the happiness of a particular moment.

59. *See* Pressman, *Calculating Compensation Sums for Private Law Wrongs*, *supra* note 4.

seems that these two temporal accounts are quite similar, and they might even be identical for all practical purposes.[60]

Thus, what we seem to care about is the happiness level of a person's future. Accordingly, the current hypothesis under exploration is that what we mean by returning a person to the happiness level that he would have been at if not for the harm is described by the following analysis. First, we estimate the happiness level that a person had in store in his future before the harm occurred. Second, we then look at the person's life where the harm has occurred and we estimate the happiness level that the person now has in store in his future. We then seek to return the happiness level of the person's future in the second case to the happiness level of the person's future in the first case, and we seek to do so by adding an amount of happiness to the person's future in the second case that will bring about the result that the happiness level of the future in the second case is equally as good as the happiness level of the person's future in the first case.

B. The Third of Three Imprecisions: The Aggregation Function

Having carried out these preliminary discussions, the stage is now set for describing the third imprecision in the notion of "the level that one is at": the choice of aggregation function. As we will see, it is this imprecision, the questions that surround it, and the possible ways to answer these questions that hold the key to answering the questions of whether, and if so how much, a person is harmed by having his life shortened, and whether, and if so how much, a person should be compensated in tort for having his life shortened.

1. An explanation of the third imprecision

While this notion of bringing a person's happiness for the remainder of his life to the level that it would have been at for the remainder of his life if not for the harm seems like a straightforward notion, even this notion is not as precise as it might seem. Even if we have articulated a metric for quantifying happiness (or satisfactorily sidestepped that question) and even if we have determined that the relevant temporal context is the remainder of a person's life, the notion of a per-

60. I will discuss later, in Section III.C.4, *infra*, why this is not quite true, and I will at that time explore differences between the two accounts. For the time being, however, in light of the great similarity between these two accounts, I will treat them interchangeably and not consider any differences between them. Further, for the sake of simplicity, and since we cannot change the past, I will for the time being refer to both views as the view that considers the "happiness level one is at" to refer to the happiness level of a person's future (and not of his whole life, which would also include his past).

son's happiness level is still under-described. Even after taking these two steps, there is then a third step that we need to take. Given the happiness level (or goodness) of a particular moment, and given the decision about which group of moments are the relevant ones (i.e., all of those in a person's future), we still have a question of what our aggregation function is for assessing the value of the whole (i.e., the remainder of the person's life) given the value of the parts (i.e., the values of each of the moments in the remainder of the person's life). How do we aggregate the happiness of the moments when assessing the happiness of a chunk of time that is composed of many moments? This type of a decision about how to determine the value of a whole is always a decision that one has to make if one only has, as inputs, the values of the parts.

There are various aggregation mechanisms (i.e., functions) that could be used.[61] Perhaps the most straightforward option would be to use what I will call Total-Utilitarianism-type (or TU-type) aggregation, which employs sum aggregation. According to this aggregation method, the value of a portion of a life is equal to the sum of the units of happiness that one experiences at each moment during the portion of life in question. Another option, however, would be to use what I will call Average-Utilitarianism-type (or AU-type) aggregation. According to this aggregation method, the value of a portion of a life is equal to the average of the values of units of happiness that one experiences at each moment during the portion of life in question. Further, it seems that there might be other aggregation methods that are hybrid combinations of AU-type aggregation and TU-type aggregation. Further still, there might be some alternative functions for going from the value of the parts to the value of the whole that are neither AU-type aggregation, TU-type aggregation, nor even a hybrid of these two aggregation types. Perhaps some other function could be

61. For discussion of the two aggregation mechanisms discussed in this paragraph (i.e., total-utilitarianism-type aggregation and average-utilitarianism-type aggregation), see generally Michael Pressman, *A Defense of Average Utilitarianism*, 27 UTILITAS 389 (2015) [hereinafter Pressman, *A Defense to Average Utilitarianism*]; Gustaf Arrhenius, *An Impossibility Theorem in Population Axiology with Weak Ordering Assumptions*, *in* PHILOSOPHICAL CRUMBS. ESSAYS DEDICATED TO ANN-MARI HENSCHEN-DAHLQUIST ON THE OCCASION OF HER SEVENTY-FIFTH BIRTHDAY 11 (Rysiek Sliwinski ed., 1999); GUSTAF ARRHENIUS, FUTURE GENERATIONS: A CHALLENGE FOR MORAL THEORY (2011); Gustaf Arrhenius, *The Impossibility of a Satisfactory Population Ethics*, *in* 3 DESCRIPTIVE AND NORMATIVE APPROACHES TO HUMAN BEHAVIOR 1 (H. Colonius & E. Dzhafarov eds., 2011); JOHN BROOME, WEIGHING LIVES (2004); DEREK PARFIT, REASONS AND PERSONS 119–41 (1984); LARRY S. TEMKIN, RETHINKING THE GOOD (2012); Thomas Hurka, *Value and Population Size*, 93 ETHICS 496 (1983); Jeff McMahan, *Problems of Population Theory*, 92 ETHICS 96 (1981).

used. There are different options for what should be one's aggregation function, and it is not obvious which one is the correct one.

If, however, we are to have a sound theory of returning a person to the "level he was at," it seems that we must answer the question of which aggregation mechanism to choose. We must have an account that explains precisely what it is that we mean when we say "the level that a person was at."

2. *How the choice of aggregation mechanism can affect the law's prescriptions*

Although the law does not articulate which aggregation mechanism we should use for determining the value of a portion of life,[62] it might seem as though the law's failure to choose an aggregation mechanism for determining the happiness level of a person's future does not affect or interfere with the law's ability to provide a person with a future of the level it would have been at but for the harm.

The reason that it might seem this way is that it might seem as though the choice of aggregation mechanism is like choosing between two systems of measurement (e.g., the meter and the foot). It might seem that regardless of which system we use, as long as we are consistent, the relative comparisons that are made by both systems (and thus the prescriptions that are made by both systems) will be the same. Just as it might seem that using meters rather than feet to determine how much, say, land was taken from a person and thus how much land must be returned to a person would not affect the results, so too it might seem that whether we refer to a person's future happiness by its sum total or by its, say, annual (or monthly, or daily, or by-single-conscious-moment) average, the results and prescriptions would not be affected. After all, a larger measurement of happiness according to one aggregation mechanism might seem to necessitate a larger measurement of happiness according to the other aggregation mechanism.

Although it might thus seem as though we do not need to choose an aggregation mechanism, it turns out that this is not the case. There are situations where we will need to answer this question, and this is because there are some cases where the choice of aggregation mechanism will affect our prescriptions. Because of this, we are unable to

62. Be it the future that one would have had but for the harm incurred, be it the future that will now have in light of the harm having been incurred, or be it the difference between these two possible futures (i.e., the amount of value lost by the person as a result of the harm incurred).

avoid answering the question of which aggregation mechanism is most plausible. This Sub-Section shows why this is the case.

I begin by introducing "different-numbers problems," and I explain that it is these types of cases, if we in fact confront them in the law, that would require us to choose which aggregation mechanism is most plausible. I then explain how private law remedies could confront, and in fact do confront, different-numbers cases. As I explain, the situations where private law remedies confront different-numbers cases are cases where a person incurs a life-shortening harm.

Thus, in order to determine whether, and, if so, how much, a person would be compensated for having his life shortened, our first task will be to determine which aggregation mechanism is the most plausible. Or, to refer to the state of the law regarding non-compensation for lost years of life,[63] determining what the most plausible aggregation mechanism is will be the first step in the task of determining whether our commonsense intuitions (that having one's life shortened is one of the most serious harms—if not *the most* serious harm—that one can incur) are correct, and thus whether what seemingly is an egregious gap in the law in fact is the egregious gap that it seems to be.

a. Types of cases where we will have to probe further: "different-numbers cases" (as distinguished from "same-numbers cases")

The types of situations that require us to choose which aggregation method to espouse are cases that I will call "different-numbers cases," and these are to be distinguished from what I will call "same-numbers cases." Both types of cases have the following features. In both cases we are comparing two (or more than two)[64] possible states of affairs that contain a number of parts (or "components"), and in both the goodness or value of each of the whole states of affairs is a function of the goodness or value of each of the components that exists in that state of affairs. These types of cases can arise in various contexts where the components are different types of things, but the two main types are: (1) cases where a component is a person's life and where the whole is, say, a world, and (2) cases where a component is a single conscious moment that a person experiences and where the whole is, say, a person's whole life. Further, to keep things simple, I will focus in particular on the second of these two types of cases—cases where the components in question are single conscious moments of a person.

63. *See supra* Part I.

64. But, for simplicity's sake, I will focus on cases comparing two.

Thus, in the cases that I am considering, we are comparing the goodness of two states of affairs, and each state of affairs is made up of nothing other than conscious moments experienced by a person.[65] Further, the goodness or value (here, happiness level) of a whole state of affairs is a function of the goodness or value (here, happiness level) of its components. The foregoing features are what same-numbers cases and different-numbers cases have in common.

The way in which same-numbers cases and different-numbers cases differ is (perhaps unsurprisingly in light of the names I have given them) that in same-numbers cases, the numbers of components in the two states of affairs being compared are the same, whereas in different-numbers cases, the numbers of components in the two states of affairs being compared are different.

Taking the two aggregation methods that I introduced in Section II.B.1, TU-type aggregation and AU-type aggregation, we can now see that while same-numbers cases will not require us to choose between these two methods, the different-numbers cases will require us to do so.

Let's first consider a same-numbers case. Take, for example, a case where a state of affairs (*s1*) makes up the future of a person named Bill. Suppose that *s1* involves ten conscious moments. Each conscious moment is at a happiness level of seven. Suppose that a different state of affairs (*s2*) is a different possible future that might be in store for Bill. It also involves ten conscious moments, but due to a harm that befell Bill, all of the conscious moments in *s2* are at a happiness level of five. In assessing the happiness levels (or levels of goodness or value) of *s1* and *s2*, and in assessing whether *s1* or *s2* is the state of affairs with a higher happiness level (or a higher level of goodness or value), we need not choose between AU-type aggregation and TU-type aggregation. According to both aggregation methods, the happiness level of *s1* is higher than that of *s2*, and by the same ratio: According to AU-type aggregation, the happiness level of *s1* is seven and the happiness level of *s2* is five, and according to TU-type aggregation, the happiness level of *s1* is seventy and the happiness level of *s2* is fifty. Further, in same-numbers cases, it will always be the case that AU-type aggregation and TU-type aggregation provide the same determination of which state of affairs is better and provide the same

65. Or, more specifically, the two states of affairs are made up of *nothing that is relevant for our inquiry* other than conscious moments experienced by a person. I am not denying that other things exist in this state of affairs, such as trees, air, buildings, etc.

ratio by which this is the case.[66] For these reasons, in same-numbers cases, we need not make a choice between espousing a TU-type aggregation mechanism or an AU-type aggregation mechanism.

In different-numbers cases, however, we generally do have to choose between espousing TU-type aggregation and AU-type aggregation, and this is because the two aggregation methods do not always provide the same assessments of states of affairs. Take, for example, two possible futures for Bill. In *s3*, which is identical to *s1* (above), Bill's future includes ten conscious moments, each of which is at a happiness level of seven. In *s4*, however, there are fewer moments in Bill's future, because Bill dies sooner. In *s4*, however, Bill has a higher level of happiness in the moments that he does have. In *s4*, there are only five conscious moments, but each one is at a happiness level of ten. Given these two possible states of affairs, which one has a higher happiness level or, stated slightly differently, which state of affairs has *more* happiness? (Or, stated in another way, which of these two states of affairs is better?) One's answer to this question will depend, crucially, on whether one espouses TU-type aggregation or AU-type aggregation, because they will not say the same thing. According to TU-type aggregation, the happiness level of *s3* is seventy, and the happiness level of *s4* is fifty. According to AU-type aggregation, however, the happiness level of *s3* is seven, and the happiness level of *s4* is ten. Thus, TU-type aggregation says that *s3* has a higher happiness level than *s4*, but AU-type aggregation says that *s4* has a higher happiness level than *s3*. While in this case TU-type aggregation and AU-type aggregation have differing assessments of which state of affairs has a higher happiness level, this, however, is not always the case. Even in many cases where they do not have differing assessments of which state of affairs has a higher happiness level, though, they still may provide different assessments, because even if both say that one state of affairs is the better one, one of the mechanisms might say that the happier state of affairs only has slightly more happiness whereas the

66. The reason for this is simple: The AU-type aggregation value for a state of affairs is equal to the total number of units divided by the number of components, and since the same number of components exist in both states of affairs in a same-numbers case, the AU-type aggregation value for each state of affairs will be arrived at by taking the TU-type aggregation sum in each case and dividing it by the same number in each case. Thus, if a TU-type happiness level number for *s1* is higher than a TU-type happiness level number for *s2*, and by a ratio of, say, seven to five, dividing the TU-type happiness level numbers for *s1* and *s2* by the same number preserves both the fact that the *s1* number is bigger than the *s2* number, and the ratio by which this is so. (This holds true because the number of components will always be a positive number. Also, though the following feature is not required for the statements in question to hold true, it is worth noting that the number of components will also always be a whole number.).

other mechanism might say that the gap in happiness level between the two states of affairs is huge.

These examples illustrate that different-numbers cases require us to choose between TU-type aggregation and AU-type aggregation.[67] Our determinations of which life is the happier (or better) life of the lives being compared will often be a function of which aggregation mechanism we employ.

Importantly, it is not immediately obvious which aggregation mechanism is the more plausible one. Although TU-type aggregation and AU-type aggregation both have attractive features, they both also, as this Article will show, are afflicted by seemingly devastating counterintuitive implications that seemingly render each of them (and their various respective temporal sub-versions)[68] implausible. Various accounts that are hybrids of TU-type aggregation and AU-type aggregation also can be offered, but they, too, seemingly are afflicted by devastating counterintuitive implications. Perhaps one could come up with some other more plausible option for an aggregation mechanism, but it is not clear what other views there might be out there that do not fit within one of the various categories just described. Thus, not only do different-numbers problems force us to choose among the various possible aggregation mechanisms, but it is extremely tricky to articulate a single theory (i.e., aggregation mechanism) that can satisfactorily handle all cases. In same-numbers problems, on the other hand, however, we need not choose between AU-type and TU-type aggregation (or other, hybrid, theories), because they will always yield the same comparative assessments between the states of affairs that are being compared.

67. It is important to note, though, that these different numbers-cases need not be comparisons between states of affairs where the components are conscious moments of a person's life. Instead, perhaps, the numbers in the examples above could be applied to an example where the numbers represent years of life in one's future (which, of course, could also be considered to be shorthand for, say, one billion conscious moments). Further, leaving aside the context where a state of affairs consists of one life, similar examples can be provided where the state of affairs consists in the whole population and where the components (of which there are different numbers in the two states of affairs) are the people alive in each possible population. Similarly, in different-numbers cases in these contexts, we need to choose between AU-type aggregation and TU-type aggregation. And, as we will see in this Article, these choices are not easy ones to make.

68. *See infra* Section III.C.4.

b. How private law remedies could confront and does confront different-numbers cases

The question now becomes: Does the law (and private law remedies in particular) ever confront different-numbers cases? The answer is "yes."

Of course, this whole domain of questions—of same-numbers cases and different-numbers cases alike—only arises when we are attempting to make a comparison between two possible states of affairs. Thus, the first task is to determine what the possible states of affairs are that we are comparing. In our context, the first state of affairs is the person's "expected"[69] future where no harm is incurred. The second state of affairs is the person's "expected" future where a harm is incurred. Thus, in comparing these two possible states of affairs, we will have a same-numbers case if the two possible futures are of the same length, and we will have a different-numbers case if the two possible futures are of different lengths.

Typical cases (i.e., situations) that the law confronts are same-numbers cases. This is because, typically, a harm that is incurred by a person (be it a financial harm or otherwise) does not affect the length of one's expected future. Of course, every event in one's life affects the trajectory of one's future and thus even the occurrence of the most seemingly insignificant event can have enormous effects on what transpires in one's future. Further, these effects on one's future often will affect how long one's future will be. Despite this, however, these effects are usually highly unpredictable and there is usually no way of predicting whether a particular event will lengthen one's life, shorten one's life, or have no effect at all on the length of one's life. In light of this, when a harm is incurred by a person, the "expected" effect that this harm has on the length of the person's life is typically zero. In light of this, the typical cases that private law remedies confronts are same-numbers cases.

Private law remedies will confront a different-numbers problem, however, if the harm brings about a change to the expected length of the person's life. An event that is a harm could bring about either an increase in expected length of the person's life or also a decrease. I will focus here on cases where the harm causes a decrease in the expected length of life, but it is important to note that there could also

69. The word "expected" can refer to an estimation or guess, but it also can refer to a probabilistic expected value, i.e., an expectation in a more rigorously calculated sense. Although there is overlap between these two senses of the word "expected," here and in the rest of the Article, I intend to refer to the second of these two senses of the word "expected" (unless I indicate otherwise).

be harms that could create a different-numbers problem by increasing the length of a person's expected life.[70]

There is another interesting distinction to note here: Among these cases where there is a harm and where the harm causes a decrease in the expected length of the person's life, it seems that there are at least three categories of cases—(1) those in which the only harm to the person is the loss in years of life (and in which there is no harm due to those years that are still lived), (2) those in which the only harm to the person is due to effects on the years that are still lived (and in which there is no harm due to the lost years), and (3) those in which there is harm due to the lost years and due to the effects on the years that are still lived.

Regardless of there being various ways to categorize these types of cases, the bottom line here is that private law remedies can indeed confront different-numbers cases. These are cases where a harm is incurred and where the harm also affects the expected length of the person's life.

3. Outlook

As we can see[71] different-numbers problems are tricky. However, although different-numbers problems are a problem that philosophers confront, it has not been recognized that they are a problem that the law also must confront. As far as I can tell, there has not been a single discussion about different-numbers problems in the context of the law—not in academic literature, in case law, or anywhere else. Notwithstanding the lack of discussions of different-numbers problems in the context of law (and thus also notwithstanding the lack of there being a recognition that the law confronts different-numbers problems), however, there are situations in which the law must confront them. It is of great importance (1) that we become aware of how and when the law confronts them, and (2) that we come up with a satisfactory solution to these problems so that we can ensure that the law gets the right result in these important situations. Having carried out the first task, the Article now proceeds to lay the foundations for the carrying out of the second task.

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70. These cases where a harm causes an increase in length of life could either be due to the fact that the person is suffering and the increase in life length is something that is itself a harm for the person, or it could be due to the increase in life length being a benefit, but one which comes along with, and is outweighed by, a harm. I will leave these possibilities aside, however, and focus on cases where there is a harm and where we get a different-numbers case because the harm decreases the length of a person's life.

71. *See also infra* Part III.

III. Determining Which Aggregation Mechanism Is the Most Plausible

A. Introduction

Determining the answer to the question of whether a person is harmed by having his life shortened can be arrived at by choosing which aggregation mechanism we think is the most plausible one for determining the value of a temporal portion of a person's life. Thus, our determination of the aggregation mechanism will tell us whether—and, if so, how much—a person is harmed by having his life shortened. Accordingly, our question now is whether we should espouse TU-type aggregation, AU-type aggregation, or some hybrid alternative aggregation type (or, further, some other type of aggregation mechanism altogether).

As I said in Part I, while the vast majority of courts do not allow recovery by a person for his having his life shortened, there have been a few that have done so.[72] These courts, I think, at the very least did something right because they at least considered the issue. Beyond this, however, not much more can be said about what these courts did. They did not engage significantly (or at all) in the further question of how much of a harm the shortening of a person's life amounted to. These few courts seemed to simply assume something akin to TU-type aggregation for the lost years, and they thus did not address or explore the core issues and questions.[73] While TU-type aggregation might turn out to be the correct aggregation mechanism, however, this is far from clear on its face. If one decides to consider whether and how much a person is harmed by having his life shortened, it does not immediately follow (and it is far from clear) that TU-type aggregation is the mechanism that should be chosen and thus used to answer these questions. Thus, even though these courts should be commended for considering the possibility that a person should recover for the harm of having his life shortened, there is a crucial analysis that even these courts leave out—an analysis determining which aggregation mechanism is the most plausible. It is this analysis that I will now engage in.

Before doing so, however, I include one side note weakening my attack on the courts. On reflection, I should perhaps take it a bit easier on these courts. After all, as I will show below,[74] making the assumption that TU-type aggregation is the correct mechanism for

72. *See, e.g.*, Alexander v. Scheid, 726 N.E.2d 272, 281 (Ind. 2000); Downie v. United States Lines Co., 359 F.2d 344, 347 (3d Cir. 1966).

73. *See, e.g.*, *Alexander*, 726 N.E.2d at 281; *Downie*, 359 F.2d at 347.

74. *See infra* Section III.B.1.

determining the value of portions of a life is also something that most people would probably do if they were asked about how to value portions of a life and if they had not been exposed to other possibilities and the intricacies of the issues involved in the choice of aggregation mechanism. Further, it is these very intuitions in favor of TU-type aggregation that, in part, are leading me to conduct this entire inquiry, because I suggested that part of the motivation for this inquiry is the seeming tension between the state of the law (which does not compensate a person for having his life shortened) and our commonsense intuitions (that having one's life shortened is a harm—and perhaps even the most serious possible harm—for the person whose life is shortened). These commonsense intuitions are essentially intuitions in favor of TU-type aggregation. Thus, for the foregoing reasons, the courts should perhaps be cut some slack for their oversights.

With this disclaimer aside, the following sketches out what will happen in this Part. Given the fact that the choice of aggregation mechanism is key for determining the answer to the question of whether a person is harmed by having his life shortened, and if so, how much he is harmed, the key question is which aggregation mechanism is most plausible. Exploring this question and attempting to determine its answer will be the subject of this Part.

Despite the exploration that will occur in this Part, however, I still will not arrive at an answer regarding which aggregation mechanism is most plausible. All of the options for aggregation mechanisms seem to be afflicted by various counterintuitive implications. I consider TU-type aggregation, AU-type aggregation (including three of its different temporal sub-versions), and hybrid views, and it seems that no view is without its difficulties. Perhaps one could come up with some other more plausible option for an aggregation mechanism, but it is not clear what other views there might be out there that do not fit within one of the various categories that I discuss. In light of this, it seems that the options that I consider here are the only available options.

I will close the inquiry in this Part simply by (1) suggesting that the answer to the question of which aggregation mechanism is most plausible is seemingly among the options I canvass here, and by (2) stating that while it is not yet clear which of the options is most plausible, I hope that the characterizations of the various points in favor of and against the various theories serve as the foundation for further explorations and further arguments about which of the various theories in fact is the most plausible and should thus serve as the foundation for our legal theory.

In light of this, and since the answers to the questions of whether a person can be harmed by having his life shortened, and, if so, how much of a harm this is, are a function of the aggregation mechanism choice, this Part does not yet articulate an answer to this fundamental question.

As we will see, however, it turns out that unless we espouse what I will call the "lost years" sub-version of AU-type aggregation, we will think that a person can be harmed by having his life shortened. Thus, unless one espouses the lost years version of AU-type aggregation, one will think that there can be cases where (depending on the facts of a specific case) there should be compensation for a person for his having his life shortened. This will constitute an important finding.

I now proceed by beginning the exploration into which aggregation mechanism is the most plausible.

B. TU-Type Aggregation

Perhaps the most prima facie plausible aggregation mechanism for quantifying the goodness of a life is TU-type aggregation. I will first discuss some points in its favor, and I will then provide some considerations that cast doubt on whether TU-type aggregation is a plausible account.

1. Points in favor of TU-type aggregation

I think that TU-type aggregation is unquestionably the aggregation method that people would at least initially find to be the most plausible candidate for how to quantify the goodness of a person's life (or a period thereof). I think that the appeal of TU-type aggregation is due to reasoning made formal by the following two-step argument, which I will call "The Common Argument for TU-type aggregation":

> PREMISE 1. Intrapersonal maximizing fact (IMF): Perhaps with some rare exceptions, it is a psychological fact about human beings that what we want at any particular time is to maximize the amount of happiness we will experience going forward, as measured by TU-type aggregation.
>
> PREMISE 2. If IMF is true, then the metric for assessing the goodness for a person is the amount of happiness the person experiences, as measured by TU-type aggregation, over the course of his lifetime. (Said differently, state of affairs *A* is better than state of affairs *B* for a person if the person experiences more happiness in *A* than in *B*, as measured by TU-type aggregation, over the course of his lifetime.)

Stated simply, the above argument says that (1) assuming we are leading happy lives, we want to continue living, and (2) if we want to

continue living, then it is better for us to continue living (or, said differently, then it makes for a better life for us to continue living).

I think that different variations of this argument can be offered, but I think that for the most part (1) this argument seems to have prima facie appeal, and (2) this argument (or something similar to it) seems to characterize why it is that we might find TU-type aggregation appealing.

2. Some considerations casting doubt on TU-type aggregation

a. Introduction

Despite the prima facie plausibility of TU-type aggregation, and despite the seeming plausibility of the argument ("The Common argument for TU-type aggregation") given, above, for TU-type aggregation, it seems as though there are some considerations that cast doubt on the plausibility of TU-type aggregation. First, I offer two similar thought experiments. Second, I offer a critique of The Common Argument for TU-type aggregation. Third, I offer a reason to cast doubt on TU-type aggregation arising out of its need for the existence of "zero points," and doubts about the possibility of its being able to in fact get "zero points."

b. The Intra-Life Repugnant Conclusion

Consider the first thought experiment, "The Intra-Life Repugnant Conclusion."[75] If TU-type aggregation is the correct measure for assessing the goodness of a life, then the following is an implication of this view: For any life of however many moments, each of fantastically high happiness level, there is a better possible life that exists that is composed only of moments (as long as there are enough of them) of a positive value yet such an infinitesimally small positive value that a person is almost indifferent to being alive, and is just the slightest notch above the happiness level at which one would prefer to not be alive.[76] This is an implication of TU-type aggregation, because if there are enough moments of the positive yet tiny value, they will outweigh the number of units of happiness in the shorter life (despite all the moments in the shorter life being of a fantastically high happiness level). This conclusion is thought to be repugnant, though, and thus the fact that this is an implication of TU-type aggregation provides some reason to think that TU-type aggregation cannot be correct. It

75. *See generally* TEMKIN, *supra* note 61.
76. *Id.*

elicits the intuitions that there is at least some importance of and relevance of the happiness level that one experiences at the different moments of one's life and that everything does not boil down to the total number of units of happiness experienced.

c. Haydn and the Oyster

While the above thought experiment was couched in fairly abstract terms and also in terms of a person whose moments of experience are at such a low level that they are just a notch above the level at which the person would prefer not to be alive, I can offer an additional thought experiment. This additional though experiment elicits the same intuitions, but is slightly more applied and does not necessarily employ a person being quite so close to the level where he would prefer to not be alive. This thought experiment, Haydn and the Oyster,[77] asks: Would one prefer to have the life of the composer Haydn, who lives a good life and dies at the age of seventy-seven, or would one prefer to live a 2,000-year life as an oyster?[78] This thought experiment, like the Intra-life Repugnant Conclusion, is meant to elicit the intuitions that TU-type aggregation cannot be correct, and that there is at least some importance of and relevance of the happiness level that one experiences at different moments of one's life and that everything does not boil down to the total number of units of happiness experienced.

d. A critique of Premise 2 of The Common Argument for TU-type aggregation

Having offered these thought experiments that aim to cast doubt on the plausibility of TU-type aggregation as a mechanism for determining what constitutes the best or happiest life, I will now offer a critique of The Common Argument for TU-type aggregation—which I offered above and stated to be both prima facie plausible and seemingly a decent characterization of the reasoning that leads people who find TU-type aggregation appealing to find it appealing. Thus, if doubt can successfully be cast on this argument, then this will cast doubt on the plausibility of TU-type aggregation.

The critique of The Common Argument for TU-type aggregation takes as given the truth of Premise 1, but it contests the truth of Premise 2. Before providing the critique itself, however, I elaborate on the prima facie plausibility of Premise 2.

77. *See* ROGER CRISP, MILL ON UTILITARIANISM (1997).
78. *See id.*

I think that the common belief that Premise 2 is plausible is actually a function of people thinking that two sub-premises (let's call them Premise 2A and Premise 2B) are plausible and that Premise 2 follows from the conjunction of Premise 2A and Premise 2B. I will call this "The Three-Step Argument for Premise 2."

> PREMISE 2A. If what people want at any point in time is to maximize their future happiness as measured by TU-type aggregation, it is also the case that what people want at any point in time is to maximize the happiness that they accrue during their lifetime.

This seems plausible enough. After all, one cannot change the past, so it seems that maximizing one's future happiness as measured by TU-type aggregation will always maximize one's lifetime happiness as measured by TU-type aggregation.

> PREMISE 2B. Assuming perfect information, and aside from rare exceptions such as *akrasia* (i.e., weak will), if a person wants something, then we can assume that the state of affairs where he gets such a thing is better for him than that in which he does not.

This, too, seems plausible enough. If what a person wants is to maximize the happiness he accrues over his lifetime as measured by TU-type aggregation, absent certain exceptions, it seems that we can assume that what's best for this person is the life that maximizes the happiness that it accrues, on the whole, as measured by TU-type aggregation.

Further, it seems fairly clear that Premise 2 follows from the conjunction of Premise 2A and Premise 2B. In light of this, and in light of the prima facie plausibility of Premise 2A and Premise 2B, it seems that there is a prima facie reason to accept Premise 2.

Despite this prima facie plausibility, however, the following critique explains why we should not accept Premise 2. In particular, it explains that the reason that we should not accept Premise 2 is that we should not accept Premise 2B.

Leaving aside the plausibility of Premise 2A, should we accept Premise 2B? Recall that 2B states: "Assuming perfect information, and aside from rare exceptions such as akrasia, if a person wants something, then we can assume that the state of affairs where he gets such a thing is a better one for him than that in which he does not." Thinking about Premise 2B, it does appear that there is a gap between the principle's antecedent and its consequent. After all, if there were no such gap, there would be no principle needed to close a gap. While on first thought it might seem that this gap-closing principle is not justified, it is not clear what else could get us to a claim about goodness other than a claim of some sort involving a desire. Thus, perhaps if we are to

make claims about the goodness of something for a person, this must be rooted in desire at least somewhat. I think that this reasoning in support of Premise 2B would be plausible in most respects, but not in all. Importantly, however, I think that the context of this Section's discussion is a context in which it should be rejected.

It is generally (and, if assuming perfect information, always) good for a desire to be satisfied, because satisfying a desire at *t1* will bring about more happiness at *t1* than the frustration of the desire at *t1*. There are two reasons relevant to the current discussion for why this principle fails in this context, and thus the falsity of Premise 2B is over-determined.

First, one feature of our current context is that comparisons are being made between possible remainders of one's life (or total lifetimes) where, for example, one possible remainder involves x number of years at constant happiness level y, and where a second possible remainder involves $x + 1$ number of years at constant happiness level y. However, when it comes to the time at which we know whether the desire has been satisfied, there is no possible life that is better than another possible life—because at this point there only is one possible life. The other one has ended. Thus, as I stated, the benefit of desires being satisfied occurs at the time they are satisfied (if at all), but in these cases there is no person who is better off in the potential life where the desire is satisfied than in the one in which it is not.

Second, and more comprehensively, the context in which we are talking involves desires for happiness. This type of desire is a higher-order desire and is thus different from most first-order desires. First-order desires, when satisfied by some object or state of affair's presence, bring about happiness. The desire for happiness, when satisfied, however, does not bring about (additional) happiness. Thus, the standard reason for why the satisfaction of a desire is a good for a person does not apply here. In other words, what is good for a person is happiness itself. But once we are out of the domain of desires and back into the domain of happiness, the question is simply what the appropriate measure is for aggregating the happiness—be it TU-type aggregation, AU-type aggregation, or some other method. While one might have thought that a stated preference for a remainder of one's life that maximizes the remainder of the life's happiness according to one of these measures would indicate that that possible remainder would in fact be the better remainder for the person, for the reasons I mention, we are not entitled to come to this conclusion. It seems that the question of what the appropriate measure is for the goodness assessment of a life or a remainder of one's life is a question that is distinct from

the question of which possible life or remainder of life one desires, and this is the case even if the person with the desire neither is *akratic* nor lacks perfect information. Not only are the two questions distinct, but it is not clear that there is any relationship between them whatsoever.

Thus, in sum, I argue that Premise 2B is false (i.e., its claim need not *always* hold true) because it need not be the case (even leaving aside cases such as *akrasia* and imperfect information) that just because a person has a desire for something, it follows that the state of affairs where he gets such a thing is a better one for him than that in which he does not. In some contexts, this will be true. In our context, however, it need not be. At this point, we do not have the grounds to make either claim. In other words, while it would not be inconsistent to say Person X has a desire to live an additional happy year and it is good for him if he does, it also would also not be inconsistent to say Person X has a desire to live an additional happy year and it is not good for him if he does, or, further, it also would not be inconsistent to say Person X has a desire to live an additional happy year and it would be bad for him if he does.

Thus, the falsity of Premise 2B shows that Premise 2 fails because there is a gap between claims about desires—which are mere psychological facts about persons at particular times—and goodness assessments (even if the goodness assessments are merely agent-relative). These desires, such as IMF, are mere psychological facts about persons, and they are consistent with various types of claims about goodness assessments—and thus information about these psychological facts is orthogonal to coming up with a goodness assessment of a person's life or a remainder of a person's life. Of course, this gap—said otherwise, the falsity of Premise 2B—might not be the only reason for rejecting Premise 2, but the rejection of Premise 2B would be sufficient to reject The Three-Step Argument for Premise 2. As discussed, however, I think that The Three-Step Argument for Premise 2 is far and away the most common route to Premise 2, and thus we have strong reason to reject Premise 2.

In light of this, I think that we have strong reason to reject the "Common Argument for TU." In light of the fact that I think that this argument is a characterization of the main reason for why people who find TU-type aggregation appealing find it appealing, I think that the critique in the foregoing pages casts considerable doubt on the plausibility of TU-type aggregation as the aggregation method for assessing the goodness of a life or the goodness of a part of a life.

e. TU's need for the existence of "Zero Points" of happiness and the doubts about the possibility of its being able to get "Zero Points"

There is a third consideration that potentially also casts doubt on the plausibility of TU-type aggregation. The concern is a result of two points: (1) For TU-type aggregation to be workable, there must be a non-arbitrary zero point (hereinafter, a "zero point") of happiness—a point on a numerical scale, like a yardstick, that we can non-arbitrarily identify as the amount of happiness that is neither positive or negative, but instead is equal to zero; and (2) There are some reasons why one might doubt whether zero points of happiness do in fact exist. Thus, if zero points of happiness do not exist, TU-type aggregation is not a workable metric.

The exploration of this topic involves two key inquiries: (a) an explanation of what, precisely, is meant by zero point of happiness, and in which of various related possible understandings of the terms is the one that is required by TU-type aggregation; and (b) an explanation of whether such a zero point of happiness in fact exists. Both of these inquiries are extremely nuanced and tricky.[79] As a result of this, a full-scale exploration and resolution of these topics is beyond the scope of this Article. Notwithstanding this, I briefly explain why TU-type aggregation requires a zero point whereas AU-type aggregation does not. I then explain why there is reason to doubt the existence of a zero point.

i. Why TU-type aggregation requires a zero point and why AU-type aggregation does not

It seems to be that TU-type aggregation requires there to be a zero point whereas AU-type aggregation does not require there to be a zero point. Thus, if there is no zero point, then this would be a reason to reject TU-type aggregation, or at least it would be a strike against it. The following example will help show, intuitively, why this is the case.

Suppose that there are two possible futures for a person named Bill, *s1* and *s2*. *S1* contains ten moments of conscious experience. *S2* is identical to *s1* in every way except for the fact that it contains one additional moment of conscious experience. Thus, not only are ten of the moments in *s2* the very same moments that exist in *s1*, but each of

79. *See* Michael Pressman, *Zero Points of Value and How They Play into the AU / TU Debate* (unpublished manuscript) (on file with the author) [hereinafter Pressman, *Zero Points of Value*].

these ten moments exists with the same level of happiness in *s2* that it has in *s1*—whatever these values might be.

Suppose further that we are now asked to determine whether *s1* or *s2* is the better possible future for Bill. What information will be needed to make this determination? The information needed will depend on one's aggregation mechanism of choice.

In order to make the determination of which future is better, the AU theorist will need to know one piece of information: whether the eleventh moment has a higher, lower, or equal level of happiness than the average level of happiness of the other ten moments. This information will enable the AU theorist to determine whether the average moment happiness in *s2* is higher than, lower than, or equal to the average moment happiness in *s1*. If the eleventh moment has a higher level of happiness than the average level of the other ten, then *s2* will be better. If, on the other hand, the eleventh moment has a lower level of happiness than the average level of the other ten, then *s1* will be better. If the eleventh moment has a level of moment happiness that is equal to the average of the other ten, then *s1* and *s2* will be equally good. This piece of information—whether the eleventh moment's happiness level is higher than, lower than, or equal to the average happiness level of the other ten moments—is both necessary and sufficient for the AU theorist to make his determination. No other information is needed. Among other things, the AU theorist does not need to know whether the eleventh moment has a positive or negative level of happiness.

The TU theorist, like the AU theorist, only needs one piece of information in order to determine which of Bill's possible futures is better. The piece of information needed by the TU theorist, however, is not the same as that which is needed by the AU theorist. What the TU theorist needs to know is whether the happiness level of the eleventh moment is positive, negative, or zero. This information will enable the TU theorist to determine whether the total moment happiness in *s2* is higher than, lower than, or equal to the total moment happiness in *s1*. If the eleventh moment has a positive level of happiness, then *s2* will be better. If, on the other hand, the eleventh moment has a negative level of happiness, then *s1* will be better. If the eleventh moment has a happiness level of zero, then *s1* and *s2* will be equally good. This piece of information is both necessary and sufficient for the TU theorist to make his determination. No other information is needed. Among other things, the TU theorist does not need to know whether the eleventh moment's happiness level is higher than, lower than, or equal to the average happiness level of the other ten moments.

Thus, while what matters for the AU theorist's assessment is whether the eleventh moment's happiness level is higher than, lower than, or equal to the average level of happiness among the other ten moments, what matters for the TU theorist is whether the eleventh moment's happiness level is positive, negative, or zero. What this means is that the AU theorist and TU theorist have different positions about whether it matters what we call the zero level of happiness.

According to the AU theorist, the information about what we call the zero point is not needed for "betterness" comparisons. For the AU theorist, it does not matter what we call zero and it does not matter whether our determination of what to call zero is arbitrary or not. According to the TU theorist, on the other hand, the information about what we call the zero point *is* needed for betterness comparisons. For the TU theorist, as I have shown, it does matter and is of great importance for our assessments what we call zero. Further, since it is of great importance what we call zero, it is also crucial that our determination of what we call zero not be arbitrary and that it represents a point of value that actually in some real sense *is* a point of zero value. After all, it would not make sense to place great weight on what we call the zero point yet have that decision of what to call the zero point be arbitrary. Thus, when I say that the TU theorist needs there to be a non-arbitrary zero point, what I mean is that there needs to be some real reason to affix the property of zero value (or zero happiness) to something. If the TU theorist is not able to identify a point for which there is a non-arbitrary reason to call the point zero, then the TU-type aggregation account will be completely implausible. If the TU theorist is not able to identify a non-arbitrary zero point, then all of the account's determinations and assessments regarding value (or happiness) would be completely arbitrary.[80]

In sum, while the AU theorist *does not* require there to be a non-arbitrary zero point (or, for that matter, any zero point whatsoever), the TU theorist *does* require there to be a non-arbitrary zero point.

80. This statement is a slight over-simplification—though only a slight one. TU would still be able to make comparative assessments, but only in same-numbers cases. In different-numbers cases, TU would be completely powerless to make comparative assessments, because the assessments could be completely changed based on arbitrarily shifting the numbers for the values up or down (i.e., as long as there is shifting at least somewhat from negative to positive or vice versa).

ii. Why there is reason to doubt that a non-arbitrary zero point for happiness exists

What reason might one have for doubting whether there is such a thing as a non-arbitrary zero point of happiness?

To answer this, we must ask what it means for something to be a non-arbitrary zero point. For something to be a non-arbitrary zero point, it must be that the thing assigned a value of zero in fact only could have a value of zero, because there is some sense in which it could only have a value of zero if attributed any quantity of value, and thus the labeling of it as zero is non-arbitrary. And what might make it the case that some quantity of happiness (or value) might only be able to be zero? It seems that the only reason that this would be the case would be if the value of the conscious experience were equal in value to there not being a conscious experience at all (the value of which seemingly would have to be zero). Thus, it seems that we could say that the value of a particular conscious moment is non-arbitrarily zero if it is equally as good as the conscious moment of experience in question not existing at all.

In short, however, although it might seem at first as though we can make this comparison, there are strong reasons to think that we actually cannot make it, and that the only comparisons we can make are between different experiences that one can have or has had. How, after all, can one even begin to make a betterness comparison (or "happierness comparison") between a conscious experience and the non-existence of the conscious experience? By definition, it seems that there is nothing that it is like to not have a conscious experience.

These questions regarding comparisons between a conscious experience and the non-existence of this conscious experience, and also, more broadly, the question of whether there is a non-arbitrary zero point for happiness, are contested questions the full resolution of which is beyond the scope of this Article. I thus leave the reader simply with this brief preview of the issues. Notwithstanding this, however, there are (at the very least) some reasons to doubt whether there does in fact exist a non-arbitrary zero point of happiness (or value).

Further, in light of the fact that TU-type aggregation requires the existence of a non-arbitrary zero point of happiness (or value) then the following must be true. To the extent that there is in fact doubt about whether a non-arbitrary zero point of happiness (or value) exists, there is then also doubt about whether TU-type aggregation is a workable account.

3. Summary

I have now, at this point, shown what the prima facie plausibility of TU-type aggregation is, and I have also shown that there are some important considerations that cast doubt on the plausibility of TU-type aggregation. Without yet weighing these conflicting considerations, I now proceed to consider the reasons for and against AU-type aggregation.

C. AU-Type Aggregation

I will now consider the plausibility of AU-type aggregation as a mechanism for quantifying the goodness of a life or portions thereof. I will first discuss some points in its favor, and I will then provide some considerations that cast doubt on its plausibility.

Before proceeding, however, it is worth noting that to the extent that the law does not seem to typically allow recovery for shortened life expectancy, it seems perhaps implicitly to be espousing an AU-type view (which, unlike TU-type aggregation, will often have the result that having one's life shortened does not in and of itself harm a person or make his life any worse). As I have said, however, it does not seem that the law's policy of not allowing recovery for a shortened-life claimant is a result of a considered judgment that the person is not harmed by having his life shortened, much less the result of a decision that AU-type aggregation is the most plausible aggregation mechanism.[81] Notwithstanding the fact that this correlation is almost certainly not due to causation, it is worth pointing out the correlation between the current policies in the courts and the prescriptions that would be made by AU-type aggregation.[82]

1. Reasons in favor of AU-type aggregation

The reasons in favor of AU-type aggregation for the most part track the reasons for doubting the plausibility of TU-type aggregation. I will mention three here. The first is a direct reason to be in favor of AU-type aggregation. The second and third are more indirect because the

81. In fact, not only does it seem unlikely that espousing AU-type aggregation is what has led the courts to adopt the current policy against a person being able to recover for having his life shortened, but it also seems that there are various reasons to think that the law would not adopt AU-type aggregation even if it were specifically asked or forced to choose between AU-type and TU-type aggregation. For examples of these reasons, consider the unpalatable features of AU-type aggregation that are discussed below. *See infra* Sections III.C.2, III.C.4.

82. *See, e.g.*, *In re* Joint E. & S. Dist. Asbestos Litig., 726 F. Supp. 426, 430 (E.D.N.Y. 1989); Verni *ex rel.* Burstein v. Harry M. Stevens Inc., 387 N.J. Super. 160, 204 (App. Div. 2006); Zitter, *supra* note 29.

support for AU-type aggregation derives from the fact that there is a reason to doubt the plausibility of TU-type aggregation.

First of all, AU-type aggregation avoids the problems raised by the examples of the intra-life repugnant conclusion and Haydn and the oyster.[83] These examples elicit the intuitions that we do care about one's happiness level in and of itself, and thus these examples show that TU-type aggregation cannot account for these intuitions. AU-type aggregation, on the other hand, can account for intuitions that quality of life is important in and of itself, and it prescribes the results that are opposite to those prescribed by TU-type aggregation in the two examples. AU-type aggregation's prescriptions in these cases may seem correct to many people.

Secondly, doubt was cast on whether or not there is a non-arbitrary zero point of happiness (or value), and it was left undecided whether or not a non-arbitrary zero point of happiness (or value) exists or not.[84] While TU-type aggregation requires the zero point, AU-type aggregation does not require one (and AU-type aggregation also does not require that there not be one). In light of this, the uncertainty about whether a zero point exists or not is a reason to be in favor of AU-type aggregation.

Thirdly, as discussed above,[85] The Common Argument for TU-type aggregation was shown not to be a successful argument. Since TU-type aggregation and AU-type aggregation are rival theories, the fact that I showed that that argument was not successful is a reason to thus find AU more plausible than if The Common Argument for TU-type aggregation had not been shown to be unsuccessful.

2. Reasons against AU-type aggregation

Despite these reasons to support AU-type aggregation, there are also reasons to find that AU-type aggregation is not plausible.

The main problem with AU-type aggregation is that, while it seemingly gets the right answer in the case of the single-life repugnant conclusion and Haydn and the Oyster, it is susceptible to a similar argument that shows that the implications of espousing AU-type aggregation are quite unpalatable. According to AU-type aggregation, the goodness of a life is determined by the average happiness of the moments in the life, and it does not matter how long or short a life is. This means that given, say, a life that is eighty years long and where

83. *See* TEMKIN, *supra* note 61; CRISP, *supra* note 77.

84. For further discussion of this topic, see generally Pressman, *Zero Points of Value, supra* note 79.

85. *See supra* Section III.B.1.

each moment is at level 8, each of the following lives, which is made up of moments of happiness level 8.01, is a better life than the one that is eighty years long: A life of level 8.01 that lasts twenty-five years, a life of level 8.01 that lasts ten years, a life of level 8.01 that lasts one year, a life of level 8.01 that lasts for one day, a life of level 8.01 that lasts for one minute, or even a life of level 8.01 that just consists of one single conscious moment. That each of these lives would, according to AU-type aggregation, be better than the one that is at a level of 8 and lasts for eighty years, will for many people be highly unpalatable.

Further, another implication of AU-type aggregation is that, if one's future would be of the same happiness level as one's average level of happiness so far, the shortening of one's life would not harm a person at all. This is an implication that for many people will be highly unpalatable, and, in fact, it was the intuition that a person can be harmed by having his life shortened that gave rise to our whole inquiry into AU-type aggregation and TU-type aggregation. This was because it seemed as though our intuitions were at odds with the current policy of the courts—a policy which says that when a person has his life shortened, this does not harm the person.[86]

3. Summary

I have now, at this point, shown what the prima facie plausibility of AU-type aggregation is, and I have also shown that there are some important considerations that cast doubt on the plausibility of AU-type aggregation. Without yet weighing these conflicting considerations, I now continue onward and discuss an additional wrinkle in the topic of aggregation mechanisms and in the question of which aggregation mechanism is most plausible.

4. Temporal reference class question

I now proceed to introduce and discuss the question of "the temporal reference class." It turns out that although I have been talking about AU-type aggregation and TU-type aggregation, there are different sub-versions that exist for both of these theories. This is because there are different possible "temporal reference classes" that one can choose to employ the aggregation mechanism with. As we will see, the different sub-versions of TU-type aggregation end up all having the same prescriptions, and thus it is not necessary to consider the differ-

86. *See, e.g.*, *In re Joint E.*, 726 F. Supp. at 430; *Verni*, 387 N.J. Super. at 204; Zitter, *supra* note 29.

ent reference class options in the context of TU-type aggregation. This is not the case for AU-type aggregation, however. If one employs AU-type aggregation, the choice of reference class can have a significant effect on one's aggregation mechanism theory's prescriptions. It is because of the fact that this reference class topic is relevant for AU-type aggregation and not for TU-type aggregation that I discuss it at this point in the Article.

a. Introductory points regarding the reference class question

I now address the question of the temporal reference class. This topic does not constitute a reason to be in favor of AU-type aggregation or TU-type aggregation, but rather, it is an additional wrinkle that shows that there are different versions of AU-type and TU-type aggregation. However, as we will see, the question of which temporal reference class to employ is one that will be of prime importance for an AU-type theorist, but it will not be necessary for a TU-type theorist to make a choice about which temporal reference class to employ.

Back in Part I,[87] when I first began exploring the question of what it means for a private law remedy to return a party to the level he was at before the harm was incurred, I showed that this notion of "the happiness level that one is at" was under-described in terms of its temporal component. As I showed, happiness levels are a property of conscious experiences, and thus, like conscious experiences, happiness levels would need to be time-indexed in order to precisify which moment or moments one is referring to. As I also said, it was not clear what temporal component would be the relevant one in seeking to return a party to the happiness level he was at before the harm was incurred. I then proceeded to argue that the notion of "returning a party to the happiness level he was at" clearly is not referring to the happiness level at one particular moment. Instead, I argued that the most plausible interpretation of the notion seems to be that "returning a party to the happiness level he was at" involves enabling a person to have *his future* be of the same happiness level that it would have been if not for the harm that was incurred. I suggested that another plausible candidate for the temporal specification of the notion of one's happiness level could be the happiness level for one's whole life. As I pointed out, though, since we cannot change the past, a remedy that returns a person's happiness level for his future to what it would have been if not for the harm seemingly is also the same remedy that would return a person's happiness level for his whole life to what it would have

87. *See supra* Part I.

been if not for the harm. In light of these two temporal specifications seemingly coinciding (and our thus seemingly not needing to distinguish between them), and in light of the fact that it seems easier to focus on what can in fact be changed in the present (namely the future), I concluded that the relevant temporal component in "returning a person to the happiness level he was at" was the person's future. Returning a person to the happiness level he was at meant returning the happiness level *of a person's future* to the happiness level it would have been at if not for the harm incurred. The rest of the Article since then has proceeded under this framework.

Despite having made this assumption, I now revisit this issue. I point out that if one were to espouse AU-type aggregation (*unlike* if one were to espouse TU-type aggregation), it would not be the case that focusing on a temporal reference class of a full lifetime and on one of just one's future (or also of a subset of one's future) would necessarily yield the same prescriptions. Thus, if one were to espouse AU-type aggregation, one cannot actually just assume that it is one's future that is the relevant temporal reference class for assessing "the level of happiness that one was at."[88]

Consider for example a case where there is a man who is sixty years old and is harmed in such a way that now instead of having an expected future of twenty years, he has an expected future of ten years. There are at least three temporal chunks that one might think are relevant for making the comparison between the state of affairs in which the man is harmed and the state of affairs in which he is not harmed. First, one might think that the relevant temporal chunk is the man's full life. If this is the case, then the comparison is between the seventy-year life and the eighty-year life. Second, one might think that the relevant temporal chunk is the man's remaining future. If this is the case, then the comparison is between the ten-year future and the twenty-year future. Third, one might think that the relevant temporal chunk is the part of the future that is lived in one case but not in the other—i.e., the period that contains the difference between one state of affairs and the other. If this is the case, then the comparison is between having a ten-year period of life after age seventy and having a zero-year period (i.e., no life at all) after age seventy.

88. For a much more in-depth discussion of the various questions and difficulties that arise in the context of choosing which temporal reference class is most plausible, see Michael Pressman, *The Bottom-Up Objection to Average Utilitarianism, Why It Fails, and What This Means for Ethics and Causation* (unpublished manuscript) (on file with the author) [hereinafter Pressman, *The Bottom-Up Objection to Average Utilitarianism*].

The choice of temporal reference class over which to use one's aggregation mechanism of choice to assess "the happiness level that a person is at" is a choice that confronts us regardless of whether one espouses TU-type aggregation, AU-type aggregation, or some other aggregation method. Despite this, however, a TU theorist does not need to articulate an answer to the question of which temporal reference class to choose because all of the reference classes will provide the same prescriptions for TU-type aggregation. The only chunk of difference between the two states of affairs occurs during the ten-year period after age seventy, and for TU-type aggregation—regardless of which of the three temporal chunks one decides is relevant for the comparison, and regardless of how much happiness occurred during the various other portions of life that will have the same happiness level in the two different states of affairs—the difference in happiness level between the two state of affairs will be the same. It will be equal to the amount of happiness that was experienced in the ten years between ages seventy and eighty in the state of affairs where these years are lived. What is relevant is that all three temporal chunks include what we could call the "affected" temporal range, so it does not matter how many "unaffected" temporal ranges are included.[89] According to TU-type aggregation, the amount of happiness by which one state of affairs is better than the other will be the same regardless of our choice of what the relevant temporal chunk is for our comparison.

For AU-type aggregation, on the other hand, this is not the case. It very well might be that our choice of temporal reference class will affect our assessment of how much a person has been harmed by having his life shortened. Suppose that the man in the above example's happiness level during his first sixty years (in both states of affairs) was ten, his happiness level during his next ten years (in both states of affairs) was twenty, and that his happiness level during the following ten years (in the state of affairs in which he lives these years) is forty. If we are doing a comparison of full lives, the value of the state of affairs without the harm is 15 and the value of the state of affairs with the harm is 11.4. If we are comparing the person's future, the value of the state of affairs without the harm is 30 and the value of the state of affairs with the harm is 20. If we are comparing the temporal chunk that is the part of the future lived in one state of affairs and not the other, then the value of the state of affairs without the harm is 40 and the value of the state of affairs with the harm is undefined (meaning that if we think that this is the relevant temporal chunk, then no com-

89. *See id.*

parison can be made and thus neither state of affairs is better than the other).

Thus, the bottom line here is that while with TU-type aggregation one need not choose between the temporal accounts (because they all have the same assessments and prescriptions), this is not the case for AU-type aggregation, and the choice of temporal account for AU-type aggregation to employ is, in many (if not most) cases, of prime significance.

b. Assessing which temporal account is most plausible

Just as the choice between AU-type aggregation and TU-type aggregation is very tricky and we have many conflicting intuitions, so too is the choice among the different temporal versions of AU-type aggregation. All three of the temporal versions seem to have some counter-intuitive aspects, and even for someone who is persuaded that AU-type aggregation is the most plausible aggregation mechanism, it will not necessarily be easy to defend one of the sub-versions of AU-type aggregation as the most plausible full aggregation-mechanism account (i.e., an account that is full in the sense that it is a combination of an aggregation mechanism and a temporal reference class). The following considers the relative merits and demerits of these different sub-views.

i. The future view versus the full lifetime view

Prima facie, the most plausible temporal account for an AU-type theorist might be the temporal reference class that I argued for in Part I and have been assuming to be correct throughout this Article—the view that takes a person's future as the relevant period of time for determining how much a person has been harmed by having his life shortened.[90] Despite this, however, there are reasons to think that the full lifetime view is more plausible. There are at least two reasons for this.

First, recall that back in Part I, it was not really that I put forth a strong reason for the future view being more plausible than the full lifetime view.[91] Rather, I offered a reason for thinking that both the future view and the lifetime view were plausible views, and much more plausible than a view that focused on a single moment (and not on one of these two broad temporal chunks). Then, I made the simplifying assumption that since we cannot affect the past, the future view

90. *See supra* Part I.
91. *Id.*

and the full lifetime view would have coextensive prescriptions, and I then opted to focus on the future view, because it seemed simpler and also because it seemed somewhat more plausible that only the future is relevant because it seemingly is only the future that is affected by the harm and it seemingly is only the future that would be affected by a remedy. We now see, however, that while the two temporal accounts are coextensive for TU-type aggregation, they are not coextensive for AU-type aggregation. Thus, we should revisit a decision in favor of the future view that was not based on much more than simplicity.

Thus, now revisiting the choice between the future view and the lifetime view, it seems that the only argument in favor of the future view is that it is only the future that is affected by a harm and by a remedy. The past is not affected. This is not an overly powerful argument, however, because while the past is not affected by the harm or remedy, the whole lifetime is. Further, the two views that we are attempting to compare are the future view and the whole lifetime view, not the future view and a view that only considers the past. Thus, the relevant comparison is between the future view and the entire lifetime view, and *both* of these two temporal chunks are affected by the harm and the remedy.

The rejoinder by someone in favor of the future view is that the lifetime is only affected because the future is affected, and thus, the future view proponent would say, what's doing the work in terms of affecting the lifetime is the future. Thus, it seems that the future is perhaps more narrowly tailored to what is being affected, and thus perhaps it is the more relevant temporal period.

While perhaps it is true that the future is a temporal period that is more narrowly tailored to what's affected by the harm and remedy, it is not clear how strong this argument is. First, one could question the relevance (to our choice of reference class) of whether the reference class is narrowly tailored, and it is unclear exactly how we could avoid an impasse on this topic. Second, even leaving that aside, some might have the intuitions that it is a person's full life that should be analyzed when we ask questions about the harm incurred by a person when his life is shortened. One might think that the broader full lifetime view is in fact the view that is the appropriate one to employ.

Thus, the first reason to think that the lifetime view is more plausible essentially is the following set of considerations: that there was not and is not much of a reason to prefer the future view to the lifetime view, the reason that does exist is not particularly strong, and then there might be intuitions in favor of the lifetime view that outweigh

(or perhaps even completely displace) the intuition and reason offered in favor of the future view.

There is a second reason to perhaps be in favor of the full lifetime view, and this reason is as follows.

Seemingly the main rationale for the future view being more plausible than the full lifetime view is that the future view is narrowly tailored to what's affected by the harm and the remedy, whereas the full lifetime view (despite being affected by the harm and remedy just as is the future view) is not narrowly tailored to what's affected by the harm and the remedy. The problem with the future view, though, is that it seems that it actually fails on its own terms. It is not always as narrowly tailored as possible to what is affected by the harm and the remedy either. Using the example of Bill from the previous subsection,[92] we can see why this is the case. The harm-causing event occurs at age sixty, but the two states of affairs are not different with respect to the years between age sixty and seventy. The difference for the two possible futures for Bill is that without the harm, he also lives an additional ten years from age seventy until eighty, but he does not live these years in the state of affairs where no harm is incurred. Thus, if one wanted to tailor the temporal reference class as narrowly as possible, one would employ the "lost years" reference class that compares the existence or non-existence for the temporal period during which a person is living in one state of affairs but is not living in the other.

Thus, it seems that the future view is actually an unsteady hybrid that sits perched between the whole lifetime view and the "lost years" view. In this sense, it seems that the future view is actually self-defeating, because the argument in support of it and against the lifetime view can be used against it when it is compared to the lost years view. Thus, the proponent of the lifetime view might say that to the extent that one wants to avoid going all the way to the lost years view (which will be discussed below and which seems for various reasons to be even less plausible), to be consistent or at least to increase the plausibility of one's view, one should go to the other extreme and adopt the full lifetime view. After all, why should Bill's years between sixty and seventy come into the calculation but not the years between zero and sixty, if in both sets of years the happiness levels in one state of affairs is the same as in the other? It might seem that there is no principled distinction between why the years between sixty and seventy should be included, and why the years between zero and sixty should not be included, in the calculation of the average happiness for the purposes

92. *See supra* Section II.B.2.a.

of calculating the harm incurred. The two time periods seem to be relevantly the same, but they are still treated differently by the future view.

In response to this, the proponent of the future view might say that while the *harm* in the future view might not be as narrowly tailored as possible, the *remedy* might still be as narrowly tailored as possible—in that the money given to a plaintiff might be spread over his entire future. This is true, but this begs the question. The remedy can be distributed over a person's entire future but it could also be distributed over any shorter period within the person's future. While it is true that it would have to be given to a person while he is still alive if it is to remedy the harm, and thus the comparison between the two states of affairs would have to involve more than merely the period of time during which only one of the two states of affairs has years of life, this remedy would not need to be distributed over a person's entire future. It could be distributed across some much smaller period of time within one's future. Thus, the rejoinder offered by the proponent of the future view is not persuasive.

Despite these various points made against the future view and seemingly in favor of the lifetime view, however, one might still think that the future view is more plausible. One might be persuaded by the fact that it is more narrowly tailored to the affected time period than is the lifetime view. After all, how could the past be relevant if the past has passed us by and cannot in any way be affected?! Also, one might think that the fact that the future view is perched as a hybrid between the full lifetime view and the lost years view (and that the arguments it uses against one can be used against it from the other side) does not render it implausible.

Thus, in sum, it seems that arguments can be made for and against both the total lifetime view and the future view, and it thus remains an open question which temporal reference class is the more plausible one.

ii. Considering the lost years view as well

In response to these points, perhaps one might think we should adopt the "lost years" view. According to this view, however, no shortening of a life can ever harm a person at all. The comparison will always be between some level of happiness for some number of years and zero happiness over zero years. This comparison of a number to the zero-divided-by-zero figure cannot be made, because the value of zero divided by zero is undefined. Thus, since according to the lost years view, a person can be neither harmed nor benefited by having

his life shortened, anyone who thinks that a person can be harmed or benefited by having his life shortened will think that the lost years view is not plausible.

In a sense, however, the lost years view is the purest form of the AU-type view, at least with respect to the AU-type view in the context of a shortened life. It says that the shortened life itself is neither good nor bad, and any other harms or benefits to a person—in terms of the happiness levels he experiences when alive—can be addressed separately from the question of whether the shortening of a person's life itself is bad for the person.

Despite this, however, even many AU-type theorists might find it difficult to accept this temporal account, which even an AU-type theorist might find to be extreme.

While the lost years view has the perhaps unpalatable implication that a person cannot be harmed by having his life shortened, the future view and the full lifetime view are confronted by a related objection: A difficulty that one might have with the full lifetime view and the future view is that in both cases, a shortening of a person's life could be a *benefit* to a person, even if the period of life that one is deprived of would have been very happy (and even if a person does not want to have his life shortened). The shortening of the life in a case like this would still benefit a person if the average happiness of the rest of the person's future or of his entire lifetime (depending upon one's choice of temporal reference class) is of a higher average happiness than the lost years would be (even stipulating that the lost years would have been years with a high average happiness level). This of course is simply an implication of these two versions of AU-type aggregation, though, and perhaps an AU-type theorist might not find this implication unpalatable. So, too, however, perhaps an AU-type theorist might not find the implications of the lost years view unpalatable either. In sum, there are some counterintuitive aspects of each of the temporal versions of AU, though perhaps none of these counterintuitive aspects renders the view it afflicts incoherent or utterly implausible and untenable.

c. Conclusion regarding the different temporal account options as they pertain to AU-type aggregation

At this point, what is clear is that the three different temporal accounts of AU-type aggregation can be views that diverge drastically in their prescriptions. What is not clear, though, is which of these AU-type accounts is most plausible and should be adopted by the AU-type theorist. All three of the views confront difficulties. All three of the

views also are viable, though, and points can be made in favor of each of them for why that specific temporal version of AU-type aggregation is the most plausible account. The arguments for and against these three positions are much more detailed and much more numerous for justice to be done to them here, however.[93] Suffice it to say at this point, though, that it is an open question which of the three AU-type aggregation accounts is the most plausible one.

5. Summary regarding AU-type aggregation

Earlier in this Section, after considering points in favor of and against AU-type aggregation, I opted not to weigh these considerations, and I concluded simply that there were significant points both in favor of and against AU-type aggregation. I now have gone through three different temporal sub-versions of AU-type aggregation, and the same can be said about these accounts. They each have points that can be said in favor of and against their plausibility. We therefore now have greater clarity about what options are available for the AU-type theorist. Notwithstanding this, we still are left in the position that, regardless of which AU-type view one endorses, AU-type aggregation has reasons in favor of adopting it and reasons against adopting it.

D. Possible Hybrid Views

Although the sections above on AU-type aggregation and TU-type aggregation provided reasons in favor of the plausibility of these positions, both accounts (including any and all sub-versions of these accounts) are seemingly saddled with serious problems. As a result, although one of these views could very well still turn out to be correct (i.e., plausible), it seems to at least be a possibility that neither AU-type aggregation nor TU-type aggregation is plausible as an account to be used in determining how to quantify happiness and or value in a person's life. What then shall we do? Are there other options? In short, yes, there are other options, but I do not think that the other options are plausible.

While the foregoing sections articulated various problems (and also various *types* of problems) that AU-type aggregation and TU-type aggregation confront, there is a way to describe what is perhaps the main overarching problem that we confront in trying to articulate a plausible account. The problem is that we seemingly value both *quantity* of the total number of units of happiness in life (which entails a valuing

93. *See* Pressman, *A Defense to Average Utilitarianism*, *supra* note 61, at 389–424; Pressman, *The Bottom-Up Objection to Average Utilitarianism, supra* note 88.

of longevity, indirectly, if we hold fixed the average happiness per moment) and also *quality* of life (i.e., the happiness level at the moments that we experience). Both AU-type and TU-type aggregation, however, are monistic accounts that each only values one of these two values—with AU-type aggregation valuing quality and TU-type aggregation valuing quantity. This might render both accounts unsatisfying to many people if the accounts are maximized in the extreme, because many people seem to value both quality and quantity, and an account that prescribes maximizing one and not heeding the results for the other dimension will yield what many might consider to be unpalatable results. This main overarching problem is drawn out by the two similar thought experiments in the TU-type section (the Intrapersonal Repugnant Conclusion, and Haydn and the Oyster),[94] and by the thought experiment in the AU-type section[95] about how a life that is even one moment long at a happiness level of 8.01 would be better than a life of 80 years at level 8. While real-life cases might not be as extreme as some of these thought experiments, we nevertheless confront tradeoffs between the values of quantity and quality, and these tradeoffs are very real.

In sum, many people might find that we need an account that can accommodate both the values of quantity and of quality. In other words, perhaps the solution is to espouse some kind of account that is a hybrid between AU-type aggregation and TU-type aggregation.

What would a hybrid account look like? A hybrid account would take as inputs the TU value and the AU value associated with a state of affairs, and it would use a function to provide an output of the hybrid function. One possible function might be to say that the hybrid happiness value (HHV) is equal to the AU value multiplied by the TU value. This then would give the result that states of affairs where either the TU value or AU value is extremely low are disfavored, and this seems to be consistent with the intuitions that many people have. Other examples of hybrid accounts could be and have been described.[96]

Despite the seeming plausibility of hybrid accounts, however, they are not promising options. As with all attempts to articulate non-monistic accounts of value, they occupy unsteady positions due to sitting

94. *See supra* Section III.B.2.

95. *See supra* Section III.C.2.

96. Derek Parfit and Thomas Hurka consider a number of possible hybrid views—albeit in the context of aggregating across lives to determine the goodness of a world, as opposed to aggregating across moments in a life to determine the goodness of that single life. *See* PARFIT, *supra* note 61, at Part IV, *infra*; Thomas Hurka, *supra* note 61, at 496–507.

on unsteady foundations. While it might seem as though we value two different things, any attempt to offer a principled account of how to trade off one value against the other (i.e., how to articulate the exchange rate between the two values) either leads to an inability to articulate how to trade off the values, an arbitrary pronouncement about how to trade them off against each other, a discovery that it is only one of the two that is intrinsically valuable, or the discovery that neither input is of intrinsic value and actually a third thing is what is of intrinsic value.

In my view, there is no plausible and non-arbitrary way of articulating a hybrid account of how to quantify happiness in a person's life (or portion thereof). A hybrid account might appear to characterize our actual intuitions, but it would be a mere patch. To be plausible, any account of how to quantify happiness in a person's life (or portion thereof) will ultimately have to be monistic. And AU-type and TU-type aggregation are the only candidates that we have at this point.

Furthermore, it is important to note that even if a hybrid account were otherwise plausible, it would still be subject to the same concern about zero points that was raised and which poses a potential problem for TU-type aggregation. The reason that this concern would apply as a potential problem to hybrid views as well is that the concern is about sum-aggregation, the feature employed in TU-type aggregation. This feature would be employed, however, in any hybrid that takes as an input any type of information based on TU-type aggregation. Thus, to the extent that the hybrid I am considering would be a function of AU-type aggregation and TU-type aggregation, this hybrid view, even if otherwise plausible, would be susceptible to the concern about zero points that potentially afflicts TU-type views. Thus, if we are in fact unable to derive zero points for happiness, this would not only render unworkable TU-type aggregation, but it would also render unworkable any hybrid views that take TU-type aggregation as an input. Thus, if we are unable to derive zero points, we would seemingly have to espouse AU-type aggregation.

In sum, even if it might *appear* that a hybrid view would be what would best characterize our actual intuitions, I have argued that, upon further reflection, it will turn out that this is not the case. Hybrid views, while perhaps prima facie plausible, are not viable options for us in our attempt to articulate a plausible account of which aggregation mechanism to espouse for quantifying the happiness or goodness of a period of time in a person's life.

E. Conclusion Regarding the Choice of Aggregation Mechanism

Determining the answer to the question of whether a person is harmed by having his life shortened can be arrived at by choosing which aggregation mechanism we think is the most plausible one for determining the value of a temporal portion of a person's life. The choice of aggregation mechanism enables us to do this, because it enables us to aggregate and quantify the happiness that the life would have contained if not for it having been shortened, and also to aggregate and quantify the happiness that the life would contain given that the event that caused the shortening did in fact occur. Even though these determinations are mere estimates (because we cannot predict the future), the aggregation mechanism provides the function to go from the values of the parts to the value of the whole (a temporal period of a life or a sub-part thereof). Armed with a metric for quantifying the value of the person's life in both possible states of affairs (the one in which the harm is incurred and the one in which no harm is incurred), we can then quantify how much happiness a person lost as a result of his having his life shortened.

Depending on what one's aggregation mechanism of choice is, it could be that one would get the result that having one's life shortened cannot harm a person, but it could also be that one would get the result that it can. Further, if one's aggregation mechanism gives one the result that a person can (in general) be harmed by having his life shortened, applying the aggregation mechanism to the facts of a particular case would enable us to make an estimate about whether there in fact was a harm to the person in the particular case due to his having his life shortened. Further, if there was a harm to the person, applying the aggregation mechanism to the facts of the case would also enable one to determine *how much* the person was harmed (in terms of happiness) by having his life shortened.

Given the fact that the choice of aggregation mechanism is key for determining the answer to the question of whether a person is harmed by having his life shortened, and if so, how much he is harmed, the key question is which aggregation mechanism is most plausible.

Despite the exploration in this Part, however, I still have not arrived at an answer regarding which aggregation mechanism is most plausible. All of the options for aggregation mechanisms seem to be afflicted by various counterintuitive implications. I considered TU-type aggregation, AU-type aggregation (including three of its different temporal sub-versions), and hybrid views, and it seems that no view is without its difficulties. Perhaps one could come up with some other more plausible option for an aggregation mechanism, but it is not

clear what other views there might be out there that do not fit within one of the various categories that I discussed. In light of this, it seems that I have considered the available options.

Thus, at this point, I close the inquiry in this Part simply by: (1) suggesting that the answer to the question of which aggregation mechanism is most plausible is seemingly among the options I have canvassed; and by (2) stating that while it is not yet clear which of the options is most plausible, I hope that the characterizations of the various points in favor of and against the various theories serve as the foundation for further explorations and further arguments about which of the various theories in fact is the most plausible and should thus serve as the foundation for our legal theory. Given that I have not articulated an answer to the question of which aggregation mechanism we should adopt, I have not yet articulated an answer to the question of whether a person can be harmed by having his life shortened, and if so, how much of a harm this is.

As we will see, however, it turns out that unless we espouse the lost years version of AU-type aggregation, we will think that a person can be harmed by having his life shortened. Thus, unless one espouses the lost years version of AU-type aggregation, one will think that there can be cases where (depending on the facts of a specific case) there should be compensation for a person for his having his life shortened. This will constitute an important finding. Beyond this finding, it is not yet clear how to translate the answer to which aggregation mechanism one espouses into an answer about how much money a person should receive as a remedy to return him to the level that he was at. This question will be addressed in Part IV.

IV. Converting the Answer to the Happiness Questions into a Measure of Compensation for the Aggrieved Person

A. Introduction

Although it might originally have seemed as though private law remedies might be able to get along fine without addressing questions about how to precisify our account of happiness and "the level that a person is at," the conclusion of Part II was that the private law actually cannot avoid addressing the aggregation mechanism question. This is because the choice of aggregation mechanism is in fact relevant for private law remedies in some cases. In particular, it turns out that the choice of aggregation mechanism is relevant for determining

whether there should be a remedy for a shortened life, and if so, how much of a remedy there should be.

It turns out that in order for one to think that people should not be compensated for having their lives shortened, one must not only espouse AU-type aggregation, but one must also espouse one specific temporal account of AU-type aggregation—the temporal account that compares the lost years themselves.[97] Thus, unless we believe in AU-type aggregation and the temporal account that compares the lost years themselves, we will think that a person can be harmed and should thus be compensated if his life is shortened (depending of course on the facts of the particular case). This is an important point, especially in light of the fact that the status quo of the law is that courts almost as a rule do not compensate people for having their lives shortened.[98] Part III showed that unless we espouse a particular theory (namely the lost years version of AU-type aggregation), the status quo must change. We should indeed compensate people for having their lives shortened in cases where the shortening of their lives causes them to incur a loss of happiness (as calculated by whichever aggregation mechanism we espouse).

While this is an important conclusion, further questions arise. While espousing the version of AU-type aggregation that compares the lost years themselves would prescribe that there be no remedy for having one's life shortened, the various other theories of happiness do not yield obvious prescriptions in terms of what the appropriate remedy should be for a shortened-life claimant. While the answer in the case of the proponent of an AU-type account that compares the lost years themselves is simple (i.e., zero dollars), a further inquiry and further analysis is required to convert the assessments (be they absolute or relative) of other theories into remedy quantities to award to the shortened-life claimant.

Carrying out this further inquiry and analysis is the main subject of this Part. That is, the inquiry is into how to translate the information regarding: (a) the facts in terms of happiness of a particular case, combined with the information about (b) the choice of aggregation mechanism and the choice of a temporal reference class (leaving aside the

97. Of course, on any of the accounts of aggregation mechanisms and accounts of the temporal reference class, it could be that a particular shortening of one's life might not entitle one to compensation in light of the facts of a particular case and it turning out that a person is not harmed in a particular case. But it is only AU-type aggregation with the temporal account that compares lost years themselves where it is always the case that a person is not harmed.

98. *See, e.g.*, *In re* Joint E. & S. Dist. Asbestos Litig., 726 F. Supp. 426, 430 (E.D.N.Y. 1989); Verni *ex rel.* Burstein v. Harry M. Stevens Inc., 387 N.J. Super. 160, 204 (App. Div. 2006); Zitter, *supra* note 29.

lost years version of AU-type aggregation, for which we already know the answer to the inquiry), into (c) a determination of what remedy (i.e., how much compensation) we should give to the shortened-life claimant to bring them back to the level that they would have been at if not for the harm that they incurred.

Step 1 in this inquiry is to determine which aggregation mechanism to espouse. Step 2 is to determine how much happiness this aggregation mechanism says that a person lost. Step 3 is to determine how much money will bring about a happiness transfer that will return to a person the amount of happiness that he lost. Given that a decision ultimately was not made in Part III about which aggregation mechanism to espouse (i.e., Step 1), this Part carries out Steps 2 and 3 for each of the possible aggregation mechanisms that one could have chosen to espouse in Step 1.

After addressing these questions, and in light of my answers to these questions, I then consider and address an objection that arises out of these answers: Why do we even need to address the questions about the aggregation mechanisms and how to precisify our account of happiness? Can we not just bypass this analysis and determine non-economic damages sums in different-numbers cases in the same way that we determine non-economic damages sums in same-numbers cases? In Section IV.C.3, below, I consider and address this objection.

B. The Two Steps Involved in Converting the Answer to the Happiness Questions into a Measure of Compensation for the Aggrieved Person

For each aggregation mechanism that we might espouse, the process of determining the amount of monetary compensation involves two steps. First, we determine how much happiness our theory of choice says has been lost by the person who has been aggrieved, and thus how much happiness the theory of choice says we need to give to the aggrieved person if he is to be brought to the same level of happiness that he would have had if not for having his life shortened. Second, having determined how much happiness we want to add to the aggrieved party's life, we determine what sum of money will bring about an addition of this quantity of happiness to the person's life. In what follows, I begin with this first step for the various theories. After doing so, I then address the question of how the theorists can address the second step. For the purposes of addressing the second step, I need not address specific theories because all of the theories confront the same question at this step. Although the amount of the happiness transfer that each theory prescribes, and thus the amount of money

that each theory prescribes, will not necessarily be the same, this is a function of the fact that the theories have different answers to the question at the first step. At the second step, the theories all confront the same question—how to translate a determination of how much happiness should be transferred into a determination of how much money should be transferred.

1. The First Step for the TU-type aggregation theorist

If one believes that TU-type aggregation is the correct aggregation mechanism, it does not matter for our purposes which temporal reference class we use. As discussed above, in Part III, the various temporal reference classes will not affect our prescriptions if we are TU theorists. Thus, for the TU theorist, we need not choose between the three temporal reference classes, and, thus, we can just talk generally in terms of "the TU theorist," as if there is only one type of TU theorist.

For the TU theorist, the harm due to having one's life shortened will be quantified in a number of total units of happiness that one will no longer experience. How, then, would a TU theorist think that a person should be compensated for these lost units of happiness? The way to do this is to increase the total happiness of the expected remainder of the person's life by the amount of happiness that he will have lost. Thus, let's suppose that he was harmed by having his expected future shortened from twenty years to five years, and that all of the years in question would have been at level five. If not for the harm, the person would have thus had 100 more units of happiness in his life. As a result of the harm, he will have lost 75 units and his remaining future will have 25 units. We would then attempt to add 75 units of happiness (reflecting the sum lost) to the five years that remain in his life—thus adding 15 units of happiness to each year. Therefore, according to the TU theorist, the compensation that would make the aggrieved person whole would be the amount of money that would increase the person's happiness for each of his remaining five years from a level of 5 units to a level of 20 units. Of course, this analysis does not get us all the way to a particular sum of money that would be the appropriate remedy. As discussed above, at the beginning of this Section, determining how much of a monetary transfer will be required to bring about the happiness transfer determined here is the topic of the second step of the analysis. I will address this question below. Notwithstanding this further work that needs to be done, the framework laid out here is the framework that the TU theorist will employ.

What the TU theorist is trying to do is make it the case that the person in *s2* (the life that has been shortened by the harm) has the same number of units of happiness as he would have had in *s1* (the life where he was not harmed). The TU theorist does this by trying to pack the same amount of happiness into the smaller number of years (and this will be attempted to be done by providing monetary compensation). Another way of describing this is that we attempt to offset the loss in *expectable quantity* of life by increasing the *expectable quality* of life.

2. The First Step for the AU Theorist

In determining how much compensation needs to be provided to an aggrieved party to bring him back to where we would have been, the AU theorist carries out a similar analysis. The first step for the AU theorist is to determine the happiness level of the person in the state of affairs where the harm occurred and the happiness level of the person in the state of affairs where the harm did not occur, and to determine how much additional happiness needs to be added to the life of the person who incurred the harm if we are to bring him back to the happiness level he would have had if not for the harm. The second step, as was the case for the TU theorist, will be to determine how much money will bring about this additional amount of happiness. I begin, however, with determining what the AU theorist will say about the first step.

As we know, there are different temporal versions of AU, and thus there are different types of AU theorists. Unlike with TU, the different temporal accounts of AU may have different answers to the question of how much happiness has been lost in a particular case (and thus how much happiness needs to be added to a person's life in order to bring a person back to the happiness level that he was at). I thus address separately three temporal versions of AU—the lost years version, the future version, and the whole life version.

I begin with the temporal version of AU for which we already know the answer: the version of AU that compares the two possible states of affairs including just the time period of the lost years themselves, and which states that we should not transfer any happiness to the aggrieved party to compensate him for the lost years. According to this version of AU, the harm due to having one's life shortened will be quantified in terms of the difference in the average happiness for that time period in both possible states of affairs (the one state of affairs in which the years are lost and the state of affairs in which the years are not lost). Regardless of what the average happiness value is for these

years in the state of affairs where the years are lived, though, it will not be possible to compare this value to the value of the state of affairs in which the years are not lived, because there is no average happiness value for these years, because there are no years lived. In other words, the average happiness value in this state of affairs is zero divided by zero, and thus undefined. In light of this, the comparison between the two states of affairs is undefined, and thus there is no amount of happiness that this theorist will say should be transferred to the aggrieved party. Therefore, the AU theorist who compares the two possible states of affairs including just the time period of the lost years themselves will say that we should not transfer any happiness to the aggrieved party to compensate him for the lost years.

According to the "future" version of AU, however, it can be the case that we should transfer happiness to the aggrieved party. For this AU theorist, the harm due to having one's life shortened will be quantified in terms of the difference in average happiness contained in the two possible futures. We then transfer happiness in the amount that will bring the happiness of the future in the state of affairs where the harm was incurred to the same average value that would have existed in the future had the harm not been incurred. How much happiness is transferred to a person will then be a function of (1) how much lower the average happiness would be in the future where the harm was incurred (absent the provision of a remedy), and (2) how many years of life exist in the person's future in this state of affairs where the harm has been incurred.

For example, suppose that the person's future was shortened from twenty years to five years and that the twenty years would have been at level fifteen and the five years would be at level ten. If this is the case, then on this "futures" version of AU, the person's harm is quantified as being the difference between the average happiness of the futures, which in this case is a happiness value of five (fifteen minus ten). In order to bring the person back to the happiness value he would have been at, we must bring the person's future up by five units per year (from ten to fifteen). We then look at how many years the person's future contains in the state of affairs where the harm has been incurred, and the answer is five. The correct compensation here would then be to transfer the aggrieved party twenty-five units of happiness—the equivalent of five units of happiness for five years. Before continuing, however, consider a slightly tweaked example. Suppose that the party whose future is shortened from being twenty years to being five years would experience level fifteen happiness during both of these possible futures (unlike in the original example in which the

shortened future has a lower happiness level). In this tweaked example, the aggrieved person would not be compensated with any happiness at all. This is because the happiness level of the two possible futures would be at the same happiness level (fifteen). And thus, on the future's version of AU, the person would not be harmed at all by having his life shortened, and thus there would be no happiness that should be transferred to the aggrieved person.

Now consider the third of the three temporal versions of AU—the view according to which AU is calculated across a person's full lifetime. For this AU theorist, the harm due to having one's life shortened will be quantified in terms of the difference in average happiness contained in the two possible full lifetimes. We then transfer happiness in the amount that will bring the happiness of the full lifetime in the state of affairs where the harm was incurred to the same average value that would have existed in the whole lifetime had the harm not been incurred. How much happiness is transferred to a person will then be a function of (1) how much lower the average happiness would be in the whole lifetime in the state of affairs where the harm was incurred (absent the provision of a remedy), and (2) how many years of life exist in the person's whole lifetime in the state of affairs where the harm has been incurred.

For example, suppose that a person's future was shortened from twenty years to five years and that both of these futures would have been at an average happiness level of fifteen. Suppose that at the time in question, the person has lived fifty years at a level of ten. If this is the case, then on this "lifetime" version of AU, the person's harm is quantified as being the difference between the average happiness of the two possible full lifetimes, which in this case is a happiness value of 0.98 (i.e., 11.43 in the longer life minus 10.45 in the shorter life).[99] In order to bring the person back to the happiness value he would have been at, we must bring up the person's average happiness for his entire lifetime up by 0.98 units per year. We then look at how many years the person's entire lifetime contains in the state of affairs where the harm has been incurred, and the answer is fifty-five. The correct compensation here would then be to transfer the aggrieved party 53.90 units of happiness—the equivalent of 0.98 units of happiness for fifty-five years. Before continuing, however, consider a slightly tweaked example. Suppose that the party whose future is shortened from being twenty years to five years (and for whom both of these futures would be at a happiness level of fifteen) has a fifty-year past

99. (50 x 10) + (20 x 15) / 70 = 800 / 70 = 11.43 and (50 x 10) + (5 x 15) / 55 = 575 / 55 = 10.45.

that was at a level of fifteen (as opposed to a level of ten). In this tweaked example, the aggrieved person would not be compensated with any happiness at all. This is because the happiness level of the two possible full lifetimes would be at the same happiness level (fifteen). And thus, on the whole lifetime version of AU, the person would not be harmed at all by having his life shortened. Accordingly, there would be no happiness that should be transferred to the shortened-life claimant.

3. An interesting implication of the happiness analysis

I have now addressed the first step for both TU-type aggregation and AU-type aggregation, explaining how it is that these theories determine how great of a harm (in terms of happiness) a person has incurred by having his life shortened, and thus how much of a happiness transfer would be required to bring the shortened-life claimant back to the happiness level at which he had been before he incurred the harm. Before continuing and addressing the second step (how to determine how much of a monetary transfer will bring about the happiness transfer that we have determined is necessary to make the aggrieved party whole), I pause to mention an interesting implication of the analysis in the first step, and, more broadly, an implication of my happiness framework and happiness analysis.

According to the framework I have been articulating, a person is made whole by compensating him for the happiness that he lost. An implication of this is that, all else equal, the happier that a person's lost years would have been, the more happiness the person loses out on, and thus the more happiness that a person needs to be given as a remedy in order to make him whole and bring him to the level of happiness that he would have been at. In light of this, not only is it the case that a person will, all else equal, be owed more happiness—and thus more money as a remedy—the happier that his lost years would have been, but it also means that, all else equal, a person whose lost years would have been very happy will be entitled to more compensation than a different person whose lost years would have been less happy. The person with the happier lost future years will be entitled to more compensation than the person with the less happy lost future years.

It might seem counterintuitive—or perhaps just inequitable and wrong—to some that the fact that the framework I have been articulating states that valuing the years of life lost takes as a crucial input the estimated happiness of those lost years. First of all, this type of an inquiry does not seem to be part of our law today in any way, and thus

it might seem like a foreign concept. Second, it seems to be treating people differently when it might seem that they should be treated equally when being compensated for having their lives shortened. Third, it might even seem in a sense to "make the rich richer and the poor poorer": If we assume that a person who has had a happier life than a second person would continue to have a happier life than the second person with respect to their future years, it seems that the person who has already been blessed with a happy life will get benefited again by getting more in compensation for his lost years than the less happy person, who is already living a worse life than the first person during his years of life.[100] It might seem, though, that it is not the less happy person's fault that he's less happy and that he should not then get less than the happy person when they are compensated for having their lives shortened. It might seem that the unhappy person should either get compensated the same amount as, or if there were to be a disparity, perhaps more than, the happier person.

These features of my account might seem unpalatable to some readers. Despite this, however, I think that my account gets it right. The question I am addressing is how to bring a person back to the level that he was at (in terms of happiness) if not for the harm that the person incurred by having his life shortened. Thus, it is pretty clearly the case that, all else equal, a person's loss is greater the happier his lost years would have been, and, similarly, that, all else equal, one person's loss is greater than another person's loss if the first person's lost years would have been happier than the second person's lost years. This seems like an accurate description of the events, and thus my analysis regarding the disparity in size between remedies seems to get the correct result.

This is not to say that there might not be inequities between people in terms of their differing levels of happiness in life, with many of the people with low happiness levels having low happiness as a result of things completely out of their control, and thus due to no fault of their own. And I am not suggesting that these inequities should not be addressed by the law in some way or other. This domain in private law remedies of compensating people for losses that they incurred, however, need not be (*and, indeed, as it currently operates, is not*) the ave-

100. A similar type of dynamic arguably exists in the context of calculating spousal support—where the dollar sum is determined in part by employing, as an input, the standard of living during the marriage. *See, e.g.*, *In re* Marriage of Schenkelberg, 824 N.W.2d 481, 486 (Iowa 2012) (The court explained that one of the factors used to calculate the amount of spousal support is "[t]he feasibility of the party seeking maintenance becoming self-supporting at a standard of living reasonably comparable to that enjoyed during the marriage, and the length of time necessary to achieve this goal.").

nue for this type of redistribution, and there are many other avenues through which these "luck-equalizing" goals can be furthered. For example, the inequities alluded to here could perhaps be addressed by (and likely would be better addressed by) a tax and transfer system.

To use the framework of torts: Whether the equilibrium, to which corrective justice seeks to return the parties, is itself just is an important question, but this is a question for distributive justice. In order to endorse the importance of corrective justice, one must think that there is an account of distributive justice that explains the value of a particular equilibrium point, but the question of corrective justice is nevertheless independent from the question of distributive justice. Corrective justice theorists can share the belief that corrective justice is important, yet hold conflicting theories of distributive justice. What corrective justice theorists in tort law will hold in common, though, is the belief that regardless of what the best theory of distributive justice is, the purpose of corrective justice is to compensate an aggrieved person for the harms that he has incurred, and thus to return him to the equilibrium that he was at before his position or level of happiness was disturbed when he was harmed by the defendant.[101]

Despite my account prescribing that we provide greater compensation to a person whose lost years are happier, there are, however, also some additional considerations that might provide us with reasons for why, in practice, even in accordance with my account, a seemingly happier person might not receive greater compensation for lost future years than a less happy person. First of all, in many cases there might be great uncertainty about what to estimate for future levels of happiness, and thus the estimates might tend to be very similar across the board, even if there has been a noticeable difference in happiness levels between two individuals up until the current point in their lives. If future happiness levels are very difficult to predict, then despite my framework being employed, compensation would be similar among all people. Second, there might be reasons to think that happiness is in some ways, and to at least some degree, relative. If so, there might be various ways in which seemingly divergent happiness levels could be expected to equilibrate over time—thus resulting in people with seemingly different happiness levels having expected future happiness levels that are more similar than one might otherwise think.[102]

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101. For an illuminating discussion about the relationship between distributive justice and corrective justice, see John Gardner, *What is Tort Law For? Part 2. The Place of Distributive Justice*, *in* PHILOSOPHICAL FOUNDATIONS OF TORT LAW (John Oberdiek ed., Oxford Univ. Press 2014).

102. Further, there is an additional and separate way in which the potential relativity of happiness might play into the issues here. If there is a way in which happiness is relative to a baseline

In sum, my account does in fact prescribe that a person whose lost years are happier than someone else's lost years will, all else equal, be entitled to greater compensation in terms of happiness, and thus greater compensation in terms of money. This might be counterintuitive to some, but it is important that we remember that this Article is operating in the domain of compensating people for losses, not in distributive justice. Thus, inequities among people's lots can be addressed in other ways by the law and by society. Additionally, due to what situations and facts are like in practice, it might be that the disparity prescribed by my framework in terms of happier people being compensated more will be much less prevalent in practice than it might initially seem. Notwithstanding these comments, it is an interesting and conceptually important feature of my account that it does prescribe greater compensation in terms of happiness (and thus money) for a person's lost years the happier that these lost years are (as compared to less happy lost years by the same person or less happy years lost by a different person).

4. The Second Step for both the TU theorist and for the AU theorist

I have now established how TU and the various versions of AU determine how much happiness should be transferred to the aggrieved person. Further, if one espouses a hybrid view of some sort, analogous considerations would be relevant for determining how much happiness should be transferred to the aggrieved person according to one's hybrid view. Having established how the various theories determine how much happiness should be transferred, the theories all now confront the same question at the second step: how to determine what amount of *money transfer* to the aggrieved person will bring about the desired *happiness transfer* to the aggrieved person.

The theoretical question here is a simple one. We must simply make our best guess at how much money is the amount of money that will bring about the amount of happiness that we are aiming to transfer to the aggrieved party. In practice, however, this question of how large a monetary transfer must be in order to bring about a certain amount of happiness for the aggrieved party is a very difficult one to answer.

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of happiness that one has experienced, arguments could be made that a person who is less happy will have his happiness affected to a greater degree by an increase of happiness of a certain amount than would a person who is more happy and receives the same increase in amount of happiness. Although this would, prima facie, seem to suggest that there is a diminishing marginal utility of happiness, which seemingly is contradictory, there are some non-contradictory ways in which utility itself can be understood to have diminishing marginal utility. *See* Michael Pressman, *How and Why Happiness Might Be Relative* (unpublished manuscript) (on file with the author).

This is a fact-based and fact-sensitive inquiry, and many of the relevant facts are unknown. It is difficult to know how much money it will take to bring about a certain amount of happiness for a particular person, and this is especially the case in light of the fact that we cannot predict the various relevant aspects of the future with accuracy.

Despite this great uncertainty, however, there are a number of key facts that we will have some evidence about, which will be relevant to the analysis. For one, it will be of prime importance how wealthy the aggrieved party is. It is well known that there is declining marginal utility of money,[103] and thus it will likely be the case that it will take a greater amount of money transferred to the wealthy person to increase his happiness by a certain amount than it would to increase the happiness by the same amount of a poor person. In addition, it is also relevant to the wealth inquiry how many expected years of life the aggrieved person has in his future. This is because what is relevant about wealth in our current context is how much money a person already has that can be spent per a given period of time—for example, a year. Thus, for our purposes in our current context, we can consider someone to be quite wealthy if he has very little time left to live and has a medium amount of money, because the amount of money that the person will be able to spend during the relatively short period will be quite high. Thus, even though the total sum of money that this person has is not large, he will have great financial means during his short future (assuming that he intends to spend the money that he has).

In addition to considerations regarding (both directly and indirectly) the aggrieved person's wealth, other considerations will be relevant as well—such as what types of things typically contribute to this particular person's happiness and how much so, and whether these are things that can be brought into existence by money at all, and if so, to what extent this is the case, and how expensive these items are. Other considerations are relevant as well. If a person has certain medical procedures and requirements that give rise to medical bills, there will be questions about how much happiness these procedures and requirements will bring about, and there will be questions of how much it will cost to pay the bills for these procedures and requirements. With respect to the questions regarding the costs of medical bills and the associated benefits of having the procedures done (as well as with various other factual domains in our context), it seems that we do in

103. *See, e.g.*, JOHN STUART MILL, PRINCIPLES OF POLITICAL ECONOMY WITH SOME OF THEIR APPLICATIONS TO SOCIAL PHILOSOPHY 804 (W. J. Ashley ed., Longmans, Green & Co. 1909).

fact have a bit of a foothold in beginning to calculate how much happiness can be brought about by particular monetary sums.

In short, while the theoretical question of determining how much money is required to bring about a particular amount of happiness for an aggrieved person is a straightforward one, the practical question of actually determining what this amount of money is is fraught with difficulty. There are all sorts of facts that are difficult to ascertain or predict. Despite this, however, there are various considerations that are relevant that can help us make general estimates in various cases. Therefore, there are reasons to think that we can in many cases determine sums that at least in broad strokes might bring about an amount of happiness for the aggrieved person that is in the general neighborhood of the amount of happiness that we are trying to transfer to him.

Furthermore, it is important to be clear that this question of how to determine what sum of money will bring about a certain amount of happiness for an aggrieved party is not an inquiry that is new or one that is limited to cases of where a party is aggrieved by having his life shortened. The law confronts this issue in all cases that include claims for non-economic damages. While perhaps the answers given by judges and juries in these cases are far from precise, it certainly is the case that the question of how much money a party should receive to compensate him for non-economic damages is a question that the law can and does deal with.[104]

Even though the question of how much of a monetary transfer will bring about a particular amount of an increase of happiness for the aggrieved party occurs in contexts other than the shortened-life context, it still is important to address here. This is because if there were no way *at all* to estimate how much money would bring about a particular increase in happiness, then the analyses that yield determinations of how much happiness we want to transfer to an aggrieved party would be useless. Thankfully, however, this is not the case. We are able to make estimates about how much money would bring about a particular increase in happiness to a particular person, and we have been making estimates of this sort in all cases involving non-economic damages.[105]

While it is the case that it is difficult to come up with a precise monetary estimate, it is important to also be clear that this lack of precision does not in any way render moot or useless the determinations made in the first step about how much happiness a theory states

104. *See* Zitter, *supra* note 29.
105. *Id.*

that we should transfer to a person to compensate for his having his life shortened. In fact, the lack of precision associated with the second step's challenge of determining how much money brings about how much happiness for a person, does not in any way even lessen the importance of the results of the first step. Also, it does not even affect the findings in the first step. For example, a determination that, based on our choice of happiness aggregation theory, we want to transfer a person fifty units of happiness rather than ten units of happiness will have been just as important and translate equally into a determination of a monetary sum regardless of whether a determination that, say, increasing a person's happiness by ten units will require $10,000 is highly precise or highly imprecise. The determination regarding how many units we want to transfer to an aggrieved person is a determination that is prior to the determination of how much money will bring these transfers about, and imprecisions associated with the determination of how much money will bring about a given transfer of happiness do not in any way affect the importance of, or the effect of a determination of, how much happiness we want to transfer in the first place.

Additionally, as I showed above in the discussion of the first step, the different theories can, and generally do, yield extremely different answers about how much happiness should be transferred to an aggrieved party in a particular case. This is an important conclusion. Additionally, there is another important conclusion: Although (1) a determination of how much money will bring about a particular happiness increase to a party is imprecise and (2) although the amount of money that we transfer to a person will not necessarily be directly proportional to the amount of happiness that we want to transfer to the person (because of the diminishing marginal utility of money), it still is the case that the more happiness that we think should be transferred, the more money we will transfer. In other words, there is a positive correlation between the amount of happiness we want to transfer and the amount of money that we transfer in order to transfer this happiness. In light of this, not only is it the case that different theories can, and generally do, yield extremely different answers about how much *happiness* should be transferred to an aggrieved party in a particular case, but, so too, different theories can, and generally do, yield extremely different answers about how much *money* should be transferred to an aggrieved party in a particular case. Therefore, the findings in the first step—about how drastically the prescriptions of the different theories can differ and about how in any particular case they do differ—are of great importance.

In sum, although the choice of which happiness aggregation theory to espouse does not give a specific answer to the question of how much monetary compensation there should be for having one's life shortened (except for the AU theory comparing the lost years themselves, which says that there should be no monetary compensation), the choice of which happiness aggregation theory to espouse is nevertheless extremely important. Although it does not provide us with insight into how much money will bring about a certain amount of happiness for an aggrieved person, it does provide us with an answer to the prior question of how much happiness we want to transfer to the aggrieved person. The answer to this prior question then has an enormous impact on the amount of monetary compensation because the whole purpose of it is to bring about a transfer of a certain amount of happiness to the aggrieved person, and thus the amount of monetary compensation will be a function[106] of the amount of happiness that we are trying to transfer to the aggrieved party.

C. Considering the Estimation of Compensation from a Forward-Looking Vantage Point

1. Introduction

Up until now, the descriptions of the TU theorists' and AU theorists' attempts to make the aggrieved person whole in terms of happiness have been from a perspective of trying to make the person whole after the harm that has shortened the person's life has already been incurred. There is another vantage point from which this can be approached, however. We can also imagine a person who has not yet had this very harm (which will shorten his life) inflicted on him, and who is asked how much he would have to be paid to allow this harm to be inflicted on him—or, said differently, how much he would have to be paid to make him indifferent between one possible life where the life is not shortened and he is not paid, and another possible life which is shortened but where he is paid.

In answering this question about how much one would have to be paid to have one's life shortened by a particular amount of time, a person presumably (at least implicitly) carries out the same analysis that I have carried out, ex post, from the perspective of TU theorists and AU theorists: The person will employ whatever aggregation

106. As I have said throughout this Section, however, while the amount of monetary compensation will be a function of the amount of happiness we are trying to transfer to the aggrieved person, there are also various other inputs into the equation that need to be taken into account when determining how much monetary compensation we give to a person in the attempt to bring about a particular amount of happiness.

mechanism he finds most plausible, and then, applying this mechanism, he will determine how much money he would have to be paid if his life is shortened for the shorter life to have the same happiness value as the longer life. If, for example, the person is a TU theorist, he will be deciding (at least implicitly) how to trade off expectable quantity of life and expectable quality of life.[107]

The consideration of this hypothetical example of forward-looking analysis is relevant for us here for the following reason: One might think that it would be helpful for determining how much *monetary compensation* is the correct amount (and, similarly, what the *utility-versus-money exchange rate* is for a particular person) in cases where a person is harmed by having his life shortened. After considering this possibility, however, I will argue that the forward-looking vantage point is not helpful in this way after all.

2. Analysis

Throughout the preceding sections, I have been arguing that in order to determine how much monetary compensation is needed to make an aggrieved person whole in a case where the harm incurred by the person is a shortening of his life, we must (1) determine how much happiness we need to transfer to the aggrieved person to make him whole (which requires us first to determine what the most plausible aggregation mechanism is and then applying it to the facts of the case in question), and (2) determine how much monetary compensation will bring about the happiness transfer that we are trying to make to the aggrieved person.

As I have discussed above, though, it is not necessarily easy to determine with great precision how much money will bring about certain amounts of happiness to the aggrieved person. In light of this, it might seem that the forward-looking example, discussed above, might help us determine how much money will make the aggrieved party whole in cases where a person is harmed by having his life shortened. This is because it might enable us to bypass the difficult question of how much money is needed to bring about a certain amount of happiness.

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107. For interesting discussions about expectable quantity of life and expectable quality of life, and the trade-offs between the two of them, see Michael D. Bayles, *The Price of Life*, 89 ETHICS 20–34 (1978); Michael Pressman, *On Michael D. Bayles's "The Price of Life"*, 125 ETHICS 1154–56 (2015). Among the many interesting and important questions that arise in this context and that are addressed in these pieces are: How does a person put a price on his life? How does this process differ depending upon whether the piece of life being priced constitutes the full remainder of a person's life or merely a part of the remainder of his life? And, how can we use the information about how a person puts a price on his life to make sensible governmental and society-wide pricings of life?

How, then, would this work? First of all, we clearly would not be able to have the aggrieved person answer the forward-looking question, because by the time we are asking the question, the harm of the shortened life will already have been inflicted on the person. Thus, the law will never actually be put in the *ex ante* perspective.

What we could do, however, would be to try to determine what amount of money the aggrieved person would have given in response if he had been asked the question *ex ante*. A judge or a jury could attempt to determine this in various ways, and all of these ways except for one would involve relying on the very types of facts that I listed above,[108] in Section IV.B.4, as examples of facts that would be relevant for determining how much money would be required to bring about a particular amount of happiness for an aggrieved party in a particular case (e.g., an aggrieved party's wealth, his preferences, his medical situation, etc.). These facts would thus be relevant for that inquiry and for our current inquiry—and this is because our current inquiry essentially amounts to an inquiry into what the aggrieved party himself would find in conducting the inquiry with respect to himself, so the notion that the relevant facts are mostly the same should not be surprising.

What, though, is the one additional fact that a judge or jury could rely on in attempting to answer the question of what the aggrieved person would have accepted *ex ante*? The fact is what the aggrieved person himself says now, *ex post*, that he thinks that he would have accepted if asked the question *ex ante*. Obviously, there are huge concerns here regarding whether the aggrieved person would be truthful, but, leaving this aside, it seems that this would provide us with additional insight into what the aggrieved person might have accepted *ex ante*.

What is the upshot here, though? Would it be helpful to listen to what the party himself says about what he would have accepted *ex ante*? Even assuming, perhaps counterfactually, that the aggrieved party is being truthful when he says *ex post* what he would have accepted *ex ante*, it is not clear that this information helps us, and this is for two reasons.

First of all, it is not clear how much better the aggrieved person, in the present, would be than the judge or jury at determining what the person, *ex ante*, would have thought regarding how much money would bring about how much happiness for the person. Additionally, it is also not clear that even the aggrieved party, if actually asked *ex*

108. *See supra* Section IV.B.4.

ante, would even be better than a judge or jury at determining how much money would bring about a particular amount of happiness for the person. It is very speculative, and I think it would be difficult for the party to have an estimate that has much more precision or accuracy than would the estimate of a judge or jury.

Secondly, and relatedly, to the extent that the aggrieved party himself would have a better estimate of what he would have accepted *ex ante*, it seems that this is almost exclusively due not to inside information about the tradeoff between money and happiness, but rather, due to the aggrieved person knowing better than a judge or jury (at least implicitly) what his aggregation mechanism of choice is. This then leads us to what is the key issue here.

In determining how to make an aggrieved party whole, should we employ our own (i.e., the court's own) choice of what the most plausible aggregation mechanism is, or should we defer to what we take to be the party's own determination of what he thinks is the most plausible aggregation mechanism? Before answering this question, here are some thoughts relevant to each possible answer to this question.

If we think that we should defer to the aggrieved person's own choice of the aggregation mechanism, then it seems that we actually could in fact bypass the question of how much money would bring about how much happiness for the party because we could simply try to determine how much money they would have accepted *ex ante*, and this answer would reflect the answers to the two more specific questions lumped together (i.e., what the aggregation mechanism of choice is and how much money brings about how much happiness), and we thus could avoid answering both of them individually.

If, however, we do not think we should defer to the aggrieved party's own choice of what the most plausible aggregation mechanism is, then it seems that a determination of what the aggrieved person would have accepted *ex ante* is not of much help to us, because the sum that they would have accepted reflects a combination of their choice of aggregation mechanism (which is not relevant to our inquiry) and their determination of how much money brings about how much happiness—and this information, while relevant to us, will not be easily extracted from the assessment of what monetary amount they would accept, because the amount is a function of two inputs, of which the determination of how much money brings about how much happiness is only one of the inputs.

What, though, is the answer to whether private law remedies should impose its own determination of the most plausible aggregation mechanism or whether it should defer to the mechanism preferred by the

aggrieved party? It seems to me that the law should impose its own determination of the most plausible aggregation mechanism and that it should not defer to the mechanism preferred by the aggrieved party. We can see why this is the case when we are careful to be clear about what specific question we are trying to answer.

First of all, one might think that we should defer to the party's view about what aggregation mechanism to use because it is of paramount importance what the person himself would have wanted. After all, it is his life. This, however, confuses the question. The question is how to make it the case that the life in which the person has his life shortened is of the same value as the life that he would have lived but for incurring that harm. The question is not how to make it the case that the shortened life is one that he would equally want to be his life as compared to the life that is not shortened. As I have shown already[109] there is a difference between, and an important gap between, facts about what a person wants (e.g., at a particular point in his life) and facts about what maximizes goodness for the person. Thus, stating that we should defer to what a person wants simply is not answering the question that we are asking.

There often is a close connection, however, between what a person wants and what he thinks maximizes value for his life. Thus, if what a person *thinks* maximizes value for his life is relevant for our purposes, then it might be the case that what a person wants *is* relevant for our purposes. Therefore, I now turn to the question of whether what a person thinks maximizes value in his life is relevant for our purposes.

There certainly does seem to be at least a close connection between what a person thinks maximizes value in his life and what actually does maximize value in his life, but, yet again, there is a gap. The question we are asking is how to make it the case that the life in which the person has his life shortened is of the same value as the life that he would have lived if it were not for incurring the harm that shortened his life. This plainly is a different question from asking what the party's view of the matter is. Further, the question is not one that seems to be any more easily answered by the party himself than by anyone else, and, more relevantly, it does not seem that the person's own view is any more relevant than anyone else's view of the matter. Determining the correct, or most plausible, mechanism for aggregating happiness is a theoretical question, and it is not one that is any more a function of the particular person's view than it is of any other person's view or explanation for which aggregation mechanism is most

109. *See supra* Part III.

plausible. Simply put, the law is attempting to make a person whole—it is not attempting to do what a person will think will have made him whole. Thus, while there might be convergence in many cases between what will make a person whole (i.e., what the courts think will make the person whole) and what a person thinks will make him whole, in cases of divergence, we strive to do what will make the person whole and not what the person thinks will make him whole. Thus, regardless of what the person's view is about what will make him whole, we at all times attempt to do what will make him whole.

Thus, once we are clear about what question it is we are asking and what it is we are trying to do (i.e., what remedy will make it the case that the person's life value is the same as it would have been but for the harm), then it becomes clear that we should employ our best assessment of what actually is the most plausible happiness aggregation mechanism, and that we should not simply employ the aggregation mechanism that is espoused (be it explicitly or implicitly) by the aggrieved party himself.

3. Summary of findings and the upshots regarding the forward-looking vantage point

In light of the foregoing, we can now see that the forward-looking approach does not seem to help us to get a more precise compensation amount—at least not significantly so.

First of all, even if we are able to successfully determine what a person would have agreed to be paid *ex ante* to have his life shortened by a certain amount (and, as I've argued, determining this is itself fraught with difficulty and confronted with obstacles), this amount would be a function of and reflect two separate factors lumped together. It would reflect the person's happiness aggregation mechanism of choice and it would also reflect his conversion rate between money and happiness. As I have argued, however, we should not simply employ this monetary sum as our compensation amount, because this sum employs the person's own aggregation mechanism of choice. We should instead be using a uniform aggregation mechanism that has been decided upon by the courts, by the legislature, or by some other governmental body. We should not defer to the aggregation mechanism espoused by the aggrieved person.

Secondly, not only are we unable to simply import the compensation sum that the party would have agreed to, and thus use this as the compensation amount, but we also are unable to use the amount that the person would have agreed to to determine what the person's happiness-money conversion rate is (with the hopes of then using this in

conjunction with the court's determination of the aggregation mechanism to then arrive at a compensation amount to award to the party). As discussed, since the amount that the person would have agreed to lumps together the aggregation mechanism and the happiness-money conversion rate, we do not know what either of the two specific inputs amounts to.

For these two reasons, it seems that a determination of how much a person would have agreed to be paid to have his life shortened would not help us determine how much compensation we should award to the aggrieved person. Further, this is even leaving aside the difficulties associated with accurately determining how much a person would have agreed to be paid.

As I have stated, there are also significant difficulties associated with determining how much a person would have agreed to be paid. First of all, there are concerns about truthfulness if we ask the person himself *ex post* what he would have said *ex ante*. Additionally, even if we assume truthfulness, it is not clear that there is reason to believe that the person's own estimate, *ex post*, regarding his money-happiness conversion ratio (or even his actual estimate, *ex ante*, if that had been possible) would be any more accurate than would an estimate of his money-happiness conversion ratio made by the judge or jury.

Despite these points, however, we could allow a party to testify or otherwise provide evidence about how much the party would have accepted *ex ante* to have his life shortened, and we could also allow the opposing party to put on evidence regarding how much the plaintiff would have accepted *ex ante* to have his life shortened. Perhaps arguments could be made in support of why a court should think that a particular sum is what the person would have accepted *ex ante*. Even so, though, and for the reasons I have given, further arguments would have to be made by the parties to explain what the relevance of this determination would be even if it were established. While arguments can be made about its relevance, further points would need to be made to enable us to make the inferences necessary to get from these determinations to those that are directly relevant to the all-important determination of how much we should now award to the aggrieved person to make him whole.

Thus, while perhaps evidence pertaining to how much the aggrieved person would have accepted *ex ante* to have his life shortened could play some role in determining a compensation sum, it could only do so indirectly at best. In light of this, it certainly is not the case that employing the forward-looking vantage point would enable us to sidestep the question of determining how much monetary compensation will

bring about the happiness transfer that we are trying to make to the aggrieved person—a question which is difficult to answer with precision. The hope at the beginning of this Section had been that employing the forward-looking vantage point might enable us to bring about greater precision in determining the compensation award for the aggrieved party (and ideally to make this determination not only more precise but also quite easy to calculate and carry out), but it seems now that the forward-looking vantage point will not be helpful in the way we might have hoped that it would be.

The conclusions of Section IV.C.2 not only show why the forward-looking vantage point is not helpful for determining how much *monetary compensation* is the correct amount (and, similarly, what the *utility-versus-money conversion rate* is for a particular person) in cases where a person is harmed by having his life shortened, but they also help me avoid an objection to my project's core position that there are situations in the law where we need to make a choice about which *aggregation mechanism* is the most plausible. The objection I consider here is rooted in the forward-looking vantage point.

Throughout this Article, I have argued that, while in most situations private law remedies need not precisify its account and choose a happiness aggregation mechanism, cases where the harm incurred is having one's life shortened do require us to be more precise and choose a happiness aggregation mechanism. The objection that one might raise is as follows: Perhaps private law remedies could, after all, and despite my claims to the contrary, avoid addressing and answering—even in the context of situations where the harm incurred by a person is his having his life shortened—the question about which aggregation mechanism is our aggregation mechanism of choice. The thought behind the objection (which is related to the thoughts discussed throughout this Section) is that perhaps a determination of how much the person would have agreed *ex ante* to be paid for having his life shortened would then lump together one's choice of aggregation mechanism and one's money-happiness conversion rate in a way that would then prevent us from having to determine either of these two components individually—while still arriving at a compensation sum, and thus having bypassed the part of the analysis that I have said requires us to choose an aggregation mechanism for happiness. Or, said slightly differently, this objection asks me why different-numbers problems are any different from same-numbers problems with respect to the need to articulate an aggregation mechanism for happiness (and the ability or inability to bypass this question), if in both types of cases the forward-looking vantage point could be used to determine an estimate

of what monetary sum would make a person indifferent between incurring and not incurring the harm in question.

The answer to the objection comes right out of the analysis in the previous subsection: What's different about the different-numbers case is that in order to come up with an amount of money that will make the aggrieved person whole in terms of happiness, we need to choose (be it either an explicitly or implicitly) which aggregation mechanism to adopt. In same-numbers cases, on the other hand, we do not need to make the choice about which aggregation mechanism to adopt. Although in different-numbers cases we *could* defer to a party's estimate of a fully compensatory sum, which would lump together his aggregation mechanism choice and his utility-versus-money conversion rate, my arguments in the previous sections explain why we should not do this. The choice of which aggregation mechanism to employ is a choice that should be made by the courts or by society at large, and not by the aggrieved person. Because the question should not be left to the aggrieved party himself to decide (be it explicitly or implicitly), we (i.e., private law remedies) then are forced to address the question of which aggregation mechanism to choose. We are thus unable to bypass the question of which aggregation mechanism to choose, because we are not able to simply import as a remedy the monetary sum that a party would accept *ex ante* to be indifferent between having his life shortened and not having it shortened. Regardless of whether it is done explicitly or implicitly, any estimate of the full compensation amount in a different-numbers case will be a function of estimates or decisions about *both* one's utility-versus-money conversion rate *and also* one's aggregation mechanism of choice.

Conclusion

This Article has sought to address two questions: (1) Should a plaintiff be able to be compensated in tort for having his life shortened by a defendant's tortious behavior (e.g., by medical malpractice or exposure to carcinogens)?; and (2) If he should be compensated, in what amount? More specifically, the determinations at issue here have been about whether to compensate (and, if so, how to do so) for a particular component of a claim arising out of the tortious shortening of life: the harm of failing to experience the years of life that were lost (the victim's "hedonic loss").

In order to address these issues, this Article drew upon a novel framework that I proposed elsewhere, according to which the goal of private law remedies is, and should be, returning a party to the position he was in, before the harm incurred, *in terms of happiness* (or,

perhaps, in terms of some other feature of a person's welfare that might be thought to be intrinsically valuable). After sketching this framework, this Article then developed it, expanded upon it, and applied it.

Although this Article did not provide conclusive answers to the questions of whether, and, if so, how much, a person should be compensated for having his life shortened, it (1) provided a detailed framework in which, and the tools with which, to answer these important and urgent questions, and (2) in addition to laying this foundation, it canvased the arguments in favor of and against the various possible answers.

Depending on what our answers to these questions ultimately are, the current state of the law might need to undergo substantial changes. These changes would significantly affect private law remedies and the lives of many people. Furthermore, it seems very likely that our answers *will* dictate the result that changes *do* need to be made. We must proceed swiftly both in (1) coming to an ultimate determination regarding whether a change should be made, and (2) if a change should be made, bringing about this change.