2020

The Commonality of Causation

Sergio J. Campos

Follow this and additional works at: https://repository.law.miami.edu/fac_articles

Part of the Civil Procedure Commons
Citations:

Bluebook 21st ed.

ALWD 6th ed.

APA 7th ed.

Chicago 7th ed.


MLA 8th ed.

OSCOLA 4th ed.

-- Your use of this HeinOnline PDF indicates your acceptance of HeinOnline's Terms and Conditions of the license agreement available at https://heinonline.org/HOL/License
-- The search text of this PDF is generated from uncorrected OCR text.
-- To obtain permission to use this article beyond the scope of your license, please use: Copyright Information
This essay, a version of which was given as the inaugural Goldman Endowed Lecture at Ohio Northern University School of Law, discusses the treatment of causation in class actions, multidistrict litigation, and similar collective litigation. Causation is a ubiquitous element of civil claims, and typically it is treated as an individual element of a claim because it is dependent on the circumstances of each individual claimant. Even if the conduct at issue in litigation is "common," or the same, for a group of claimants, whether that conduct caused harm to a specific claimant will depend on the unique circumstances of that claimant. For that reason, courts have often refused to certify class actions, or have otherwise been reluctant to utilize collective procedures, where issues of causation predominate the proceedings. It is thought that in such cases plaintiffs are entitled to a more tailored, individualized hearing to accurately assess causation consistent with due process. This essay questions this common-sense notion that the issue of causation is an "individual" issue and argues that causation is actually much more "common" when one examines the causation element and its proof in greater depth. The essay concludes by suggesting ways in which the "commonality" of causation can be addressed in litigation to better fulfill the deterrence and compensation objectives of the litigation.

† Professor of Law, University of Miami School of Law. Email: scampos@law.miami.edu. Phone: (617) 669-5397. This essay greatly benefited from the comments provided by those who attended the lecture. It also benefited greatly from comments I received at a Miami workshop. I also want to thank David Rosenberg and students in a class action class taught by Adam Moskowitz for their comments. Melanie Ng, Daniel Settana, and Michael Tejada provided excellent research assistance. All errors are mine.
INTRODUCTION

I am honored to give the inaugural Goldman Endowed Lecture, a lecture series created and funded by Robert Goldman that addresses issues concerning class actions and prosecutorial techniques in civil or criminal matters. Robert Goldman is a source of great pride for the Ohio Northern University Pettit College of Law, and justifiably so given his illustrious career. Not only did Mr. Goldman have an exemplary thirty-year career in the FBI specializing in white collar crime, but shortly after his retirement embarked on an equally exemplary career as a class and mass action claims administrator. Mr. Goldman is thus one of the very few lawyers to distinguish himself in both the criminal justice system and in complex civil litigation, a truly rare and admirable achievement. I hope that the humble thoughts expressed here honor the boldness of Mr. Goldman’s career and his contributions to the legal profession.

Unfortunately, my own career has not involved much work with the criminal justice system, so my focus will be on complex litigation, which has been the great preoccupation of both my early legal career and my academic career. Accordingly, I will discuss a topic of great importance not only to complex litigation, but to the law itself: weedkiller.

Let me explain. This talk will focus on causation, which is a legal element typically found in every civil claim. To recover for an injury, one must show, with some exceptions, that the defendant’s unlawful conduct

---

3. See infra Part I.A. (illustrating that causation is an element in a variety of civil claims).
caused the injury. A requirement to prove causation to recover is far from controversial. However, causation—its legal treatment, its proof, and its procedural implications—can cause headaches for judges in complex cases. This is certainly true of recent litigation involving Roundup, a weedkiller introduced by Monsanto in the early 1970s that is commonly used in home gardening. Roundup, which is sold in spray bottles and can still be purchased at home improvement stores, utilizes glyphosate, an herbicide, to kill weeds.

Recently tens of thousands of plaintiffs have filed lawsuits across the country alleging that the glyphosate in Roundup caused each plaintiff to contract Non-Hodgkin’s Lymphoma (“NHL”). Those actions filed in federal court have been consolidated by the Judicial Panel on Multidistrict Litigation (the “JPMDL”) for pre-trial proceedings before U.S. District Court Judge Vincent Chiarra in the Northern District of California. I will refer to this consolidation as the “Roundup multidistrict litigation” or “Roundup MDL,” and the transferee court as the “MDL court.”

The MDL court then did something unique. The court allowed three plaintiffs to proceed to trial as “bellwether trials,” or trials designed to provide information for the other actions within the Roundup MDL. The court then ordered “reverse bifurcation,” which divided each of the trials into two phases. In the first phase, the trials were only permitted to address the issue of causation. Only after completion of the first phase would the trial proceed to a second phase to address all remaining issues.

The plaintiffs objected to “reverse bifurcation” in part because they had accumulated evidence that Monsanto had improperly influenced federal

4. Samuel Issacharoff, Group Litigation of Consumer Claims: Lessons from the U.S. Experience, 34 Tex. Int’l L. J. 135, 146 (1999). In some special circumstances, such as claims involving securities fraud or some consumer claims, causation is sometimes “presumed,” with an opportunity for the defendant to introduce evidence to rebut the presumption. Basic Inc. v. Levinson, 485 U.S. 224, 250 (1988) (permitting a plaintiff to presume reliance in a securities fraud claim). There are also some unique and rarely used tort doctrines, such as alternative liability and market share liability, which modify the evidentiary requirements for causation. Restatement (Third) Of Torts § 28 (Am. Law Inst. 2010). I will discuss these more unique doctrines later in the lecture.


7. See 28 U.S.C. § 1407(a) (“When civil actions involving one or more common questions of fact are pending in different districts, such actions may be transferred to any district for coordinated or consolidated pretrial proceedings.”); In re Roundup Prods. Liab. Litig., 214 F.Supp.3d at 1348 (transfer order transferring 19 civil action(s) to the United States District Court for the Northern District of California for coordinated or consolidated pretrial proceedings pursuant to 28 U.S.C. § 1407).


9. Id.

10. Id.

11. Id.
agencies with respect to the agencies’ classification of glyphosate as a carcinogen. While that evidence would support each plaintiff’s claim that Monsanto violated a duty to warn of the dangers of using Roundup, it would not be relevant for purposes of proving or disproving causation, and the MDL court repeatedly prohibited the plaintiffs from introducing such evidence during the first phase.

The decision to “reverse bifurcate” is unique because typically when a court bifurcates trial proceedings, the first phase usually addresses issues that are common, or the same, for each plaintiff in the class or MDL. Proceeding in the normal, nonreverse way allows a court to efficiently determine a common issue in one or a few proceedings for every plaintiff. Moreover, if the plaintiffs cannot prevail on a common issue, then a court can avoid a second phase altogether.

The issue of “causation,” however, is not common to the plaintiffs in the Roundup MDL. Whether exposure to the glyphosate in Roundup caused a particular plaintiff’s NHL will depend on facts that will differ from plaintiff to plaintiff—the amount of Roundup each used, their medical and family history, their age, and their exposure to other known causes of NHL. In its “reverse bifurcation” order, which was only two pages long, the MDL court noted that resolution of the causation issue in the initial phase can be efficient if it can be shown that no plaintiff can possibly prevail. If at least one of the plaintiffs can prevail, then it would introduce a useful data point for the remaining plaintiffs in the Roundup MDL. However, it is unclear how useful that data point can be, particularly if the circumstances of the bellwether plaintiff turn out to be not particularly typical of the remaining plaintiffs in the MDL.

14. Pretrial Order No. 61, supra note 8.
15. 4 WILLIAM B. RUBENSTEIN, NEWBERG ON CLASS ACTIONS § 11:3 (5th ed. 2019) (“Courts sometimes use the phrase “reverse bifurcation” as well—this is a reference to the fact that a common use of bifurcation, described below, is to try liability issues to a jury before damages; in reverse bifurcation, damages are tried before liability.”); Drury Stevenson, Reverse Bifurcation, 75 U. CIN. L. REV. 213 (2006) (“Reverse bifurcation is a trial procedure in which the jury determines damages first, before determining liability.”).
16. 4 RUBENSTEIN, supra note 15, § 11:4 (“A bifurcated trial may be more efficient where the trial of the first issue obviates the need for the trial of the second”).
17. In re Roundup Prods. Liab. Litig., 358 F.Supp.3d at 960 (discussing the unique circumstances - such as exposure level to glyphosate and medical history - of each individual plaintiff); see also Angelo v. Armstrong World Indus., 11 F.3d 957, 965 (10th Cir. 1993) (“The evidence therefore concentrates on the plaintiff’s health history, the extent of his exposure . . . , the possible causes of his illness, and the losses he has suffered from his illness.”).
18. Pretrial Order No. 61, supra note 8.
19. Id.
In this lecture, I want to use the “reverse bifurcation” order in the Roundup MDL as a springboard to examine “the commonality” of causation, understood as the extent to which “causation” can be treated as a “common” issue. As a matter of both existing law and common sense, it is hard to view the issue of causation as the same for each plaintiff except in very limited circumstances. Whether the defendant’s conduct caused the plaintiff’s injury will depend on the circumstances of that particular plaintiff.

However, and as I discuss in more detail below, causation is somewhat unique as an individual issue because proving it requires information about other plaintiffs and uninjured persons. Thus, while the causation issue may differ from plaintiff to plaintiff, the process of proving causation often requires constructing counterfactuals that will depend on an assessment of individuals who may not be, and may never be, plaintiffs. More importantly, this counterfactual evidence is the same for each plaintiff. Thus much, if not all, of what is needed to prove causation in any individual case is indeed common to the class.

Perhaps more controversially, I want to challenge the necessity of proving causation on an individual basis. In cases like the Roundup MDL, which concern the allegedly unlawful mass production conduct of the defendant, the objective of the litigation is not only to compensate the injured individuals but to enforce the law. However, the enforcement objective of civil litigation in cases involving personal injuries often gets lost because of the timing of the court’s intervention. The court, even the MDL court, only steps in after the alleged unlawful conduct has occurred. Accordingly, courts only begin to operate when prevention of the specific tort at issue is impossible.

Nevertheless, the procedures and practices by which any court uses to assess liability will necessarily have an impact on a potential defendant’s conduct. Put another way, the very procedures used by the MDL court will affect the choices and decisions potential defendants make with respect to their conduct. On an intuitive level this hopefully rings true, as evidenced by the fact that the presence or absence of a police car nearby usually has some impact on whether one drives the speed limit. Similarly, the prospect of litigation and liability will (and should) induce defendants to choose conduct that avoids those costs, or at least minimize them as much as possible. Accordingly, there is no time like the present for a court to consider how its treatment of issues like causation will affect potential defendants, especially

20. See infra Part II.C.
21. See infra Part II.C.
22. See infra Part II.C.
when choices made by the court \textit{ex post} can lead to more or less legal violations, and the harms they cause, \textit{ex ante}.

This lecture will conclude by taking seriously the law enforcement impact of a court's treatment of causation.\textsuperscript{23} I want to suggest that, for law enforcement purposes, the only relevant inquiry is whether the defendant's conduct caused \textit{the population} harm—whether the alleged conduct caused an increase in the incidence of a harm like Non-Hodgkin's Lymphoma among the exposed class of individuals (plaintiffs and unharmed persons) as a whole.\textsuperscript{24} Focusing on this \textit{population} causation inquiry, which is different from the typical general causation inquiry, would align the court's inquiry with the decision-making of the defendant at the time of the alleged legal violation. At that point, when the defendant is choosing among different actions, it only acts, and only \textit{can} know that it acts, against a population.\textsuperscript{25} Indeed, the very definition of a mass tort involves conduct that is common to a large class of individuals because it is conduct directed to that class in an undifferentiated way.\textsuperscript{26}

I will conclude by arguing that a focus on population-based causation, as opposed to specific causation, provides potential defendants the correct incentives regarding their conduct.\textsuperscript{27} Moreover, it would prevent potential defendants from using the difficulty of proving specific causation to avoid some or all of its liability. Finally, doing away with specific causation, or at least a strong version of it, would free the court to address more effectively the compensation concerns of those who are actually injured.

I. LIABILITY, CAUSATION, AND DAMAGES

To understand the uniqueness of the MDL court's "reverse bifurcation" order, I want to begin by discussing the basic elements of the type of civil claims that class actions, MDLs, and similar collective procedures are designed to address, including the failure-to-warn claims at issue in the \textit{Roundup} MDL.\textsuperscript{28} In doing so, I want to demonstrate the issues of fact that arise for each of the elements of these claims, and further show that the "commonality" or "individuality" of an element depends on \textit{when} the facts necessary to prove that element occurred.

\textsuperscript{23} See infra Part II.D.
\textsuperscript{24} See infra Part II.D.
\textsuperscript{25} See infra Part II.D.
\textsuperscript{26} Deborah R. Hensler & Mark A. Peterson, \textit{Understanding Mass Personal Injury Litigation: A Socio-Legal Analysis}, 59 BROOK. L. REV. 961, 966 (1993) (noting that "the commonality of issues and actors among individual mass tort claims" distinguishes mass torts from other "high-volume litigation").
\textsuperscript{27} See infra Part II.D.
\textsuperscript{28} In re \textit{Roundup Prods. Liab. Litig.}, 364 F.Supp.3d at 1086-87 (discussing failure-to-warn claims).
A. The Basic Elements of a Claim

Consider, for example, the basic elements of the failure-to-warn claim in the Roundup MDL. Here, I will focus on the California state-law claim asserted by Edward Hardeman, whose action is being tried as one of the three bellwether trials in the Roundup MDL. Under California law, a plaintiff must prove the following elements of a failure-to-warn claim:

1. "the manufacturer’s actual or constructive knowledge of the risk" of a harm or hazard (duty);
2. A failure to warn "consumers about hazards of which they are unaware, so that they can avoid the product or minimize its danger by careful use" (breach);
3. The failure-to-warn caused the harm insofar as it was "a substantial factor in bringing about the injury" (causation);
4. The failure-to-warn resulted in damages (damages).

These four elements—(1) duty, (2) breach, (3) causation, and (4) damages—are typical elements of all civil claims. The elements can be, and often are, grouped together in a single element. In addition, the elements can also be broken apart into separate elements to focus on important subsidiary facts.

Consider some other examples. For example, to prevail on an antitrust claim under Section 1 of the Sherman Act, a plaintiff must show:

29. Id.
32. Id. A manufacturer may be held "strictly liable for a failure to warn if a warning was feasible and the absence of a warning caused the plaintiff's injury." Id. "Conversely, to prevail on a claim for negligent failure to warn, the plaintiff must prove that the seller's conduct fell below the standard of care." Id. (citing Anderson v. Owens-Corning Fiberglas Corp., 53 Cal. 3d 987, 1002-03 (1991)).
Here the "duty" and "breach" elements are grouped together as a single element of "liability." Courts commonly group the "duty" and "breach" elements as a single "liability" element, and for the purposes of clarity I will do that here.

In contrast, consider federal securities fraud claims under Rule 10b-5, where a plaintiff must prove:

1. a material misrepresentation or omission by the defendant [liability 1];
2. scienter [liability 2];
3. a connection between the misrepresentation or omission and the purchase or sale of a security [causation 1];
4. reliance upon the misrepresentation or omission [causation 2];
5. economic loss [damages 1]; and
6. loss causation [damages 2].

Unlike a Section 1 antitrust claim, which lumps the "duty" and "breach" elements together, the elements of the 10b-5 claims are subdivided. Nevertheless, they still correspond to the basic liability, causation, and damages elements of the antitrust and failure-to-warn claims. The first and second elements, misrepresentation and scienter, correspond to "liability."

36. See In re Hydrogen Peroxide Antitrust Litig., 552 F.3d 305, 312 (3d Cir. 2008) (“Importantly, individual injury (also known as antitrust impact) is an element of the cause of action; to prevail on the merits, every class member must prove at least some antitrust impact resulting from the alleged violation.”) (citing Bogosian v. Gulf Oil Corp., 561 F.2d 434, 454 (3d Cir. 1977)).


The third and fourth elements, the “connection” and “reliance” elements, correspond to “causation.” Finally, the last two elements, “economic loss” and “loss causation” correspond to “damages.”

Finally, consider the elements of a claim of employment discrimination under Title VII. To assert a prima facie case of employment discrimination under Title VII, a plaintiff must show:

1. [s]he is a member of a protected class [liability 1];
2. [s]he was qualified for the position in question [liability 2];
3. [s]he suffered an adverse employment action [liability 3 & damages]; and
4. the adverse action took place under circumstances giving rise to an inference of discrimination [causation].

Here, the elements are somewhat jumbled, but they still correspond to the liability, causation, and damages elements of typical civil law claims. The first two elements represent liability elements insofar as they determine whether a duty to not discriminate arises with respect to the plaintiff. The third element is also a subsidiary element of liability insofar as the third element defines the “breach” of that duty as an “adverse employment decision.” Moreover, the third element’s focus on the “adverse”-ness of that employment decision is at least one component of damage to the plaintiff. The fourth element, which addresses whether the adverse action was caused

40. See Erica P. John Fund, Inc. v. Halliburton, 563 U.S. 804, 812 (2011). Despite its name, “loss causation” has less to do with causation than with the existence and magnitude of the damages. Id. The “connection” and “reliance” elements correspond to what courts refer to as “transaction” causation, or whether the transaction induced the purchase or sale of the security by the plaintiff. Id. “Loss causation, by contrast, requires a plaintiff to show that a misrepresentation that affected the integrity of the market price also caused a subsequent economic loss.” Id. For example, a misrepresentation may inflate the value of a stock but intervening causes may be the actual cause of a later decline in value, and thus the misrepresentation may not have been responsible for any loss. Id. at 812-13. Thus, “loss causation” is more akin to a requirement that, in order to recover, a violation cannot be harmless, so to speak. Erica P. John Fund, Inc., 563 U.S. at 812.
41. E.g., Ruiz v. County of Rockland, 609 F.3d 486, 492 (2d Cir. 2010).
42. Id.
43. Douglas v. Donovan, 559 F.3d 549, 551-52 (D.C. Cir. 2009) (“In order to present a viable claim of employment discrimination under Title VII, a plaintiff must show he suffered an adverse employment action,” which requires a showing of “materially adverse consequences affecting the terms, conditions, or privileges of employment or future employment opportunities such that a reasonable trier of fact could find objectively tangible harm.”) (citations and quotation marks omitted).
by discrimination, clearly sounds in causation, as Title VII itself states that a plaintiff must show that discrimination was "a motivating factor for any employment practice." In sum, Table 1 shows all four claims and how their elements correspond to the basic elements of a civil claim.

**TABLE 1 – ELEMENTS OF A CIVIL CLAIM**

<table>
<thead>
<tr>
<th></th>
<th>Liability</th>
<th>Causation</th>
<th>Damages</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>• “the manufacturer’s actual or constructive knowledge of the risk” of a</td>
<td>The failure-to-warn caused the harm insofar as it was “a substantial factor</td>
<td>The failure-to-warn resulted in damages</td>
</tr>
<tr>
<td>Failure-To-Warn Claim</td>
<td>harm or hazard (duty);</td>
<td>in bringing about the injury”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• A failure to warn &quot;consumers about hazards of which they are unaware, so</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>that they can avoid the product or minimize its danger by careful use&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(breach);</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antitrust</td>
<td>a violation of the antitrust laws—here, § 1 of the Sherman Act</td>
<td>individual injury resulting from that violation</td>
<td>measurable damages</td>
</tr>
<tr>
<td>Section 1 Claim</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Securities Fraud</td>
<td>• a material misrepresentation or omission by the defendant;</td>
<td>• a connection between the misrepresentation or omission and the purchase or</td>
<td>• economic loss; and loss causation.</td>
</tr>
<tr>
<td>10b-5 Claim</td>
<td>• scienter;</td>
<td>sale of a security;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• reliance upon the misrepresentation or omission;</td>
<td></td>
</tr>
</tbody>
</table>

44. 42 U.S.C. § 2000e-2(m); see also Gross v. FBL Fin. Servs., Inc., 557 U.S. 167, 174 (2009) ("Congress has since amended Title VII [in 1991] by explicitly authorizing discrimination claims in which an improper consideration was ‘a motivating factor’ for an adverse employment decision.").
The three basic elements of a civil claim—liability, causation, and damages—not only are typical of all civil claims, but they also typically occur in chronological order.  

Consider, for example, Figure 1, which is a timeline I use to teach my introductory civil procedure course to 1Ls. The timeline is meant to illustrate the phases of litigation in federal district court, from the filing of the complaint to the entry of judgment. For those who did not attend or are not currently attending law school, the timeline uses Greek symbols that are commonly used to refer to the parties in the litigation—specifically, \( \pi \) denotes the plaintiff and \( \Delta \) denotes the defendant.

---

45. I have noted in previous writings that "the defendant's liability will depend on the resolution of issues of law and fact related to [a] common decision," a decision "made by the defendant before the [wrong] occurs." Sergio J. Campos, Mass Torts and Due Process, 65 VAND. L. REV. 1059, 1068-69 (2012). Other scholars have noted the temporal distinction between the "defendant’s conduct" and the "plaintiff’s eligibility" for relief. Elizabeth Chamblee Burch, Constructing Issue Classes, 101 VA. L. REV. 1855, 1874-81 (2015) (discussing examples); see also Samuel Issacharoff, Class Action Conflicts, 30 U.C. DAVIS L. REV. 805, 832 (1997) (distinguishing between the "upstream" issue of liability and the "downstream" issue of damages); David Rosenberg, Class Actions for Mass Torts: Doing Individual Justice By Collective Means, 62 IND. L.J. 561, 588 (1987) ("[I]n mass accident situations, the firm's accident prevention measures are of necessity the product of a collective, undifferentiated assessment of the probable loss from its activities for the class of potential victims as a whole; and, correspondingly, care-taking usually cannot be adjusted on an individualized basis.").

46. FED. R. CIV. P. 3 ("A civil action is commenced by filing a complaint with the court.").

47. See 28 U.S.C. § 1291 ("The courts of appeals ... shall have jurisdiction of appeals from all final decisions of the district courts of the United States ... ").

This timeline only focuses on dispositive motions and the three major phases of litigation. Of course, one can add additional procedures or events to the timeline to provide a more accurate picture of the litigation cycle. In my teaching I tend to focus on these phases and their concomitant dispositive motions because they provide a good "forest"-view of litigation while also demonstrating that litigation could be short-circuited before the next phase if dispositive motions are successful.\(^4^9\)

But one major disadvantage of this particular timeline is that it only focuses on litigation. It does not capture the features of the underlying material facts necessary to support the liability, causation, and damage elements of the claim. One needs to expand the timeline further back to capture those underlying facts. Consider, for example, Figure 2, a revised timeline that minimizes litigation events but shows the underlying facts that comprise the basic elements of a civil claim.

Figure 2 minimizes the events of the litigation process and simply refers to the litigation process as a whole as “Litigation.” Moreover, Figure 2 pushes the litigation process towards the right side to make room for the prior events on the timeline.

By creating this room on the timeline, Figure 2 can now include the three basic elements of a civil claim—liability, causation, and damages. It also includes a brief description of the events that would prove each of these elements. For example, under “liability,” Figure 2 states “Δ chooses conduct,” as it is the defendant’s conduct, specifically the choices the defendant made or should have made with respect to that conduct, that will determine whether the defendant had a duty and whether the defendant, in its choice, breached that duty. Figure 2 here shows a choice between two actions, which it denotes as “x” and “not x.” Under “Causation,” Figure 2 shows that the x action is chosen, and the issue then becomes whether the x action caused the plaintiff’s injury. Under “Damages,” Figure 2 shows that plaintiff suffered a loss which it denotes as “L.” In general, proof of damages will be determined by the existence and magnitude of the loss, “L.”

Figure 2 demonstrates that the basic elements of a civil claim occur in a sequence. The claim begins, so to speak, with the liability element, which is the defendant’s choice of conduct. It then concerns the causation element, which is the impact of the defendant’s choice on the plaintiff. Finally, it concludes with the damage element, which is the extent, or amount, of any damage caused by the impact of the defendant’s conduct. As recognized by courts, incurring damages is generally understood as “the last element essential to a cause of action [to] occur[].”

B. Liability v. Damages

With this basic background in mind, I want to return to the issue of the uniqueness of the Roundup MDL court’s reverse bifurcation order by discussing in more detail the “liability” and “damage” elements of the claim. In particular, I want to discuss the specific kind of defendant conduct that typically serves as the basis for the “liability” element in MDLs, class actions, and similar collective procedures. I then want to contrast the defendant’s conduct, which forms the evidentiary basis of the “liability” element, with the facts that form the evidentiary basis of the “damage” element.

50. See Campos, supra note 45; Burch, supra note 45.
51. See San Francisco Unified School Dist., 37 Cal. App. 4th at 1326 (“In tort actions, the statute of limitations commences when the last element essential to a cause of action occurs. The statute of limitations does not begin to run and no cause of action accrues in a tort action until damage has occurred.”) (citations omitted).
Class actions, MDLs, and similar collective procedures typically involve claims concerning the mass production conduct of a defendant toward a large class of individual claimants. The conduct can range from

1. as in the *Roundup* litigation, the design, production, sale, and marketing of a product (or class of products) to a large number of consumers,

2. an action, or set of actions, that reduces the competition in a market with many participants,

3. disclosing false statements regarding a security to many participants in a securities market,

4. a firm’s discrimination (or failure to prevent discrimination) of its large number of employees on the basis of gender; or

5. a state child welfare agency’s failure to protect the welfare of the many children who require the agency’s services.

The first four items on this list track the failure-to-warn, antitrust, securities fraud, and employment discrimination claims I discussed earlier. I have also added an additional item concerning the typical conduct at issue in civil rights or impact litigation claims which are initiated to reform an existing governmental agency. This list is by no means exhaustive, and I am sure one can think of other examples of similar mass production conduct.

I want to emphasize two things about this list. First, as demonstrated by the examples above, “mass production” conduct can arise from both private actors and public actors. I purposefully included examples of both, including the impact litigation claims, to show that mass production conduct is not unique to either the private or public sector. Second, mass production conduct...
conduct as defined here does not necessarily involve a single act. It can involve a "pattern or practice" or even an omission, or failure to act. However, the mass production conduct does involve a single choice, for example, to engage in the pattern or practice, or a choice to ignore the individual choices of others who the defendant had a duty to supervise.

I emphasize "choice" because in class actions and MDLs like the Roundup MDL the "liability" element of the claims all concern a choice the defendant made with respect to its conduct. In essence, the plaintiffs claim that this choice was not only unlawful, but also caused them harm. I recognize that "choice" is a loaded term, and I do not want to suggest that mass production conduct is limited to intentional or purposeful conduct. Instead, I want to use the term "choice" in as broad a sense as possible, to include intentional decisions as well as failures to decide, omissions, or inconsiderate behavior. Even carelessness or thoughtlessness can be understood as a choice—the choice to be careless or thoughtless, so to speak.

More importantly, I want to emphasize that this mass production choice is common, or the same, for each of the claimants in the class action or MDL. Again, evidence of the mass production choice made by the defendant will determine the defendant's liability and is thus the chief focus of the "liability" element, because evidence of that choice will determine whether the defendant violated or breached a legal duty owed to the plaintiffs. However, because that choice was made for a "mass," that choice is the same, and proof of that choice will be the same, for the individuals in the "mass" harmed by that choice. Indeed, it is generally recognized that what differentiates class action and MDL litigation from other high-volume litigation like auto accident litigation is that litigation involving collective procedures typically share a "commonality of issues and actors among individual mass tort claims."
In contrast to the commonality of the “mass production” choice that is the basis of the liability element in class actions and MDLs like Roundup, the facts that underlie the “damage” element are far from common. Unlike the defendant’s “mass production” choice, the impact of that choice (assuming that the choice caused an impact) will depend on specific facts about each victim.

The non-common, or individual, nature of the evidentiary facts supporting damages can be concretely seen in the Roundup MDL itself. There the plaintiffs allege that exposure to the glyphosate in Roundup caused them to contract Non-Hodgkin’s Lymphoma. But the plaintiffs were not the only users of Roundup, which can still be purchased in retail stores. While the plaintiff consumers suffered Non-Hodgkin’s Lymphoma, other consumers suffered no harm at all. Moreover, even the Non-Hodgkin’s Lymphoma sufferers can, and do, vary with respect to the severity of the disease, when the disease manifested itself, the hospital costs that resulted from contracting the disease, the amount of lost wages, if any, and other costs. This is because the effects of the glyphosate (again, to the extent that glyphosate can cause such effects) can vary with respect to individual facts about the claimants and their use of the product—their amount of use and exposure, the frequency of the exposure, and their personal and family history with respect to Non-Hodgkin’s Lymphoma, just to name a few.

Like the commonality of the “liability” element, the variability of the damage element among plaintiffs is a typical feature of “mass tort” cases like the Roundup MDL which involve personal injury claims. Consider the Supreme Court’s discussion of the plaintiffs in Amchem Products, Inc. v. Windsor, a case involving claims arising from asbestos exposure: “[C]lass members in this case were exposed to different asbestos-containing products, in different ways, over different periods, and for different amounts of time;
some suffered no physical injury, others suffered disabling or deadly diseases."

The variability of the "damage" element among the plaintiffs is not unique to "mass tort" cases like Roundup and asbestos claims. In fact, in all of the contexts I have discussed so far—antitrust, securities fraud, employment discrimination, and even civil rights cases—the "damages" suffered by each of the plaintiffs can and do vary from plaintiff to plaintiff.

The "liability" and "damage" elements demonstrate that whether an element is "common" or "individual" depends on the timing of the facts necessary to prove that element. Specifically, the facts necessary to prove the elements of liability all concern the defendant's ex ante decision-making—what I have called its "choice"—towards the exposed population prior to any actual injury. At that point in time, the defendant's ex ante choice with respect to its conduct is the same for every member of that population, and thus facts concerning that choice will be common to each of the claimants within the population. In contrast, the facts necessary to prove damages occur ex post, or after the defendant has acted, are mainly concerned with the effect of that behavior on each plaintiff. Here, the facts needed to prove damages concern the specific circumstances of each individual plaintiff.

Given the "common" nature of the liability element and the "individualistic" nature of the damage element, a common method of bifurcating litigation in class actions is to begin with (1) an initial "liability" phase to determine whether the defendant's conduct violated the law, and then, if liability is established, (2) a "damages" phase to determine the damage amount for each individual. This common method of bifurcation is demonstrated in Figure 3 below.

---

79. Id. at 609 (quoting Georgine v. Amchem Prods., Inc., 83 F.3d 610, 626-28 (3d Cir. 1996) (individual citations omitted)).
80. 2 RUBENSTEIN, supra note 15, § 4:54.
81. See id.
82. See Campos, supra note 45; Burch, supra note 45.
83. Campos, supra note 45, at 1068-72 (noting the commonality of the defendant's ex ante decision); Rosenberg, supra note 66, at 428-29 (same).
84. Campos, supra note 45, at 1068-74.
85. 2 RUBENSTEIN, supra note 15, § 4:54.
86. Id.
87. Id. at n.3 (citing cases); see also Comcast Corp., 569 U.S. at n.6 (Ginsburg & Breyer, JJ., dissenting) (stating, in case resolved on other grounds, that "at the outset, a class may be certified for liability purposes only, leaving individual damages calculations to subsequent proceedings") (citing 2 RUBENSTEIN, supra note 15, § 4:54, n.3).
This common form of bifurcation has the benefit of allowing the court to decide common liability issues in a single proceeding for all plaintiffs or class members. Moreover, if the plaintiffs fail in the liability phase, then the more resource-intensive "damage" phase, which would entail individualized hearings or trials with respect to each plaintiff on the damage issue, can be avoided altogether. When designed in this way, bifurcation can economize judicial resources and effectively resolve the plaintiffs' claims.

C. Class Actions and MDLs

It is worth pointing out one quirk about the use of bifurcation. Bifurcation is recognized as an effective procedure in class actions because it allows courts to address liability issues in a single proceeding for all class members prior to dealing with the more particularized issues of damages. However, bifurcation procedures have not been commonly used in class actions involving personal injury claims like the claims in the Roundup MDL. This is because class actions involving such "mass tort" claims are rarely, if ever,
certified as class actions in federal court.93 This is due to how courts have interpreted and applied the federal class action rule, Rule 23, which, for claims asserting damages, requires for class certification purposes a finding that the common issues "predominate" over individual issues.94 Courts have concluded that, in mass tort cases, the individual issues concerning damages overwhelm the common issues of liability.95 Interestingly enough, courts have further recognized that "[p]redominance is a test readily met in certain cases alleging consumer or securities fraud or violations of the antitrust laws," even though such cases involve the same individual damage issues as mass tort cases.96 Accordingly, bifurcation procedures in class actions tend to involve antitrust,97 consumer fraud,98 and employment discrimination claims,99 but not mass tort claims.100

State courts, in contrast, have been more flexible with respect to mass tort class actions and bifurcation. In the Engle v. Liggett Group, Inc.101 tobacco litigation, for example, the Florida Supreme Court approved a bifurcation procedure whereby a class action trial was held on common liability issues, with the class action then decertified.102 The individual tobacco plaintiffs could then file their own individual cases and use issue preclusion to establish liability based on the court's liability findings in the class trial.103

Because federal class actions are disfavored for mass tort claims like the personal injury claims in the Roundup MDL, mass tort claims filed in federal court are now typically processed using multidistrict litigation, as evidenced by the Roundup MDL itself.104 Multidistrict litigation differs from class actions in two respects. First, unlike class actions, MDLs permit each

---

93. Id. (noting that "[t]his is generally the rule with regard to the significant personal injury damages, and the predominance requirement therefore precludes certification in most mass tort personal injury cases. . . ."); see also Campos, supra note 45, at 1063 (noting that "almost all courts and scholars disfavor the use of class actions in mass tort litigation").


95. Issacharoff, supra note 45.

96. Amchem, 521 U.S. at 625.

97. See In re Visa Check/MasterMoney Antitrust Litig., 280 F.3d 124, 129 (2d Cir. 2001), overruled on other grounds by In re Initial Pub. Offerings Sec. Litig., 471 F.3d 24 (2d Cir. 2006).


100. There has been some movement to allow more such bifurcation for tort claims. See, e.g., In re Deepwater Horizon, 739 F.3d 790, 806-07, 816 (5th Cir. 2014).

101. 945 So. 2d 1246 (Fla. S. Ct. 2006).

102. Id. at 1277.


104. See Myriam Gilles, Procedure in Eclipse: Group-Based Adjudication in a Post-Concepcion Era, 56 SAINT LOUIS U. L.J. 1203, 1206 (discussing these changes); see also Andrew D. Bradt & D. Theodore Rave, The Information-Forcing Role of the Judge in Multidistrict Litigation, 105 CAL. L. REV. 1259, 1261, n.4 (2017) (citing studies that show that 36 percent of all federal cases are MDLs).
plaintiff to retain their own counsel, rather than have a single "class counsel" for the entire class. 105 Second, MDLs are limited only to pretrial proceedings, although courts can direct and guide individual trials. 106 Thus, MDLs are more akin to consolidations than to class actions insofar as they are a collection of individual actions rather than one action. 107 Indeed, class actions can be, and often are, filed within an MDL. 108

Despite these differences, MDLs function very similarly to class actions. First, MDL courts typically appoint attorneys, either as lead attorneys, as part of a "plaintiffs committee," or both in order to do "common benefit work" for the class. 109 While, on the surface, the parties retain their own counsel, the reality is that lead attorney and plaintiffs committees "do not exist simply for attorney convenience; they assume control of the litigation and their duties usurp the traditional attorney's daily responsibilities." 110 Indeed, some judges refer to MDLs as "quasi-class actions." 111 In the Roundup MDL, for example, the court appointed a plaintiffs' executive committee with co-lead counsel to engage in "common benefit work" for all of the plaintiffs in the MDL 112 and even set up a "common benefit fund" to compensate the work of that committee. 113

Second, despite being limited to pretrial proceedings, courts in MDLs can engage in similar bifurcation procedures as in class actions. 114 MDL courts can do so by designating certain actions for "bellwether trials" to resolve common issues of liability, with those findings guiding common issues for the other actions in the MDL. 115 The Roundup MDL court, for example, is

106. See Bradt & Rave, supra note 143, at 1263 (noting these two differences).
107. PRINCIPLES LAW AGG. LIT. § 1.02 (AM. LAW INST. 2010) (distinguishing between "representative actions" like class actions and "administrative aggregations" like MDLs).
110. Id. at 87 (relying upon empirical data); see also Charles Silver, Civil Procedure and the Legal Profession: The Responsibilities of Lead Lawyers and Judges in Multidistrict Litigations, 79 FORDHAM L. REV. 1985, 1986 (2011) ("Lead attorneys enjoy plenary and, in many respects, exclusive control of the litigation.").
115. Id. (suggesting this approach of "bifurcation or polyfurcation").
using bifurcation within bellwether trials that does not differ in a material way from the bifurcation procedures commonly used in class actions.\textsuperscript{116}

II. THE COMMONALITY OF CAUSATION

The "reverse bifurcation" order in the \textit{Roundup} MDL does not proceed along the tried and true path of dividing between an initial "liability" phase and a subsequent "damages" phase.\textsuperscript{117} Instead, in its bifurcation order the \textit{Roundup} MDL court proposed that three of the bellwether actions proceed with an initial phase focusing solely on the issue of causation; specifically, the initial phase addressed whether the glyphosate in Roundup can, and actually did, cause the bellwether plaintiffs to contract Non-Hodgkin's Lymphoma ("NHL").\textsuperscript{118}

The "reverse bifurcation" order is unusual because, as its name suggests, it is the "reverse" of how bifurcation typically proceeds.\textsuperscript{119} Bifurcation procedures in most cases begins with an initial phase to determine common issues of liability, followed by a second phase to determine damages.\textsuperscript{120} The \textit{Roundup} MDL court has opted instead to begin with the impact of the toxic exposure on specific plaintiffs—in this case, the three bellwether plaintiffs—and then, if causation is proven, in the second phase look backwards to the defendant's underlying conduct to determine whether the defendant is liable for any injury it caused.\textsuperscript{121}

Interestingly enough, in opposition to the proposed reverse bifurcation procedure, the \textit{Roundup} plaintiffs argued that reverse bifurcation was typically employed "after years of litigation and/or settlements."\textsuperscript{122} For example, the plaintiffs pointed out that the reverse bifurcation used in one subset of asbestos litigation was utilized because "liability was largely resolved by numerous prior trials."\textsuperscript{123} In other words, the plaintiffs argued that "reverse bifurcation" was typically used in situations where a first phase

\begin{itemize}
\item \textsuperscript{116} Pretrial Order No. 61, \textit{supra} note 8 (granting Monsanto's request to bifurcate three bellwether trials).
\item \textsuperscript{117} \textit{Id.}
\item \textsuperscript{118} \textit{Id.}
\item \textsuperscript{119} 4 RUBENSTEIN, \textit{supra} note 15, § 11:3 (noting that "a common use of bifurcation ... is to try liability issues to a jury before damages; in reverse bifurcation, damages are tried before liability."); see also John P. III Rowley & Richard G. Moore, \textit{Bifurcation of Civil Trials}, 45 U. RICH. L. REV. 1, 2 n.4 (2010) (quoting 9A CHARLES ALAN WRIGHT & ARTHUR R. MILLER, \textit{FEDERAL PRACTICE AND PROCEDURE} § 2387 (3d ed. 2008 & Supp. 2010)).
\item \textsuperscript{120} 4 RUBENSTEIN, \textit{supra} note 15, § 11:3; Rowley & Moore, \textit{supra} note 152, at 2 n. 4.
\item \textsuperscript{121} Pretrial Order No. 61, \textit{supra} note 8.
\item \textsuperscript{122} Plaintiffs' Opposition to Issue Bifurcation, \textit{supra} note 12, at 3.
\item \textsuperscript{123} \textit{Id.} (citing STC UNM v. Intel Corp., No. 10-cv-1077 RB/WDS, 2011 WL 7562686, at *2 (D.N.M. Dec. 22, 2011)).
\end{itemize}
was *unnecessary* given that liability had been established by previous litigation.\textsuperscript{124}

\textbf{A. Specific Causation}

The "reverse bifurcation" order is all the more unusual given that courts have typically viewed the causation element, like the damage element, as a noncommon element of the claim,\textsuperscript{125} and with good reason. Whether the defendant's conduct caused an injury will turn, ultimately, on unique factors of the plaintiff, such as their amount of use and exposure, the frequency of the exposure, and their personal and family history with respect to NHL.\textsuperscript{126} It is worth pointing out that the specific facts used to determine the extent of any damage to a large extent overlap with the facts used to determine whether the defendant's conduct caused any damage.\textsuperscript{127} This should make intuitive sense; the amount of damage could be, for example, zero, meaning that no damage was, in fact, caused.

In \textit{Tyson Foods v. Boughakeo},\textsuperscript{128} for example, employees of a meat processing plant brought claims for unpaid overtime under the Fair Labor Standards Act, alleging that the employer failed to pay them for the time spent "donning and doffing" protective equipment.\textsuperscript{129} Because the employer failed to keep records of this "donning and doffing" time, the district court permitted the employees to use representative evidence to prove the amount of time for each plaintiff.\textsuperscript{130} However, to recover for unpaid overtime, the employees also had to prove that the failure to include "donning and doffing" times caused them to work overtime in the first place, as some plaintiffs may have worked less than 40 hours in a week even with the "donning and doffing" time added.\textsuperscript{131} This raised a causation conundrum for the \textit{Tyson} district court, as whether donning and doffing times resulted in overtime for an individual employee depended on the total time that employee worked, a point emphasized by

\begin{footnotes}
\item[124] Stevenson, \textit{supra} note 15, at 248.
\item[125] See, \textit{e.g.}, \textit{In re "Agent Orange" Prod. Liab. Litig.}, 818 F.2d 145, 165 (2d Cir. 1987) (noting that causation, and in particular specific causation, "is [a] highly individualistic [issue that] depends upon the characteristics of individual plaintiffs (\textit{e.g., state of health, lifestyle}) and the nature of their exposure").
\item[126] Pretrial Order No. 85, \textit{supra} note 76, at 5.
\item[127] Pretrial Order No. 61, \textit{supra} note 8.
\item[128] 136 S. Ct. 1036 (2016).
\item[129] \textit{Id.} at 1040.
\item[130] \textit{Id.} at 1048-49.
\item[131] \textit{Id.} at 1052 (Roberts, C.J., concurring) ("[T]he is not enough that a plaintiff was uncompensated for compensable donning and doffing time; unless that plaintiff also worked more than 40 hours in a week (including compensable donning and doffing time), he is owed no overtime pay and therefore suffered no injury.").
\end{footnotes}
Chief Justice Roberts in his concurrence. But the *Tyson* case shows more generally that the amount of a plaintiff's damages is intertwined with whether the plaintiff suffered damages at all. Whether an employee was owed overtime (the causation issue) and the amount of overtime each employee worked (the damage issue) are both wrapped up in the total amount of time each plaintiff worked in a week.

The individual nature of the causation element is also apparent when one considers that for any specific plaintiff, an alternative cause may have been responsible for his or her injury. The *Roundup* MDL Court noted, for example, that Non-Hodgkin’s Lymphoma can be caused by a number of other causes, such as the presence or absence of a hepatitis C infection, as an “active hepatitis C is a known risk factor for NHL.” Accordingly, whether the glyphosate in Roundup caused NHL for any specific plaintiff will depend, among other things, on whether that specific plaintiff also had an active hepatitis C infection around the time the plaintiff contracted NHL.

A further example can be found in *Marcus v. BMW of North America*, in which the Third Circuit reviewed a class action involving breach of warranty claims alleging that BMW vehicles with Bridgestone RFT tires had a defect that caused flat tires. The Third Circuit vacated the certification order, concluding that the district court incorrectly assumed that causation could be proven on a classwide basis. The Third Circuit noted, in particular, that:

Causation is pivotal to each of Marcus’s claims. Here the District Court should have addressed an undisputed, fundamental point: *any* tire can “go flat” for myriad reasons. Even “defective” tires can go flat *for reasons completely unrelated to their defects*. Critically, to determine why a particular class member’s Bridgestone RFT has “gone flat and been replaced” requires an individual examination of that class member’s tire. These individual inquiries are

---

132. *Id.* at 1053 (Roberts, C.J., concurring) (“Given this difficulty [in identifying noninjured class members], it remains to be seen whether the jury verdict can stand.”).
134. *Id.* at 1049.
136. *Id.* at 6, n.4.
137. *Id.* at 6, n.4.
138. 687 F.3d 583 (3rd Cir. 2012).
139. *Id.* at 588.
140. *Id.* at 612.
incompatible with Rule 23(b)(3)’s predominance requirement.\(^{141}\)

Because the presence or absence of alternative causes may differ from plaintiff to plaintiff, the causation element will necessarily turn on facts and circumstances that are specific to each plaintiff.\(^{142}\)

**B. General Causation**

As to the “specific causation” inquiry discussed above, the plaintiffs in the Roundup MDL relied upon experts who applied a “differential diagnosis” method of determining causation in which the expert “‘rules in’ all potential causes of a disease, ‘rules out’ those ‘for which there is no plausible evidence of causation and then determines the most likely cause among those that cannot be excluded.”\(^{143}\) But in order to apply such a “differential diagnosis,” the plaintiff’s experts had to have evidence that the glyphosate contained in Roundup can, in fact, cause NHL at the plaintiffs’ levels of exposure.\(^{144}\) That inquiry, which courts have called the “general causation” issue, requires a different analysis altogether.\(^{145}\)

In the Roundup MDL the court defined the “general causation” issue as whether “a reasonable jury could conclude that glyphosate, a commonly used herbicide, can cause Non-Hodgkin’s Lymphoma (“NHL”) at exposure levels people realistically could have experienced.”\(^{146}\) The issue of “general causation” typically arises in cases like the Roundup MDL where, as a scientific matter, it is unclear whether a substance, chemical, or other aspect of defendant’s conduct has the capacity to cause the harm alleged by the plaintiffs.\(^{147}\) Because it is difficult to directly observe how exposure to a chemical like glyphosate can cause white blood cells, or lymphocytes, to metastasize into NHL in any individual person, experts in toxic tort cases like the Roundup MDL rely upon epidemiological studies to infer causation.\(^{148}\)

In general, epidemiological studies seek to infer an association between a treatment (like exposure to the glyphosate in Roundup) and an outcome

\(^{141}\) Id. at 604 (citations omitted & emphasis added).

\(^{142}\) Id. at 601.

\(^{143}\) Pretrial Order No. 85, supra note 76, at 1-2 (quoting Wendell v. GlaxoSmithKline LLC, 858 F.3d 1227, 1234 (9th Cir. 2017)).

\(^{144}\) Id. at 2.

\(^{145}\) Id.


\(^{147}\) See id.

\(^{148}\) Id. at 13.; see also Norris v. Baxter Healthcare Corp., 397 F.3d 878, 882 (10th Cir. 2005) (“We agree with the district court that epidemiology is the best evidence of general causation in a toxic tort case.”).
(NHL) by using, among other things, “case-control studies.” In such studies, an epidemiologist observes the incidence of the outcome among a population exposed to the treatment, and compares it to the incidence of the outcome among a substantially similar population who was not exposed to the treatment. In this study an epidemiologist creates an “odds ratio [which measures] the odds that a case (one with the disease) was exposed to the odds that a control (one without the disease) was exposed.” For example, if the odds ratio is above 1, then this suggests that there is an association between the disease and the treatment.

These odds ratios, moreover, are “typically reported with confidence intervals that seek to capture the likely effects of random error.” Confidence intervals measure the probability that an observed odds ratio was due to chance, and although there is no required confidence interval necessary to determine whether a ratio is “statistically significant,” epidemiologists typically prefer to infer causation only when the confidence interval is at a .05 level or below.

It is important not to get caught up in the scientific or statistical nomenclature of epidemiology. In essence, the “general causation” inquiry is a comparative inquiry that compares (1) the effect of a treatment on a population to, ideally, (2) the state of the same population without the treatment. This is actually a fairly common method of determining whether any treatment was a “but-for” cause of an injury.

Consider, for example, antitrust litigation, where the claim essentially revolves around whether the defendant’s allegedly anticompetitive conduct raised prices as compared to a world where the defendant did not engage in the conduct, which is what courts have called the counterfactual, “but for” world. Accordingly, in antitrust litigation both plaintiffs and defendants typically use experts to not only measure the prices in the “actual world,” but

---

149. Pretrial Order No. 45, supra note 146, at 14.
150. Id. An epidemiologist can also create a "cohort" study whereby a population is selected, a subset of the population is exposed, and the epidemiologist observes over time the incidence of the disease between the exposed and unexposed groups. Id. For now, I will focus on “case-control” studies for purposes of clarity.
152. Id. An odds ratio of exactly 1 suggests that the treatment has no effect, one way or the other, on the incidence of the disease. Pretrial Order No. 45, supra note 146, at 15. An odds ratio of less than one may suggest that the treatment actually prevents, rather than causes, the disease. Id. at 66.
153. Id. at 15.
154. Id.
155. Id. at 12.
156. Pretrial Order No. 45, supra note 146, at 5.
157. See, e.g., Natchitoches Parish Hosp. Serv. Dist. v. Tyco Int'l, Ltd., 262 F.R.D. 58, 69 (D. Mass. 2009) (finding predominance satisfied since plaintiffs showed that the "'entire negotiating range' . . . was higher than the prices in the but-for world").
to construct models of the "but for" world without the conduct to prove or disprove "the fact of antitrust impact."\(^{158}\)

Experts employed in securities fraud cases similarly use "event studies" to determine the price impact (the "loss causation") of a fraudulent statement.\(^159\) The event studies, in essence, compare the actual price of the security after a fraudulent statement is made with the price of the security in a modeled market without the fraudulent statement.\(^160\) The "modeled market" is usually developed by determining what the "expected return" for the security would have been in the absence of the statement.\(^161\)

Even in employment discrimination cases a similar method of comparing a population with the treatment to a counterfactual world without the treatment is necessary to prove causation.\(^162\) In such cases statistical techniques are used to compare a treatment, the alleged discriminatory impact of an employer policy or practice, with the counterfactual world where the policy or practice was not used by the employer.\(^163\)

In contrast to the specific causation inquiry, the general causation inquiry does not depend on the unique circumstances of the individual plaintiffs, at least not on a specific plaintiff-by-plaintiff basis.\(^164\) Instead, a counterfactual world is modeled or constructed in which the defendant’s conduct did not occur. More importantly, like the facts that determine the liability element, the facts used to construct the counterfactual world are common to the class. In the *Roundup* MDL, for example, the "general causation" inquiry required a construction of both an "actual" world and a counterfactual world based upon the average exposure levels of the plaintiffs.\(^165\) As noted by the *Roundup* MDL court:

\(^{158}\) See, e.g., *In re New Motor Vehicles Can. Export Antitrust Litig.*, 522 F.3d 6, 20 (1st Cir. 2008) (providing no proof of the "fact of antitrust impact" that "the entire negotiating range" was greater in the actual world as compared to the but-for world).


\(^{160}\) *Id.* at 570 ("In its simplest form, an event study compares a stock’s return on a day when news of interest hits the market to the range of returns typically observed for that stock, taking account of what would have been expected given general changes in the overall market on that day.").

\(^{161}\) *Id.* at 571 ("The third step is to determine the security’s expected return on the event date, given market conditions that might be expected to affect the firm’s price even in the absence of the news at issue.").

\(^{162}\) See Jason R. Bent, *Hidden Priors: Toward a Unifying Theory of Systematic Disparate Treatment Law*, 91 Denv. U. L. Rev. 807, 824-25 (2014) (discussing statistical methods and noting that "judges and juries . . . actually would like to know . . . how likely it is that the observed disparities in employment outcomes were caused by the defendant’s unlawful discrimination?").

\(^{163}\) See D. James Greiner, *Causal Inference in Civil Rights Cases*, 122 Harv. L. Rev. 533, 556 (2008) (noting that central counterfactual issue in employment discrimination cases is whether decision would have been different if gender or race was different).

\(^{164}\) Pretrial Order No. 45, supra note 146, at 9.

\(^{165}\) *Id.* at 54.
The inquiry at the general causation phase is not whether glyphosate gave NHL to any of the particular plaintiffs who brought these lawsuits, and the plaintiffs need not establish any particular level of exposure. It's enough in this litigation, at this stage, for the plaintiff to show that glyphosate can cause NHL when people are exposed to the highest dose people might plausibly experience.\footnote{166}

Because the actual world and the counterfactual "but-for" world is the same for all plaintiffs, the "general causation" issue likewise is an issue common for all plaintiffs in the Roundup MDL.\footnote{167} Indeed, as its name denotes, the "general causation" inquiry is generally recognized as a common issue.\footnote{168}

C. The Commonality of Specific Causation?

The commonality of general causation, as shown in mass tort cases like in the Roundup MDL as well as similar general causation inquiries in antitrust, securities fraud, and employment discrimination litigation, suggests that at least part of the causation issue is common to the plaintiffs in the litigation.\footnote{169}

Figure 4 · General and Specific Causation

![Diagram of General and Specific Causation]

\footnote{166. Id. at 9.}
\footnote{167. Id.}
\footnote{168. See 3 H. Newberg, Newberg on Class Actions § 17.24 (2d ed. 1985) ("stating that general causation 'usually constitutes a common question because it can normally be determined without regard to claims of specific individuals.'").}
\footnote{169. Pretrial Order No. 45, supra note 146, at 9.}
Figure 4 shows a division of labor between the common general causation inquiry and the individualistic specific causation inquiry, both of which are necessary to establish the causation element of the claim. The general causation inquiry establishes a common average case—the average or typical "Actual World" (the top half of the "versus") as compared to the average or typical "But-For World" (the bottom half of the "versus"). This average case then assists with the evaluation of "specific causation" for each plaintiff, where a court must look at the more particularistic "actual worlds" and "but-for worlds" for each particular plaintiff.170

Arguably, the general causation inquiry is unnecessary. This is because the causation element concerns whether the defendant's choice of conduct caused a specific plaintiff's injury.171 However, two features of specific causation make it dependent on the information developed in the general causation inquiry.172 First, the reported facts of the actual world for an individual plaintiff may not be available or they may be difficult to ascertain, and thus the individual plaintiff may have to borrow information from other plaintiffs, even non-plaintiffs, to determine causation.173 For example, in the Roundup MDL the experts noted that plaintiffs may have, among other things, "recall bias" as to the amount of Roundup they used over time.174 This obviously would make it difficult for a plaintiff to recover if her memory is hazy, and she failed to keep all the receipts of her prior purchases of Roundup.175 Recall bias also makes it difficult to infer whether Roundup can, in fact, cause the disease in the first place, as the imprecision of the plaintiff's memory may skew any inference one can make concerning a causal connection between the glyphosate in the Roundup and Non-Hodgkin's Lymphoma.176

170. See Pretrial Order No. 85, supra note 76, at 3 ("[T]he important point is that these [specific causation] experts will not be repeating the analysis of the general causation experts, but rather relying on them to rule in glyphosate."); see also Greiner, supra note 163, at 560 (noting the importance of developing average cases and counterfactual information for each plaintiff to determine causation in employment discrimination cases).
173. See id. at 1815 (noting that in "vast areas of law . . . courts regularly allow one person to use evidence about another person as to events that are in some respects different from those involving the first person. Gajillions of examples are possible").
174. Pretrial Order No. 45, supra note 146, at 16 ("One type of information bias, recall bias, occurs where people with a disease (the "cases" in a case-control study) are differently able to recall past exposures than are people who never get sick.").
175. See, e.g., Myriam Gilles, Class Dismissed: Contemporary Judicial Hostility to Small-Claims Consumer Class Actions, 59 DEPAUL L. REV. 305, 316 (2010) (noting that in the context of a class action for consumers of pineapples, "[n]o one keeps the receipt for a pineapple, and any notice program is unlikely to reach more than a handful of consumers").
176. See Pretrial Order No. 45, supra note 146, at 16.
In such situations, the use of information from other plaintiffs, or even non-plaintiffs, can help to identify the ranges of exposure in which we have some confidence that Roundup can cause a disease like NHL, and apply those ranges to the facts of the plaintiff's case. In fact, in the Roundup MDL itself, the general causation experts relied upon previously conducted case-control studies that did not involve the actual plaintiffs at all. Another example can be found in Tyson Foods, Inc. v. Bouaphakeo, where the failure of the defendant employer to keep track of "donning and doffing" times required the use of "representative" times from a subset of employees that each specific plaintiff could borrow to determine their own donning and doffing times and, thus, the overtime each was owed.

Second, and more importantly, even if the "actual world" of the plaintiffs is observable and free from bias, the "but-for," or counterfactual, world of the plaintiffs is impossible to observe directly. This point will hopefully strike many of you as intuitive. If you have ever reflected on a decision you have made in the past, and thought about what would have happened had you chosen differently, then you have experienced the difficulty, if not impossibility, of knowing "counterfactually" what might have been.

Even though the counterfactual world is impossible to observe, one can infer the counterfactual world by observing the outcomes of, for example, "controls" who are similar to the plaintiffs but who were not exposed to the treatment. In fact, this is the approach generally taken by courts:

Suppose $F$ is the claim that Drug caused Patient to suffer a heart attack. Direct evidence as to $F$ would require a way of observing whether Patient would have had the heart attack had Patient not ingested Drug. Such evidence is obviously impossible to obtain, since we cannot observe the state of the world in which Patient did not ingest Drug. Courts often allow plaintiffs to introduce experimental and epidemiological evidence concerning the effects of products.
on other persons to establish what has become known as general causation. But the evidence as to general causation is relevant only if Patient is assumed to be similar enough to the populations of persons whose reactions to Drug have been systematically studied.  

Accordingly, the epidemiological evidence necessary to prove general causation is also a necessary component in determining specific causation, as the general causation inquiry produces the counterfactual evidence (and in some cases, circumstantial evidence of the actual world) necessary to evaluate whether the defendant’s conduct caused the plaintiff’s injury.  

Because the specific causation inquiry is tied to the common information produced during the general causation inquiry, the specific causation inquiry can approach the commonality of the general causation inquiry. For example, the average model of causation produced during the general causation inquiry may be common to the class insofar as the model is not sensitive to differences among the plaintiffs. A clear example of this is the “fraud-on-the-market presumption” in securities fraud litigation, where the plaintiff’s reliance on the fraudulent statement (what is known as “transaction causation”) is presumed if the security was sold on an efficient market. The Supreme Court has stated that

The fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company’s stock is determined by the available material information regarding the company and its business. . . . Misleading statements will therefore defraud purchasers of stock even if the purchasers do not directly rely on the misstatements.

According to the Court, one can assume that, in an efficient market, any fraudulent statement necessarily caused transactions that affected the price of the security, thus harming a plaintiff who purchased the security at that price even if they did not “directly” rely upon the misstatement to make the

182. Id. (emphasis added) (citing MICHAEL D. GREEN ET AL., REFERENCE GUIDE TO EPIDEMIOLOGY, IN REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 549, 551-52 (Fed. Judicial Ctr. & Nat’l Research Council eds., 3d ed. 2011)).
183. Gelbach, supra note 172, at 1817.
185. Id.
186. Basic Inc., 485 U.S. at 247 (discussing the presumption); see also Halliburton, 573 U.S. at 283-84 (upholding the use of the “fraud-on-the-market” presumption in securities fraud cases).
187. Basic Inc., 485 U.S. at 241-42 (citing Peil v. Speiser, 806 F.2d 1154, 1160-61 (3rd Cir. 1986)).
THE COMMONALITY OF CAUSATION

purchase.\textsuperscript{188} The “fraud-on-the-market” presumption, moreover, establishes the commonality of specific causation by in effect shifting the burden of disproving specific causation to defendants by giving them an opportunity to rebut the presumption of reliance in an individual case.\textsuperscript{189}

The insensitivity of general causation evidence to differences among the plaintiffs can be achieved accidentally, resulting in general causation evidence that, in effect, becomes common specific causation evidence for each plaintiff.\textsuperscript{190} Consider, for example, the Roundup MDL litigation itself.\textsuperscript{191} In order to prove the causation of his or her failure-to-warn-claim, each Roundup plaintiff must prove, by a preponderance of the evidence, that glyphosate was a “substantial factor” in their contracting of NHL.\textsuperscript{192} In proving general causation, the Roundup plaintiffs presented experts that relied upon epidemiological studies that showed odds-ratios that were generally lower than 2, meaning that many of the studies showed that there was a less than 50% chance that glyphosate caused NHL at the typical exposure levels of the plaintiffs.\textsuperscript{193} Despite the “rather weak” evidence of a “causal link between glyphosate exposure and NHL,” the Roundup MDL court found, for the most part, that the testimony of the plaintiffs’ general causation expert was admissible.\textsuperscript{194}

The Roundup MDL court, moreover, admitted the testimony of the plaintiff’s specific causation experts.\textsuperscript{195} The court did so despite acknowledging that there is no “biomarker or genetic signature associated with” NHL caused by glyphosate, as opposed to NHL caused by another risk factor, making it difficult for the experts to opine that glyphosate was the specific cause of each plaintiff’s NHL.\textsuperscript{196} In fact, given the difficulty of excluding other causes, the plaintiffs’ specific causation experts ultimately relied heavily on the work of the general causation experts.\textsuperscript{197} Nevertheless, the Roundup MDL court noted, in particular, that “the Ninth Circuit’s recent decisions reflect a view that district courts should typically admit specific

\begin{itemize}
  \item \textsuperscript{188} Id. at 247 (noting that the typical “investor who buys or sells stock at the price set by the market does so in reliance on the integrity of that price”—the belief that it reflects all public, material information.).
  \item \textsuperscript{189} Halliburton, 573 U.S. at 269.
  \item \textsuperscript{190} Campos, supra note 184, at 757.
  \item \textsuperscript{191} In re Roundup Prods. Liab. Litig., 358 F.Supp.3d at 957.
  \item \textsuperscript{192} See Defendant’s Memorandum Regarding the “Substantial Factor” Test and “But For” Causation, In re Roundup Prods. Liab. Litig., MDL No. 2741 (N.D. Cal. Jan. 28, 2019) at 1.
  \item \textsuperscript{193} Pretrial Order No. 45, supra note 146, at 17; see also In re Roundup Prods. Liab. Litig., 358 F.Supp.3d at 961 n.5 (“A doubling of the risk is significant under California law because it shows a 50% chance that a specific factor was the cause of an individual’s disease.”).
  \item \textsuperscript{194} Pretrial Order No. 45, supra note 146, at 2-3.
  \item \textsuperscript{195} Id. at 67-68.
  \item \textsuperscript{196} See In re Roundup Prods. Liab. Litig., 358 F.Supp.3d at 959.
  \item \textsuperscript{197} Id.
\end{itemize}
causation opinions that lean strongly toward the ‘art’ side of the spectrum.”

The court further cited case law stating that “[t]he first several victims of a new toxic tort should not be barred from having their day in court simply because of the medical literature.”

In admitting the testimony of the plaintiffs’ general and specific causation experts, the Roundup MDL court, in effect, permitted the plaintiffs to prove specific causation by using evidence of general causation. This is made clear by the Roundup MDL court’s denial of the defendant’s motion for summary judgment on general and specific causation, where the court concluded that summary judgment should be denied because the plaintiffs “present at least one admissible expert opinion to support their specific causation argument.” In denying the motions for summary judgment, the Roundup MDL court concluded that the jury should resolve the issue of the sufficiency of the evidence concerning causation.

Given the absence of biomarkers and the overall difficulty in excluding other causes, the specific causation experts relied heavily, almost exclusively, upon the testimony of the general causation experts to show specific causation as to each plaintiff. Accordingly, the Roundup MDL court, in admitting the testimony of the general causation experts, also allowed the general causation experts to essentially prove specific causation for each plaintiff, making the general causation evidence de facto common for each plaintiff. This has played out in the trials, as the bellwether plaintiffs have all won their trials.

The Roundup MDL court, to its credit, acknowledged that the defendant’s attacks on the weakness of the general causation evidence really concerned not the admissibility of the evidence but the “sufficiency of the evidence.” In particular, the defendant’s pointed out that the risk ratios of the studies relied upon by the general causation experts tended to be less than 2.0 for the exposure levels of the plaintiffs, which suggests that there was a less than 50% probability that glyphosate is the cause of NHL at the exposure levels of the plaintiffs. Nevertheless, the court noted that “[w]hile a study showing a risk factor greater than 2.0 might itself be enough to submit a case

198. Id.
199. Id. (quoting Wendell v. GlaxoSmithKline LLC, 858 F.3d 1227, 1237 (9th Cir. 2017)).
200. Id. at 957.
202. Pretrial Order No. 45, supra note 146, at 68.
204. Id. at 958; see also Noah Smith-Drelich, Performative Causation, 93 S. CAL. L. REV. (forthcoming 2020) (criticizing such use of general causation).
207. Pretrial Order No. 45, supra note 146, at 37, n.30.
to a jury (assuming the study is scientifically sound), there is no bright-line rule in California law requiring such evidence for a case involving medical causation to survive summary judgment.\textsuperscript{208}

\textbf{D. The Necessity of Specific Causation?}

I want to conclude briefly by discussing whether precise proof of specific causation is strictly necessary. As an initial matter, proof of specific causation is arguably unavoidable insofar as some proof of actual injury is a necessary condition for a plaintiff to recover, simply as a matter of Article III standing.\textsuperscript{209} There are, in fact, some exotic exceptions to the injury-in-fact requirement of Article III that may allow uninjured plaintiffs to recover, exceptions I have explored at length in my prior writings.\textsuperscript{210} For now I want to set aside these important considerations, and focus instead on the necessity of specific causation given the underlying functions to the litigation.

I want to return to Figure 2, which showed that the basic elements of the claim—liability, causation, and damages—proceed chronologically.

\begin{figure}[h]
\centering
\begin{tikzpicture}
\node (liability) at (0,0) {Liability: \(\Delta\)};
\node (causation) at (2,0) {Causation: \(\pi\)};
\node (damages) at (4,0) {Damages: \(\pi\)};
\node (litigation) at (6,0) {Litigation};
\node (conduct) at (-2,-1) {Conduct};
\node (injury) at (0,-1) {Injury};
\node (damage) at (2,-1) {Damage};
\node (litigation) at (4,-1) {Litigation};
\node (x) at (0,-2) {\(x\)};
\node (not_x) at (0,-3) {not \(x\)};
\draw[->] (liability) -- (causation) node[above] {\(\rightarrow\)};
\draw[->] (causation) -- (damages) node[above] {\(\rightarrow\)};
\draw[->] (damages) -- (litigation) node[above] {\(\rightarrow\)};
\draw[->] (liability) -- (conduct) node[above] {\(\Delta\)};
\draw[->] (conduct) -- (injury) node[above] {\(\rightarrow\)};
\draw[->] (injury) -- (damage) node[above] {\(\rightarrow\)};
\end{tikzpicture}
\caption{Litigation and Ex Ante Conduct}
\end{figure}

As I mentioned earlier, the liability element concerns the choice the defendant has made with respect to its conduct.\textsuperscript{211} Moreover, I noted that the choice concerns mass production conduct, insofar as the choice made will affect a large population of individuals which will include the eventual plaintiffs in the litigation.\textsuperscript{212}

Given the timing of that choice, which is ex ante, or before the actual effects of that choice occur, the defendant cannot know specifically how its

\begin{itemize}
\item \textsuperscript{208} \textit{In re Roundup Prods. Liab. Litig.}, 358 F.Supp.3d at 961 n.5.
\item \textsuperscript{210} \textit{See Sergio J. Campos, Class Actions and Justiciability}, 66 FLA L. REV. 553, 587 (2014).
\item \textsuperscript{211} \textit{See supra Part I.A.}
\item \textsuperscript{212} \textit{See supra Part I.B.}
\end{itemize}
choice is going to affect the population.\textsuperscript{213} That will only become known in the future, and, even then, it will not be completely knowable given that once the choice is made, we can never really know for certain the consequences of the counterfactual choice to do something else.\textsuperscript{214}

Nevertheless, when the defendant makes this ex ante choice, the defendant, if it is rational, will at least seek to predict or forecast the effects of that choice.\textsuperscript{215} Going back to Figure 2 above, if the defendant is rational about the choice it will make between “x” and “not x,” then it will take into consideration the potential liability associated with each choice. Imagine, for example, Monsanto’s choice to add glyphosate to Roundup before Roundup was introduced in the market.\textsuperscript{216} At that time Monsanto, if it was rational, had to consider the potential liability that may arise not only from adding glyphosate to its products, but also failing to warn about the effects of that liability.\textsuperscript{217}

In fact, given the facts in the Roundup litigation, we actually do have evidence that Monsanto cared about its liability with respect to the glyphosate in Roundup.\textsuperscript{218} This is because the plaintiffs, in opposing the Roundup MDL court’s “reverse bifurcation” order, introduced evidence that Monsanto “attempt[ed] to influence regulatory agencies and manipulate public opinion regarding glyphosate,” all in an attempt to avoid any regulatory consequences, including the payment of liability for using the herbicide in its Roundup products.\textsuperscript{219}

Accordingly, although Monsanto cannot know with certainty the effects of its decision to include glyphosate in its Roundup products, it does need to forecast the likely effects of that decision in order to make a rational choice about including glyphosate.\textsuperscript{220}

\textsuperscript{213} Campos, supra note 184, at 796.
\textsuperscript{214} Id. at 798.
\textsuperscript{215} Id. at 796.
\textsuperscript{216} Pretrial Order No. 45, supra note 146, at 4.
\textsuperscript{217} Pretrial Order No. 45, Id.
\textsuperscript{218} Pretrial Order No. 61, supra note 18.
\textsuperscript{219} Pretrial Order No. 61, Id.
\textsuperscript{220} Id.
Figure 5 shows the *ex ante* choice made by the defendant, with "x" representing conduct that would subject the defendant to liability, and "not x" representing conduct that would allow the defendant to avoid liability. I want to note a few things about this choice. First, because the choice impacts an entire population (here denoted as "π₁ … πₙ"), the defendant’s choice will depend on the aggregate effect of the choice on the population (here denoted as the aggregate damages "L₁ … Lₙ"). In fact, even if the defendant wanted to know how its conduct would affect specific future plaintiffs, that would be close to impossible. Second, even if its conduct would result in a certain aggregate loss, that loss can be mitigated by what happens in the litigation (here denoted as "π₁ … πₙ v. Δ"). Thus, the choices that a court makes, or that the defendant anticipates the court making, can result in the defendant incurring all, some, or none of their actual liability.

It is worth noting that the goal of liability rules under tort law, antitrust law, securities fraud law, employment discrimination law, and, in fact, any subject area of the law, is not only to compensate for actual injuries incurred, but to enforce compliance with the law. Moreover, in order to optimally enforce the law, liability rules and litigation would ideally require the defendant to incur the total loss of its unlawful conduct. Otherwise, if the defendant can engage in unlawful conduct without having to compensate victims, then it has no incentive to avoid engaging in that conduct.

221. Campos, *supra* note 184, at 796.
223. Id. at 1117-18.
225. Id. at 800.
As a result, if the litigation can be structured so that a court can impose the aggregate liability of the defendant's unlawful mass production conduct, then courts can properly deter defendants from engaging in such unlawful mass production conduct. \(^{226}\) This point is well known, and in class actions courts have structured litigation to create aggregate awards that are later distributed to the plaintiffs.\(^{227}\) In fact, in class action settlements the parties effectively determine the expected liability of the defendant in the aggregate and typically bifurcate the distribution of any settlement fund.\(^{228}\)

In MDLs like the Roundup MDL, it is difficult for the MDL court to create an aggregate liability award.\(^{229}\) Nevertheless, the MDL court can structure the litigation in order to help the parties more accurately determine the defendant's aggregate liability.\(^{230}\) One suggested method is for courts to take great care in the selection of bellwether trials, so that a representative sample of cases can be chosen to help the parties more accurately assess settlement values for the other plaintiffs.\(^{231}\)

Another option would be for the court to use a bellwether trial to develop general causation evidence that can be used to help develop categories of plaintiffs.\(^{232}\) This evidence, when combined with a sense of the total plaintiff class, can help to ensure that, in the trials to follow, that the plaintiffs are ultimately awarded the amount that would approximate the aggregate liability of the defendant.\(^{233}\)

One controversial thought would be to use class actions within the MDL, assess a total liability award, and then relax the specific causation and damage evidentiary requirements so that plaintiffs receive some award at low cost.\(^{234}\) Indeed, one could relax the specific causation requirements completely and simply choose a simple, rational way to distribute the funds.\(^{235}\) One way would be to allow for all Roundup purchasers to receive a rebate for the increased risk of NHL each purchaser incurred from being exposed to

\(^{226}\) Id.
\(^{227}\) Id. at 786.
\(^{228}\) Id. at 197.
\(^{229}\) Id. at 186.
\(^{230}\) Id. at 186.
\(^{231}\) Id. at 198.
\(^{232}\) Id. at 199-200.
\(^{233}\) Id. at 199-200.
\(^{234}\) Id. at 200.
\(^{235}\) Id. at 200.
Roundup.\textsuperscript{236} Although such increased risk claims have been rejected, they may serve as a rational method of distributing the fund.\textsuperscript{237}

Perhaps even more controversially, one could simply assess the total aggregate award against the defendant and then escheat the award to the government, either by supplementing disability insurance or by reducing taxes.\textsuperscript{238} This could do away with the specific causation requirement entirely while optimizing the law enforcement function of the litigation.\textsuperscript{239}

\textbf{CONCLUSION}

In this lecture I have used the \textit{Roundup} MDL "reverse bifurcation" order as a springboard for thinking about causation in cases involving unlawful mass production conduct. My goal was not to criticize or to praise the bifurcation order, but to shed a little light on the underlying issues that the \textit{Roundup} MDL court, and in fact all courts, struggle with when they address litigation involving complex causation issues. If anything, I want to end the lecture my expressing my utmost respect and admiration for judges like the \textit{Roundup} MDL district court judge who struggle with these issues in real time, and do their very best to bring justice to the parties before them.

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{237} See, e.g., \textit{In re Bridgestone/Firestone Inc. Tires Prods. Liab. Litig.}, 288 F.3d 1012, 1017 n.1 (7th Cir. 2002) (discussing equivalence of damages for physical injury and damages incurred from being a product with an undisclosed defect).
\item \textsuperscript{238} Jois, \textit{supra} note 236, at 260, 283.
\item \textsuperscript{239} \textit{id.} at 260 (making such a suggestion).
\end{enumerate}
\end{footnotesize}