

MoneyLaw (and beyond)

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MoneyLaw (and beyond)

Maastricht University
Faculty of Law

MoneyLaw (and beyond)

Inaugural Lecture
given on the occasion of accepting the position of
Full Professor of Private Law
at Maastricht University
on Friday September 22, 2017

by

Gijs van Dijck

Table of Contents

1. <i>The Transformation of Baseball</i>	8
2. <i>From MoneyBall to MoneyLaw, and beyond</i>	12
3. <i>Disrupting the Legal Field</i>	12
4. <i>Thinking Empirically</i>	23
5. <i>The Mismatch Between What Victims Need and What Tort Law Has to Offer</i>	28
6. <i>Limitations of Monetary Compensation</i>	31
7. <i>Solving the Mismatch</i>	34
8. <i>A Research Agenda</i>	38
9. <i>Final Remarks</i>	42

1. The Transformation of Baseball

The book – and movie – *Moneyball* illustrates the revolution that the game of baseball has gone through as a result of the application of analytical tools. It describes the story of how the, at that time unconventional, application of statistical data helped the *Oakland Athletics* achieve winning seasons in the 1999 – 2006 period,¹ which led them to reach the playoffs in 2000, 2001, 2002, 2003 and 2006.

Finding affordable players was (and is) a necessity for the Athletics, as their payroll – the amount they can spend on a yearly basis on players' salaries – ranks as one of the lowest of all Major League Baseball teams.² At the start of the 2017 season, Oakland was projected to spend just \$82 million on players' salaries, whereas the Los Angeles Dodgers and the New York Yankees were projected to spend \$242 million and \$202 million, respectively. Clayton Kershaw, the Dodgers' top pitcher, will earn \$36 million in 2017,³ which constitutes almost 44 percent of Oakland's total payroll. If the Oakland Athletics had Kershaw on their team, they would only have \$46 million remaining for the other 39 players' salaries on their roster.

The Athletics needed to find good players at low cost in order to compete. To do this, it started using statistics to find players who were undervalued and, consequently, more affordable than players targeted by most other teams. Since no other team paid so much attention to certain statistics as the Athletics, Oakland pursued players who were not popular with other teams or who were sometimes not targeted at all by their competitors. For example, the Athletics selected the, according to them, best hitter in the 2002 draft after other teams had already had 217 opportunities to select this player.⁴ Such players were affordable, as there was little demand for them.

The *Moneyball* strategy has revolutionized the development of baseball. Nevertheless, it was not a new idea, as others had laid the groundwork years before the Athletics started using, what was then unpopular, statistics. Bill James' 1977 *Baseball Abstract* already offered statistical information about baseball which was not produced elsewhere and with each edition, the information grew. Consequently, the Athletics were essentially just implementing findings of existing empirical data and statistical relationships into their day-to-day operations. Over time, several other informational

¹ Michael Lewis, *Moneyball: The Art of Winning an Unfair Game* (Norton 2004). For information about the movie, see <www.imdb.com/title/tt1210166/> (last accessed July 17, 2017). 'Winning seasons' are here defined as winning more than half of the 162 single season games.

² In 2017, 27th out of the 30 teams, see '2017 MLB Opening Day Payrolls', <www.stevethump.com/Payrolls.htm> (accessed July 17, 2017).

³ Source: <www.spotrac.com/mlb/los-angeles-dodgers/clayton-kershaw-5273/> (last accessed July 17, 2017).

⁴ Lewis, *Moneyball: The Art of Winning an Unfair Game*, p.116.

sources emerged, including *STATS* (Sports Team Analysis and Tracking Systems, 1987), *DiamondView*, *PITCH/FX* (an automated pitch-recognition system, implemented in every Major League Baseball stadium as of 2008), *TrackMan* (a ball flight tracking system), *Simple Fielding Runs Version 1.0* (providing data as of 2008 on individual player performance by spinning thousands of data points into a single number to evaluate defensive performance), *MITT* (Managing Information, 2011) and more recently *Statcast* (an automated tool developed to analyze player movements and athletic abilities which was introduced into all MLB stadiums in 2015).⁵ The various tools generated knowledge that had mostly remained undiscovered. *DiamondView*, for example, revealed that ‘Barry Bonds was the only hitter in the prior twenty-two seasons who produced at an elite level after the age of thirty-five’ and that ‘no major league club, dating back to 1985, had won a World Series when committing 15 percent or more of its payroll to one player’.⁶

The *Pittsburgh Pirates*, like the Oakland Athletics, is a baseball club with severe payroll restrictions which also started using unconventional metrics to outperform other teams.⁷ While the success of the Athletics was mostly the result of the use of data on offense (i.e. scoring runs for one’s own team), the Pirates turned to defensive metrics (i.e. preventing the opposing team from getting runs).⁸ Defense, however, is much more difficult to analyze than offense, as player positioning, reach and movement are difficult to measure.

When delving into defensive metrics, the Pirates started challenging the defensive positioning of baseball players that has been universally applied by all baseball teams worldwide for more than 100 years (

Figure 1).

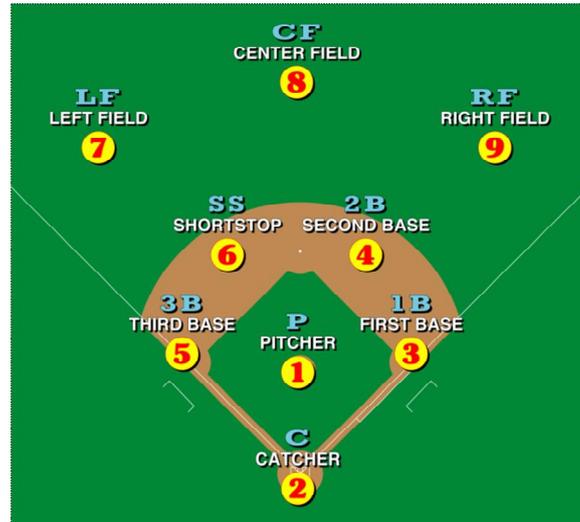
Figure 1: Player Positioning in Baseball

⁵ Ibid; Travis Sawchik, *Big Data Baseball: Math, Miracles, and the End of a 20-Year Losing Streak* (Flatiron Books 2015), pp.35ff.

⁶ Sawchik, *Big Data Baseball: Math, Miracles, and the End of a 20-Year Losing Streak*, p.9.

⁷ The club ranked 23rd according to the 2017 MLB Opening Day Payrolls, <www.stevetheump.com/Payrolls.htm> (last accessed July 17, 2017).

⁸ The information below is based on Sawchik, *Big Data Baseball: Math, Miracles, and the End of a 20-Year Losing Streak*.

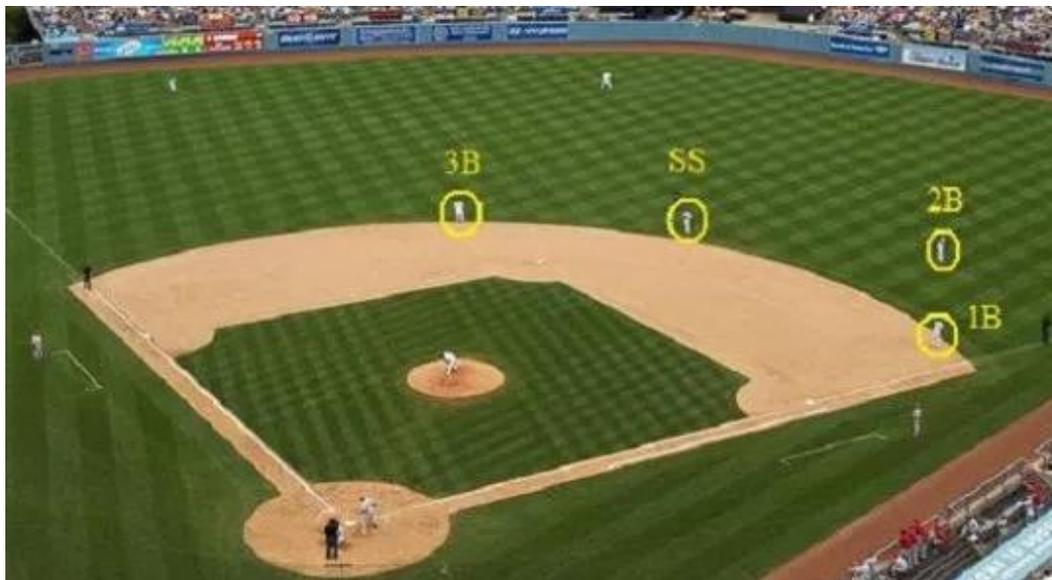


Source: Wikipedia <https://en.wikipedia.org/wiki/Baseball_positions>

In baseball, only the pitcher and the catcher have fixed positions. The other seven players may more or less be moved around freely, but for years it was uncommon to move players far away from their ordinary positions.

The Pirates asked themselves: what if everybody is wrong? What if the positioning that has been common for decades is not the optimal one? Asking the question was legitimate, as the team's analytics department found that left-handed hitters were twice as likely to hit the ball to the right side (48%) of the field than to the center (24%) or to the left side (28%). According to the analytics department, the Pirates' defense should shift for 25% of all hitters, even for right-handed ones who rarely saw shifts used against them. Consequently, the Pirates started positioning (shifting) their defense (Figure 2).

Figure 2: Example of Defensive Shifting in Baseball (left-handed batter)



Source: <<https://i1.wp.com/baseballfam.com/wp-content/uploads/2016/04/baseball-shift-2.jpg?resize=540%2C298>>

The Pirates were not the first team to shift. The Tampa Bay Rays had won 5%-6% more games by shifting frequently and the Milwaukee Brewers had won 3%-4% in the same way. What was new was the magnitude of the shifts. The dramatic 370% increase in shifts from 2012 to 2013 resulted in the Pirates adding 9.3 (6%) more wins in a single season without increased spending.

The Pirates' discovery of the value of pitch framing was also new. Pitch framing is the catcher's ability to have borderline balls called a strike by the umpire. The Pirates' analysts discovered substantial differences between catchers as regards their pitch framing abilities and that this had a major impact on winning games. They therefore signed a catcher (Russell Martin) whose pitch framing abilities would result in 135 less runs scored by opposing teams, which equated to almost 10% more wins.

After seeing the successes of the Athletics and the Pirates, the new approaches were rapidly picked up by other teams. As a result, defensive shifts skyrocketed in 2014, going from a total of 4,577 shifts in 2012 to 13,294 shifts in 2014,⁹ with hitters' batting performances (batting average) and the total number of runs scored plummeting.¹⁰ The changes have resulted in a real transformation of the game of baseball, from lineup construction to baserunning efficiency to bunting strategy.¹¹

⁹ Ibid, pp.106-107.

¹⁰ Ibid, p.110.

¹¹ Ibid, p.52.

2. From MoneyBall to MoneyLaw, and beyond

The title of this lecture, *MoneyLaw (and beyond)*, covers two topics of a research agenda. While *Moneyball* describes the rise of analytical tools to assess player performance in the field of baseball, *MoneyLaw* refers to the integration of analytical tools in law and legal research, including artificial intelligence and empirical research in general – the first topic. Empirics and technology have led to a transformation in the field of baseball and they have the same potential in the legal domain. It will be illustrated below how empirical research and technology can contribute and are already contributing to the understanding of how the law works as well as of what the law is.

MoneyLaw also refers to the dominant focus of the monetary perspective in tort law (and other areas of the law) – the second topic. The *and beyond* part of *MoneyLaw (and beyond)* captures the quest for possible solutions and the challenges that the law, tort law in particular, faces to overcome the monetary perspective.

The two topics will be elaborated below. The result will be a research agenda: which avenues can be explored to create MoneyLaw (the integration of law, empirics and technology) and how to go beyond this (the monetary focus)?

3. Disrupting the Legal Field

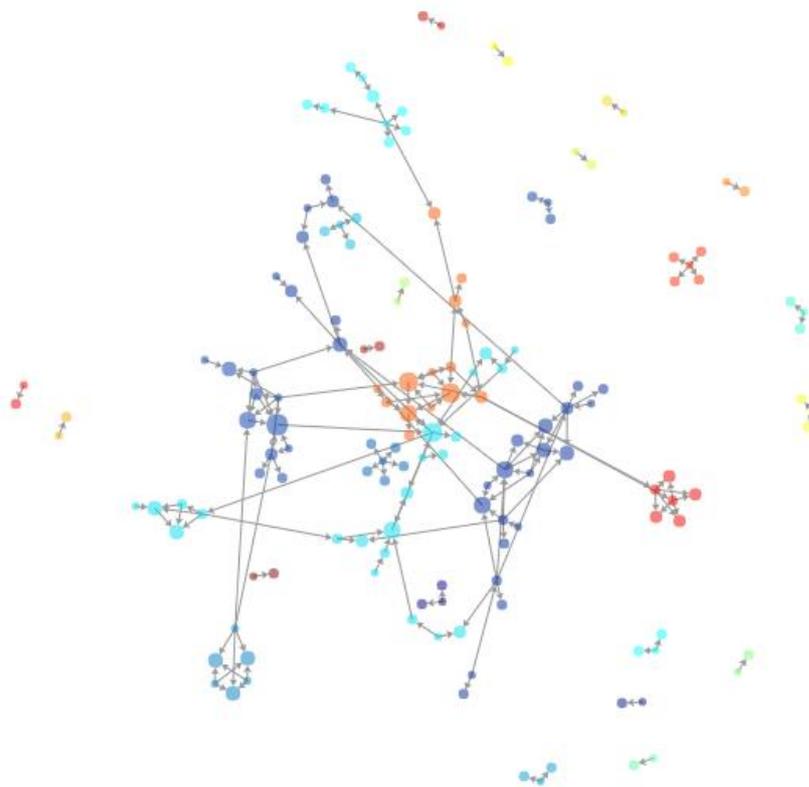
The legal field is also being transformed, as analytics, just as in baseball, is on the rise in the legal domain. I will illustrate this with a project that was conducted with the *eScience Center*, whereby a tool was developed which visualizes relationships between court decisions and which uses algorithms and programming code to determine which decisions belong together because they deal with similar topics and which precedents are the most authoritative. A brief overview will be provided below of the potential of this technology. Consequently, only some preliminary results are presented here.¹²

The tool was used to analyze Dutch case law and to identify relevant clusters of decisions on a number of topics, including employers' liability (Figure 3), directors' liability, standard terms and non-conformity (

¹² A more elaborate analysis on the topic of employers' liability can be found in Gijs van Dijck, 'Deelonderwerpen en precedenten in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse' (in preparation).

Figure 4). The clusters of decisions are based on the *Louvain method for community detection*, an algorithm which identifies communities of decisions (different communities are highlighted by different colors).¹³ In the example on employers' liability, several large clusters can be discerned: asbestos, duty of care (general), harm during work activities and causality (Figure 3), which connects well to the topics identified in the legal literature.

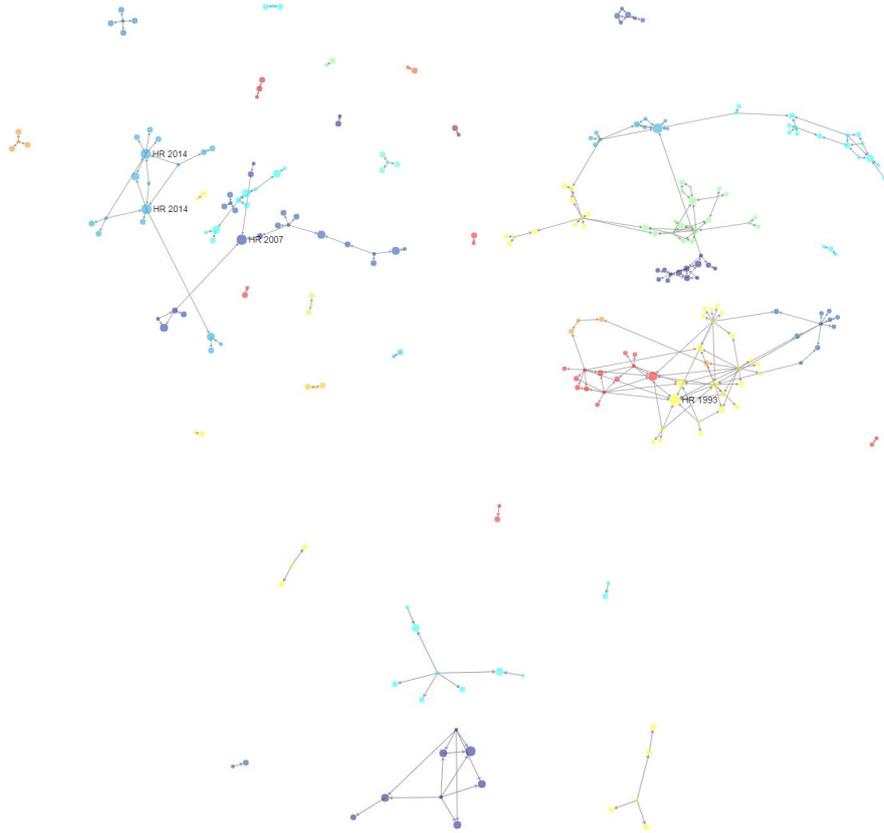
Figure 3: Employers' Liability Case Law Network (the Netherlands)



Source: Gijs van Dijck, Deelonderwerpen en precedenten in het kader van werkgeversaansprakelijkheid bij arbeidsongevallen in en buiten de werksfeer (art. 7:658/7:611 BW): een netwerkanalyse (in preparation).

¹³ Vincent D. Blondel and others, 'Fast unfolding of communities in large networks' (2008) J Stat Mech. In the visualizations, it may appear as though some clusters have the same color.

Figure 4: Case Law Networks on Directors' Liability (top left), Standard Terms (top right), Non-Conformity (bottom) in the Netherlands



Note: Projects conducted by Joey van de Pasch and Myron Matthews (directors' liability), Blazej Fiks (standard terms) and Caspar Otten (non-conformity). The networks on standard terms and non-conformity include the opinions of the Advocate-General.

The technology also makes it possible to identify authoritative precedents within each cluster (or within the network as a whole). Determining what the authoritative precedents for employers' liability are, the tool makes it possible to generate lists (

Table 1, Table 2, Table 3, Table 4). Here, authoritative precedents are defined in terms of:

- decisions with a large number of incoming citations (in-degree centrality);
- decisions with a large number of incoming citations adjusted according to time, since older decisions will have had more opportunities of being cited over time than more recent decisions (relative in-degree).¹⁴

¹⁴ Other measures, such as ‘Hubs and Authorities’ (HITS), PageRank, and out-degree may also be used.

Table 1: Asbestos Cluster (decisions that are cited at least three times)

<i>Decision</i>	<i>ECLI</i>	<i>In-Degree</i>	<i>Relative In-Degree</i>
Cijsouw v. De Schelde I	ECLI:NL:HR:1993:AD1907	5	0.038
Cijsouw v. De Schelde II	ECLI:NL:HR:1998:ZC2721	5	0.042
Janssen v. Nefabas	ECLI:NL:HR:1990:AB9376	4	0.003

Source: Gijs van Dijck, Deelonderwerpen en precedentes in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse (in preparation).

Table 2: Duty of Care Cluster (decisions that are cited at least three times)

<i>Decision</i>	<i>ECLI</i>	<i>In-Degree</i>	<i>Relative In-Degree</i>
Fransen v. Stichting Pasteurziekenhuis	ECLI:NL:HR:1999:AA3837	5	0.043
VOC v. Stormer	ECLI:NL:HR:1990:AC4217	4	0.029
Sweegers Beton v. Van den Hout	ECLI:NL:HR:1987:AG5504	3	0.021
Heesters v. Schenkelaars	ECLI:NL:HR:1975:AC5607	3	0.020
Van den Heuvel v. Leger des Heils	ECLI:NL:HR:2007:BA3017	2	0.038
Lagraauw v. Van Schie	ECLI:NL:HR:2008:BB7423	1	0.023

Source: Gijs van Dijck, Deelonderwerpen en precedentes in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse (in preparation).

Table 3: Causality Cluster (decisions that are cited at least three times)

<i>Decision</i>	<i>ECLI</i>	<i>In-Degree</i>	<i>Relative In-Degree</i>
Unilever v. Dikmans	ECLI:NL:HR:2000:AA8369	6	0.055
Havermans v. Luyckx	ECLI:NL:HR:2006:AW6166	4	0.069
Nefalit v. Karamus	ECLI:NL:HR:2006:AU6092	3	0.051
BAM Nelissen van Egteren	ECLI:NL:HR:2009:BF8875	2	0.059
Bayar v. Wijnen	ECLI:NL:HR:2004:AO4224	2	0.031

Source: Gijs van Dijck, Deelonderwerpen en precedentes in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse (in preparation).

Table 4: Harm During Work Activities Cluster

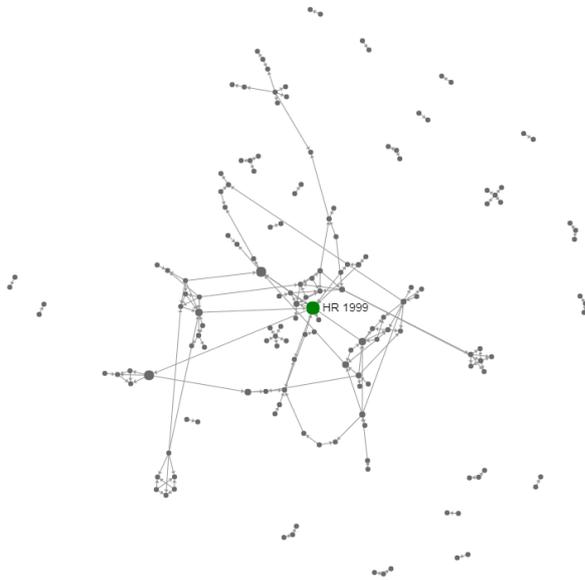
<i>Decision</i>	<i>ECLI</i>	<i>In-Degree</i>	<i>Relative In-Degree</i>
Maasman v. Akzo Nobel	ECLI:NL:HR:2008:BB4767	4	0.087
Kooiker v. Taxicentrale Nijverdal	ECLI:NL:HR:2008:BB6175	4	0.089
Peters v. Hofkens	ECLI:NL:HR:2003:AF8254	3	0.038
De Bont v. Oudenallen	ECLI:NL:HR:2002:AE2113	3	0.034
Vonk Montage v. Van der Hoeven	ECLI:NL:HR:2001:AA9434	3	0.029
Reclassering v. S.	ECLI:NL:HR:1999:AD2996	3	0.025
TNT v. Wijenberg	ECLI:NL:HR:2011:BR5215	1	0.091
De Rooyse Wissel v. Hagens	ECLI:NL:HR:2011:BR5223	1	0.083
Giraldo v. Daltra Antilles	ECLI:NL:HR:2012:BX7590	1	0.143

Source: Gijs van Dijck, Deelonderwerpen en precedentes in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse (in preparation).

The overviews produced by the technology mostly coincide with the important cases identified in doctrinal research.

Furthermore, which decisions form the ‘glue’ of the network (*betweenness centrality*) can also be determined using the tool. Conducting such an analysis for employers’ liability reveals decisions which have been the foundations for other decisions or groups of decisions. The decision with the highest betweenness centrality score – *Fransen v. Stichting Pasteurziekenhuis* – has indeed played an important role in the development of employers’ liability in the Netherlands, as it shaped the rules regarding the burden of proof pursuant to the 1992 Dutch Civil Code (BW). This explains the central position of the decision in the network (Figure 5).

Figure 5: ‘Brokers’ in Employers’ Liability Case Law Network (the Netherlands)



Source: Gijs van Dijck, Deelonderwerpen en precedenten in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse (in preparation).

Table 5: Decisions with the seven Highest ‘Broker’ Scores (betweenness centrality)

<i>Decision</i>	<i>ECLI</i>	<i>Betweenness centrality</i>
Fransen v. Stichting Pasteurziekenhuis	ECLI:NL:HR:1999:AA3837	0.009
Peters v. Hofkens	ECLI:NL:HR:2003:AF8254	0.005
Pollemans v. Hoondert	ECLI:NL:HR:1996:ZC2142	0.005
Unilever v. Dikmans	ECLI:NL:HR:2000:AA8369	0.003
Maasman v. Akzo Nobel	ECLI:NL:HR:2008:BB4767	0.003
Kooiker v. Taxicentrale Nijverdal	ECLI:NL:HR:2008:BB6175	0.002
Roeffen v. Tijssen	ECLI:NL:HR:1991:ZC0181	0.002

Source: Gijs van Dijck, Deelonderwerpen en precedents in het kader van werkgeversaansprakelijkheid ex art. 7:658/7:611 BW: een netwerkanalyse (in preparation).

The technology that was built and the metrics that were used are based on network analysis. Network analysis essentially allows mapping, measuring and possibly visualizing relationships between, for instance, individuals, groups, or information.¹⁵ In social networks, network analysis can be used to detect the most popular individual in a social network. Those who, for example, receive more messages from other individuals in the network may be perceived as more popular persons in the network than those who hardly receive any messages from others.

Network analysis was, initially, mostly conducted in a social setting (hence the term ‘social network analysis’ or SNA), with network analysis first originating in sociology and later also in social psychology and social anthropology.¹⁶ A breakthrough in the field can be observed in the 1970s, when a Harvard research group developed formal methodology of network analysis by developing new algorithms and software (e.g. UCINET) to analyze network structures. This led to a unified research field, with its own conferences, newsletters, and academic journals (eg *Social Networks*).¹⁷

Network analysis relies on two key measures: nodes and edges (Figure 6). The nodes can be individuals, groups, or information, whereas the edges link the nodes. The idea behind network analysis is similar to the concept of precedent, which can be defined as the practice of using a rule, set in a prior legal case, to decide subsequent cases.¹⁸

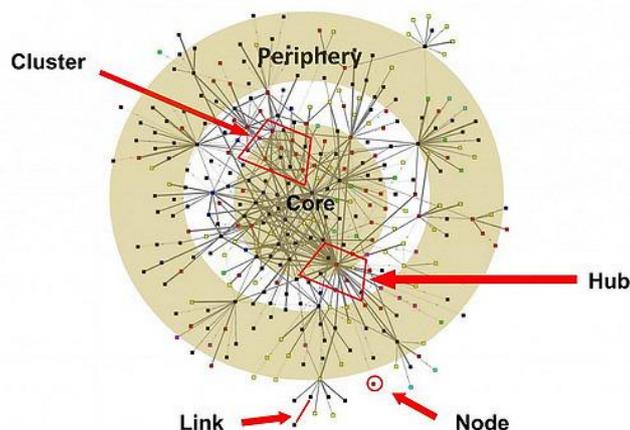
Figure 6: Social Network Analysis Measures (selection)

¹⁵ James H. Fowler and others, 'Network Analysis and the Law: Measuring the Legal Importance of Precedents at the U.S. Supreme Court' (2007) 15 *Political Analysis* pp.324, 325. See also Marcel G.H. Schaper, 'A Computational Legal Analysis of Acte Clair Rules of EU Law in the Field of Direct Taxes' (2014) 6 *World Tax Journal* pp.77, 80 (providing references).

¹⁶ Philipp Korom, *Network Analysis, History of* (Elsevier 2015), pp.524-529.

¹⁷ *Ibid*, pp.529-530.

¹⁸ The literature on precedent is abundant. For sources in the context of network analysis, see for example Yonatan Lupu and Erik Voeten, 'Precedent in International Courts: A Network Analysis of Case Citations by the European Court of Human Rights' (2012) 42 *BJ PolS* pp.413, 416-417; Mattias Derlén and Johan Lindholm, 'Characteristics of Precedent: The Case Law of the European Court of Justice in Three Dimensions' (2015) 16 *German Law Journal* 1073, pp.1075-1076.



Source: <https://c2.staticflickr.com/4/3662/3575872381_0da1eec53a_z.jpg?zz=1>

Treating court decisions as nodes and court citations as edges allows the creation of a precedent network which allows precedents to be tested to see how authoritative they are:¹⁹ decisions which are cited more frequently are presumed to be more important than decisions cited less frequently.

Network analysis studies have also emerged in the legal field.²⁰ In their seminal work, Fowler et al. (2007) reported the results of a network analysis on 26,681 majority opinions written by the US Supreme Court and the cases that cite them from 1791 to 2005, showing the value of network analysis when determining which cases are legally significant.²¹ After exploring importance scores such as the degree of centrality, eigenvector centrality and inward and outward importance scores, relevant precedents in the network of US Supreme Court decisions were identified. In a subsequent publication, it was found that (1) reversed cases tend to be more important than other decisions, (2) cases that overrule the reversed cases 'quickly become and remain even more important' and (3) the Supreme Court carefully embeds overruling decisions in past precedent.²²

¹⁹ Fowler and others, 'Network Analysis and the Law: Measuring the Legal Importance of Precedents at the U.S. Supreme Court', p.325.

²⁰ See Ryan Whalen, 'Legal Networks: The Promises and Challenges of Legal Network Analysis' (2016) 2 Michigan State Law Review pp.539, 547ff (providing a brief overview of the development of network analysis in the legal domain).

²¹ Fowler and others, 'Network Analysis and the Law: Measuring the Legal Importance of Precedents at the U.S. Supreme Court'. See also James H. Fowler and Sangick Jeon, 'The authority of Supreme Court precedent' (2008) 30 Social Networks p.16 (applying authority scores whilst identifying the most important court precedents in U.S. Supreme Court cases). For a similar analysis of Dutch case law, see Radboud Winkels, Jelle de Ruyter and Henryk Kroese, 'Determining Authority of Dutch Case Law' (2011) 235 Frontiers in Artificial Intelligence and Applications p.103.

²² Fowler and Jeon, 'The authority of Supreme Court precedent'.

Nowadays, several other network analysis studies can be found; studies which include the analysis of criminal behavior²³ and terrorists.²⁴ Citation pattern studies that focus on case law include research on the European Court of Human Rights (ECtHR),²⁵ the Court of Justice of the European Union (CJEU),²⁶ the International Criminal Court the case law of European Member States in a particular field over a particular period,²⁷ US case law,²⁸ Canadian case law²⁹ and Italian constitutional court case law.³⁰

²³ Whalen, 'Legal Networks: The Promises and Challenges of Legal Network Analysis', pp.553-554 (providing an overview).

²⁴ Jialun Qin and others, *Analyzing Terrorist Networks: A Case Study of the Global Salafi Jihad Network* (Springer 2005) (illustrating the effectiveness and usefulness of network analysis in research on terrorists).

²⁵ Lupu and Voeten, 'Precedent in International Courts: A Network Analysis of Case Citations by the European Court of Human Rights' (finding that the ECtHR cites precedent based on the legal issues in the case instead of on the country of origin and that it is more careful to embed judgments in its existing case law when it rules against a domestic court's decision compared to when it confirms the domestic court's decision).

²⁶ Mattias Derlén and Johan Lindholm, 'Goodbye van Gend en Loos, Hello Bosman? Using Network Analysis to Measure the Importance of Individual CJEU Judgments' (2014) 20 *European Law Journal* p.667 (finding that the importance of judgments such as *van Gend en Loos*, *Costa v. ENEL*, *Brasserie du Pêcheur* and *United Brand* are overemphasized, and that the importance of other judgments like *Bosman*, *PreussenElektra* and *Schumacker* are underestimated). Different conclusions may be drawn if sub-topics are investigated instead of the body of CJEU case law. See also Derlén and Lindholm, 'Characteristics of Precedent: The Case Law of the European Court of Justice in Three Dimensions' (confirming the belief that CJEU case law is particularly important in preliminary reference rulings, rulings that concern fundamental freedoms and competition law, and demonstrating that the number of Member States submitting an observation in a preliminary reference procedure is associated with how frequently the particular case will be referred to in subsequent decisions).

²⁷ E.g. Schaper, 'A Computational Legal Analysis of Acte Clair Rules of EU Law in the Field of Direct Taxes' (applying network analysis to all 185 rulings handed down by the CJEU in the field of direct taxes in the period between 1983-2012 in order to identify the dominant decisions); Mick Knops and Marcel Schaper, 'Holding Complexity: Analysing the CJEU's VAT Case Law as a Network' (2014) 3 *World Journal of VAT/GST Law* p.141 (identifying the most important CJEU decisions from a collection of VAT cases); Henrik Palmer Olsen and Aysel Küçükü, 'Finding Hidden Patterns in ECtHR's Case Law: On How Citation Network Analysis Can Improve Our Knowledge of ECtHR's Article 14 Practice' (2017) 17 *International Journal of Discrimination and the Law* (demonstrating how citation network analysis assists in selecting cases for qualitative legal (doctrinal) analysis).

²⁸ E.g. Ryan Whalen, 'Bad Law Before It Goes Bad: Citation Networks and the Life Cycle of Overruled Supreme Court Precedent' in Radboud Winkels, Nicola Lettieri and Sebastiano Faro (eds), *Network Analysis in Law* (Edizioni scientifiche italiane 2014); Ryan Whalen, *Modeling Annual Supreme Court Influence: The Role of Citation Practices and Judicial Tenure in Determining Precedent Network Growth* (Springer 2013).

²⁹ Thom Neale, 'Citation Analysis of Canadian Case Law' *Journal of Open Access to Law* <<https://ojs.law.cornell.edu/index.php/joal/article/view/20>>.

³⁰ Tommaso Agnoloni and Ugo Pagallo, *The case law of the Italian constitutional court, its power laws, and the web of scholarly opinions* (2015).

Furthermore, network analysis has been used to examine legal social networks,³¹ networks of statutes and regulatory codes³² and patent citations.³³ Additionally, methodological studies have been conducted which have improved the use of network analysis in the legal domain.³⁴

Network analysis has the potential to transform how case law is analyzed. Importantly, it has the potential to accelerate search processes when identifying clusters of case law and relevant cases within those clusters. The metrics that can be used to identify precedents allow the relevance of precedents to be defined in various ways (e.g. in-degree, relative in-degree, authorities and hubs, PageRank, betweenness centrality). The network visualization of case law makes it possible to navigate through that network and to visually inspect clusters of decisions, to observe which decisions connect the clusters and which decisions form the glue that holds the network together. Furthermore, relating network measures to particular years allows us to look at how cases have become important over time and to possibly predict which cases will become relevant.

³¹ John P. Heinz and Edward O. Laumann, *Chicago Lawyers: The Social Structure of the Bar* (Russell Sage Foundation 1982); Jonathan V. Beaverstock, 'Managing across Borders': Knowledge Management and Expatriation in Professional Service Legal Firms' (2004) 4 *Journal of Economic Geography* p.157; Emmanuel Lazega, *The Collegial Phenomenon: The Social Mechanisms of Cooperation Among Peers in a Corporate Law Partnership* (OUP 2001); Emmanuel Lazega and David Krackhardt, 'Spreading and Shifting Costs of Lateral Control Among Peers: A Structural Analysis at the Individual Level' (2000) 34 *Quality & Quantity* p.153; Emmanuel Lazega and Marijtje van Duijn, 'Position in Formal Structure, Personal Characteristics and Choices of Advisors in a Law Firm: A Logistic Regression Model for Dyadic Network Data' (1997) 19 *Social Networks* p.375.

³² Romain Boulet, Pierre Mazzega and Danièle Bourcier, 'A network approach to the French system of legal codes—part I: analysis of a dense network' (2011) 19 *Artificial Intelligence and Law* p.333 (finding a group of influential codes, a group of codes relating to social issues and a group of codes concerning territories and natural resources); Daniel Martin Katz and Michael J. Bommarito II, 'Measuring the Complexity of the Law: The United States Code' (2014) 22 *Artificial Intelligence and Law* p.337 (measuring and ranking the complexity of the U.S. Code's Titles); Michael J. Bommarito II and Daniel M. Katz, 'A mathematical approach to the study of the United States Code' (2010) 389 *Physica A: Statistical Mechanics and its Applications* p.4195 (indicating that, over time, the structure, interdependence and language of the United States Code has grown); Marios Koniaris, Ioannis Anagnostopoulos and Yannis Vassiliou, 'Network Analysis in the Legal Domain: A complex model for European Union legal sources (v3)' <<https://arxiv.org/abs/1501.05237>> (finding that the 'Legislation Network [of the European Union] becomes denser over time, with the number of edges growing faster than the number of nodes').

³³ Whalen, 'Legal Networks: The Promises and Challenges of Legal Network Analysis', pp.550-551 (providing an overview).

³⁴ Thomas A. Smith, 'The Web of Law' (2007) 44 *San Diego Law Review* p.309; Marc van Opijnen, *Citation Analysis and Beyond: in Search of Indicators Measuring Case Law Importance* (2013) (suggesting that common network algorithms such as in-degree, HITS and PageRank might not be the best metrics for measuring legal authority); P. Zhang and L. Koppaka, *Semantics-based legal citation network* (2007); Nicola Lettieri and others, 'A computational approach for the experimental study of EU case law: analysis and implementation' (2016) 6 *Social Network Analysis and Mining* (describing the progress of a computational approach for EU case law).

Consequently, network analysis promises to be a valuable addition to classical doctrinal analysis of the law.

Despite its promises, network analysis also has limitations and challenges. Citation analysis relies on citations, which means that old decisions are, by definition, more likely to be deemed important than recent decisions³⁵ and that very recent decisions which are important may be overlooked. Some measures, such as relative in-degree, help to overcome this issue by giving more weight to recent decisions. As a result, though, recent decisions with a single citation may incorrectly be classified as an important precedent when applying relative in-degree, whereas network analysis does not assign value to decisions without citations.

Furthermore, network analysis provides information about *how* decisions relate to each other or other types of information (legal or not), but not *why*.³⁶ This is why network analysis cannot and should not completely replace the reading and interpretation of case law. Another limitation concerns the quality of the citations. Legal network analysis should be advanced by improving the recognition of the purpose of the citations. Judges may cite other decisions (a) as a matter of courtesy, (b) to add authority for the interpretation of a rule or for solving a case, or (c) to distinguish the case at hand from other cases.³⁷ Moreover, courts may cite previous case law to indicate that they embrace the rules laid out in previous cases (positive citation) or are departing from them (negative citation). Consequently, not every citation should be given the same weight.³⁸ Treating citations differently depending on the type of citation will become even more relevant when network analysis includes different types of citations, for example citations coming from legislation, legislative memoranda, case law and scholarly work, with each link representing a different type of relationship.³⁹

Furthermore, differences between cultures may cause differences in citation style, which may affect the results network analysis produces. It may be common to cite cases by means of a case identifier (e.g. ECLI), whereas courts in other jurisdictions may commonly refer to other decisions by mentioning the name of the decision (e.g. 'Keck' or 'Van Gend en Loos'), by referring to the rule rather than the case identifier. Semantic analysis would be necessary to recognize such citation patterns. Such analysis could also be used to collect case characteristics (e.g. the amount of damages awarded, the length of sentences), which can subsequently be used to measure which arguments were used,

³⁵ Derlén and Lindholm, 'Goodbye van Gend en Loos, Hello Bosman? Using Network Analysis to Measure the Importance of Individual CJEU Judgments', p.674.

³⁶ See also Whalen, 'Legal Networks: The Promises and Challenges of Legal Network Analysis', pp.558-559 (suggesting a multitheoretical, multilevel (MTML) approach).

³⁷ See also *ibid*, p.554.

³⁸ Derlén and Lindholm, 'Goodbye van Gend en Loos, Hello Bosman? Using Network Analysis to Measure the Importance of Individual CJEU Judgments', p.674.

³⁹ Whalen, 'Legal Networks: The Promises and Challenges of Legal Network Analysis', p.556.

whether the damages awarded were different for clusters of decisions, or whether sentencing for one group of decisions is more severe than for another group of decisions.

Finally, as mentioned above, network analysis may be expanded by focusing on network dynamics.⁴⁰ For example, a citation analysis could be used to measure, visualize and, consequently, understand how a network evolves over time. The evolution of case law can provide insight into how case law has developed over time and which decisions became relevant and when.

4. Thinking Empirically

Legal analytics, and network analysis in particular, can be considered to be part of the family of empirical legal research, which is defined here as research conducted on a legal topic by means of applying methods and techniques that are commonly used in the social sciences.⁴¹ Network analysis adds to the diversity of empirical legal research, which has mostly relied on case study research, interview studies and questionnaire research by means of descriptive analysis, regression analysis and other types of univariate and multivariate analyses.

Empirical research can be used for various purposes. It has been applied to systematically describe and explain legal phenomena, to test and demystify assumptions, to evaluate laws, rules and practices, and to test intended reforms prior to their enactment. Many examples can be used to illustrate the purposes for which empirical research can be deployed. Three examples in the field of private law will briefly be discussed here. The first study concerns the controversial topic of punitive damages. Some jurisdictions allow damages to be awarded which exceed compensatory damages. A famous punitive damages example is the *Liebeck v. McDonald's Restaurants* case.⁴² Ms. Liebeck, 79 years old at the time, was sitting in the passenger seat of her grandson's car when she tried to remove the plastic lid from the cup very shortly after receiving the coffee. She spilled coffee onto her lap, as a result of which she suffered third-degree burns over 6% of her body. McDonalds refused to settle her claim for \$20,000. The jury awarded

⁴⁰ Ibid, p.558 (mentioning the relational event model (REM) and the stochastic actor oriented model (SAOM) as possibilities for modeling network evolution).

⁴¹ Empirical research can be defined as observations of reality, see for example Lee Epstein and Gary King, 'Exchange: Empirical Research and the Goals of Legal Scholarship' (2002) 69 University of Chicago Law Review. Such definition becomes non-distinctive when applied in a legal context, as it would encompass case law analysis, comparative law research and the analysis of legislation, see Russell Korobkin, 'Empirical Scholarship in Contract Law: Possibilities and Pitfalls' (2002) University of Illinois Law Review pp.1033, 1035. By focusing on the way information is analyzed instead of on the object that is studied, empirical legal research becomes distinctively different from doctrinal legal research.

⁴² 1994 Extra LEXIS 23 (Bernalillo County, N.M. Dist. Ct. 1994), 1995 WL 360309 (Bernalillo County, N.M. Dist. Ct. 1994). The case cannot be retrieved. The facts are based on Internet sources, see for example <<http://abnormaluse.com/2011/01/stella-liebeck-mcdonalds-hot-coffee.html>> (last accessed July 17, 2017).

Liebeck, who was hospitalized for eight days, \$160,000 in damages to cover medical costs and other losses (compensatory damages). In addition, the jury awarded her \$2.7 million in punitive damages, which were later reduced to \$480,000.

Where compensatory damages aim to repair losses that victims suffer, punitive damages are aimed at punishing and deterring wrongdoers from future wrongdoing.⁴³ This is an important (but not the only) reason why punitive damages are perceived as controversial, as it can lead to plaintiffs being awarded substantial sums that do not mirror their actual loss. Punitive damages are perceived as outrageous by many because of the large amounts that can be awarded.

How outrageous are punitive damages? Anecdotal evidence and conventional wisdom suggest that punitive damages are a problem. Empirical studies show a more nuanced picture. Several US studies have found that the number of cases in which punitive damages were awarded varies between 0.1% and 5%, depending on the sample (mock juries or actual cases), the status of the plaintiff and defendant (individual / company / government), the area of the law (e.g. motor vehicle, product liability), and the type of court (state / federal; jury / bench).⁴⁴ Moreover, large punitive damages awards are often reduced by post-verdict or appellate review, as illustrated by the *Liebeck v. McDonalds* case.⁴⁵ Consequently, the idea of an out-of-control practice of punitive damages that feeds the litigious society seems far-fetched, or at least is not supported by empirical evidence.

Empirical legal research can be used not only to test or refute assumptions but it can also be conducted in order to test the effects of a reform. An example of such research is a study on the *Dutch Consumer Bankruptcy Act (Wet schuldsanering natuurlijke personen)*.⁴⁶ The Act, which was implemented in 1998, was aimed at providing incentives for creditors to agree to voluntary debt settlements initiated prior to the formal fresh start procedure. It was expected that the reform would improve the success rate of turning insolvent debtors into solvent debtors.

⁴³ Although punitive damages may in practice actually provide some compensation, for example if the compensatory damages are not sufficient to cover attorney costs.

⁴⁴ Thomas A. Eaton, David B. Mustard and Susette M. Talarico, 'The Effects of Seeking Punitive Damages on the Processing of Tort Claims' (2005) 34 *Journal of Empirical Legal Studies* pp.343, 487. Thomas A. Eaton, Susette M. Talarico and Richard E. Dunn, 'Another Brick in the Wall: An Empirical Look at Georgia Tort Litigation in the 1990s' (2000) 34 *Georgia Law Review* pp.1049, 1094. Theodore Eisenberg and others, 'Juries, Judges, and Punitive Damages: An Empirical Study' (2002) 87 *Cornell L Rev* p.745. Theodore Eisenberg and others, 'The Predictability of Punitive Damages' (1997) 26 *J Legal Stud* p.633. Neil Vidmar and Mary R. Rose, 'Punitive Damages by Juries in Florida: In Terrorem and in Reality' (2001) 38 *Harv J Legis*.

⁴⁵ Thomas Koenig, 'The Shadow Effect of Punitive Damages on Settlements' (1998) *Wisconsin Law Review* p.169.

⁴⁶ Nadja Jungmann, *De Wsnp: bedoelde en onbedoelde effecten op het minnelijk traject (diss. Leiden)* (Leiden University Press 2006).

What actually happened was the opposite: the success rates of debt organizations dropped substantially. Document analysis and interviews with individuals and organizations involved in the process indicated that the reform was based on incorrect assumptions. Formal processes in court were not perceived as less attractive than informal processes. Legislation merely focused on changes that made the formal procedure less attractive to creditors and not on making the informal procedure more attractive. The reform lacked financial incentives for giving preference to a voluntary debt settlement instead of a procedure in court. In addition, the popularity of the court relative to that of the local debt counseling organizations had been ignored.

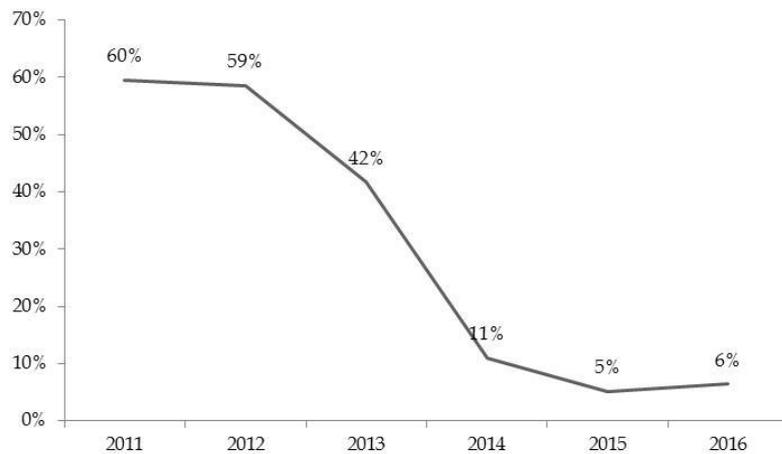
In addition, local debt counseling organizations changed their behavior in debt negotiations with creditors after the reform in a way that led creditors to prefer the formal procedure. The result of the reforms was that the number of creditors per debtor increased rather than decreased, which caused difficulties in reaching settlements among creditors.

Furthermore, empirical legal research can be used for explanatory purposes. A recently conducted study on a procedure for victims of sexual abuse by the Catholic Church (hereafter: priest abuse) aimed to analyze when and why non-monetary relief was ordered by the adjudicators.⁴⁷ The adjudicators in this procedure took the opportunity to provide various types of non-monetary relief in addition to granting the complaint. For example, they would order the Church or the accused to, among other things, provide an apology, to recognize the victim's suffering or to acknowledge the abuse.

It was surprising to discover a substantial drop in the percentage of decisions in which adjudicators recommended non-monetary relief in the 2013-2014 period. In this period, the percentage of decisions that included non-monetary relief went down from 59% to a staggering 11%.

Figure 7: Non-Monetary Relief (any) Recommended by Adjudicators as a Percentage of the Number of Decisions

⁴⁷ Gijs van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases' 14 *Journal of Empirical Legal Studies* (forthcoming 2017).

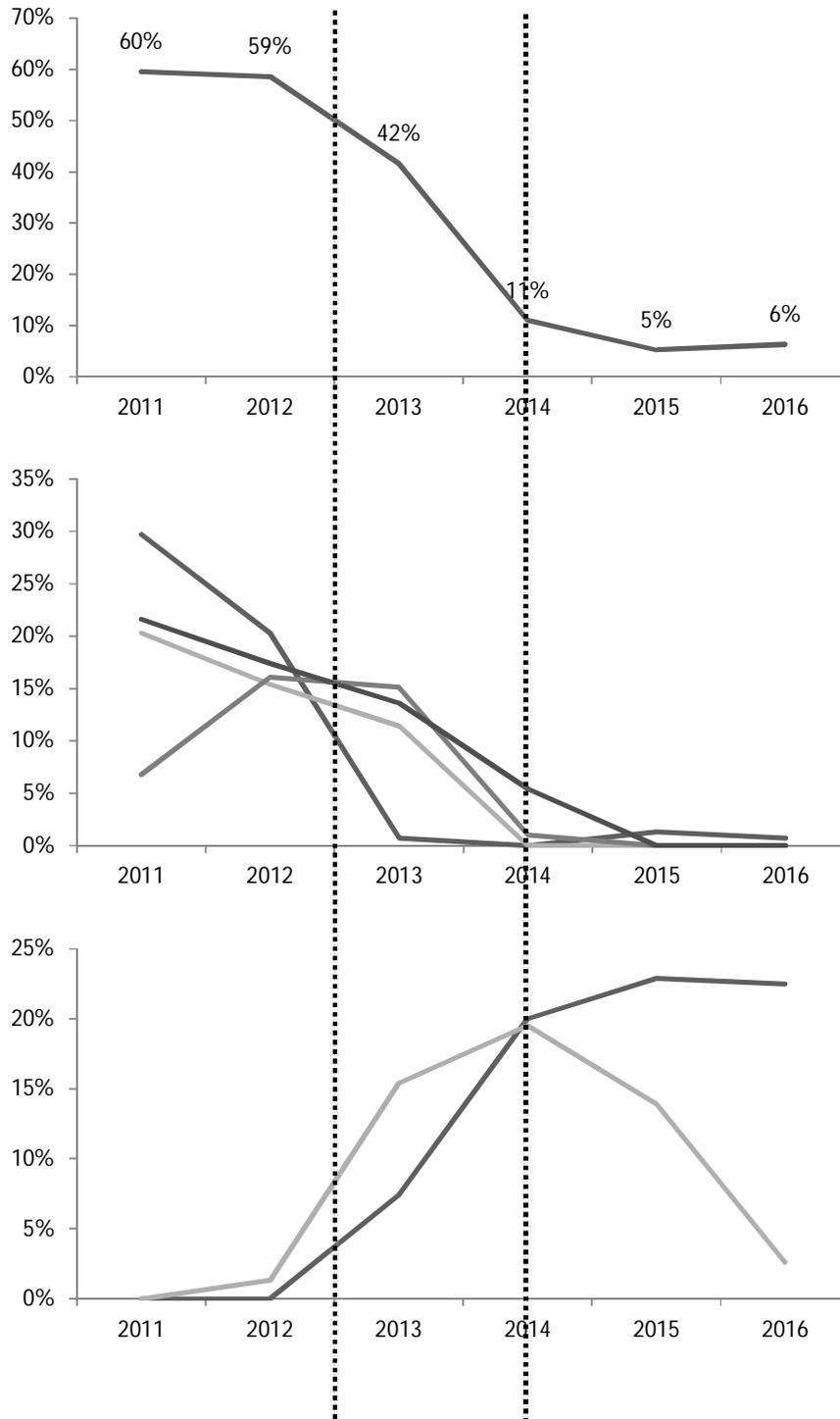


Source: Gijs van Dijk, ‘Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases’ 14 *Journal of Empirical Legal Studies* (forthcoming 2017).

No immediate explanation was available for the sudden drop. The last resort was to turn to the panel members: did the drop coincide with adjudicators entering or leaving the panel?

When looking for adjudicators who entered or left the panel around the same time as the drop, it was found that six panel members (out of a total of 27): entered the panel (four) or left the panel (two) during this period (Figure 8).

Figure 8: Non-Monetary Relief (any) Recommended (top) versus Adjudicators Who Left (middle) or Entered (bottom) the Panel over the Years



Source: Gijs van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases' 14 *Journal of Empirical Legal Studies* (forthcoming 2017).

Logistic regression analysis was conducted to determine whether the relationship between the drop in non-monetary relief and the presence (or absence) of certain panel members was mostly coincidental. The analyses adjusted for other possible influences (variables) such as case strength, the gender of the victim and whether the victim had already obtained non-monetary relief (provided by the Church and / or the accused).

The impact that some of the panel members had is remarkable: the presence of one particular adjudicator made it approximately six times more likely that non-monetary relief would be recommended compared to when this adjudicator was not a panel member. Substantial effects were also found for four of the other five panelists, although the impact of their presence was much lower than the impact of that one panelist.⁴⁸ The results raise the interesting question of how the practices of the panelists differed and which practices were successful at addressing non-monetary needs. I will come back to this in Section 8.

5. The Mismatch Between What Victims Need and What Tort Law Has to Offer

With the priest abuse study, I have arrived at the second topic: the monetary focus of tort law. The reason for analyzing the priest abuse cases was that they offered a unique opportunity to study which non-monetary needs victims have and when adjudicators order non-monetary relief. The research revealed, among other things, that the need for recognition, validation, and affirmation outscored the need for monetary compensation,⁴⁹ which suggests that the victims were not primarily driven by monetary incentives.

Table 6: Objectives (self-reported), Percentages and Frequencies

<i>Objective (as stated by victim)</i>	<i>Percentage</i>
Recognition / validation / affirmation	72.1 (n=892)
Compensation	50.6 (n=626)
Apology	28.2 (n=349)
Closure / rehabilitation	25.5 (n=316)
Voice	17.5 (n=217)
Truth finding	13.0 (n=161)
Prevention	12.7 (n=157)
Satisfaction	8.7 (n=108)
Measures against the accused / those responsible	7.4 (n=92)
Support for other complaints	5.2 (n=64)

⁴⁸ Ibid.

⁴⁹ Ibid.

Retribution / punishment / revenge	3.4 (n=42)
Meeting with accused	1.9 (n=23)
Help for victim	0.6 (n=8)
Help for accused	0.1 (n=1)
Other	7.0 (n=86)
Unknown	4.0 (n=49)
N	1,237

NOTES: Frequencies in parentheses. Victims could report multiple objectives per case.

Source: Gijs van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases' 14 *Journal of Empirical Legal Studies* (forthcoming 2017).

The findings confirm previous psychological and empirical legal research, which demonstrated that tort victims reportedly seek recognition, an admission of fault by the wrongdoer, an apology, validation (internal or external), closure, disclosure, prevention of future harm for themselves and / or others, revenge, or compassion from the wrongdoer.⁵⁰ Additionally, tort victims also frequently report the need to be heard or understood.⁵¹

The benefits of non-monetary relief are well-documented. It has, among other things, been found to enhance forgiveness,⁵² stimulate legal settlements,⁵³ reduce the number of claims⁵⁴ and can even prevent wrongdoers from repeating the wrong.⁵⁵

⁵⁰ For example, S.D. Lindenbergh and P. Mascini, 'Schurende dilemma's in het aansprakelijkheidsrecht – De spanning tussen financiële en relationele compensatie' in W.H. Van Boom, I. Giesen and A.J. Verheij (eds), *Capita civilologie, Handboek empirie en privaatrecht* (Boom Juridische Uitgevers 2013); W.A. Eshuis and others, *Leerzame schadeclaims: leren van 'worst case scenarios' als opstap naar effectieve interventie en preventie rond beroepsziekten* (Hugo Sinzheimer Instituut 2009); R.M.E. Huver and others, *Slachtoffers en aansprakelijkheid. Een onderzoek naar behoeften, verwachtingen en ervaringen van slachtoffers en hun naasten met betrekking tot het civiele aansprakelijkheidsrecht. Deel I. Terreinverkenning*, 2007) pp.63 and 82; C. Vincent, A. Philips and M. Young, 'Why Do People Sue Doctors? A Study of Patients and Relatives Taking Legal Action' (1994) 343 *The Lancet* p.1609; Gerald B. Hickson, 'Factors that Prompted Families to File Medical Malpractice Claims Following Prenatal Injuries' (1992) 267 *JAMA* p.1359).

⁵¹ Van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases'.

⁵² Julie Juola Exline and others, 'Forgiveness and justice: A research agenda for social and personality psychology' (2003) 7 *Personality and Social Psychology Review* pp.337, 344.

⁵³ Jennifer K. Robbennolt, 'Apologies and Settlement Levers' (2006) 3 *Journal of Empirical Legal Studies* p.333.

⁵⁴ Rick Iedema and others, 'Patients' and Family Members' Experiences of Open Disclosure Following Adverse Events' (2008) 20 *International Journal for Quality in Health Care* p.421; Allen Kachalia and

Non-monetary needs have also been found to be more popular than monetary compensation in other instances than sexual abuse cases. For example, an apology reportedly outscored financial compensation (29.8%) as the most sought remedy in Australian sex discrimination cases.⁵⁶ The need for non-monetary relief may best be observed in the medical field, where disclosure and preventing future harm are the dominant objectives that victims of medical adverse events reportedly pursue.⁵⁷ The importance of disclosure and prevention can be found across countries, as similar results have been reported in countries that include the US,⁵⁸ England,⁵⁹ and New Zealand.⁶⁰

This is not to deny the importance of monetary compensation. In addition to positive psychological effects on wrongdoers,⁶¹ various studies support the notion that monetary compensation is crucial in many instances, particularly in situations where the injustice that the victim suffered affected or endangered his financial security. Research that reviewed compensation claims to a no-fault insurer in New Zealand found that financial compensation is particularly important to those whose economic losses are substantial, for example victims with severe non-fatal injuries or victims who were in their prime working years at the time of the injury.⁶² This finding would explain why victims seek monetary compensation in instances where they want to get their lives back

others, 'Liability Claims and Costs Before and After Implementation of a Medical Error Disclosure Program' (2010) 153 *Annals of Internal Medicine* p.213; Richard Boothman and others, 'A Better Approach to Medical Malpractice Claims? The University of Michigan Experience' (2009) 2 *J Health Life Sci Law* p.125

⁵⁵ J.J. Exline and R.F. Baumeister, 'Expressing forgiveness and repentance. In M.E. McCullough, K. I. Pargament, & C.E. Thorsen (Eds.)' (2000) *Forgiveness: Theory, research, and practice* p.133.

⁵⁶ Rosemary Hunter and Alice Leonard, *The Outcomes of Conciliation in Sex Discrimination Cases (Working Paper)*, 1995) (finding that an apology outscored financial compensation (29.8%) as an outcome of the cases that were settled).

⁵⁷ For example, Vincent, Philips and Young, 'Why Do People Sue Doctors? A Study of Patients and Relatives Taking Legal Action' (surveying 227 English patients).

⁵⁸ Robyn S. Shapiro and others, 'A Survey of Sued and Nonsued Physicians and Suing Patients' (1989) 149 *Arch Intern Med* p.2190.

⁵⁹ Vincent, Philips and Young, 'Why Do People Sue Doctors? A Study of Patients and Relatives Taking Legal Action'.

⁶⁰ Marie Bismark and others, 'Accountability sought by patients following adverse events from medical care: the New Zealand experience' (2006) 175 *CMAJ* p.889.

⁶¹ Daniel W. Shuman, 'The Psychology of Compensation in Tort Law' (1994) 43 *U Kan L Rev* p.39.

⁶² Bismark and others, 'Accountability sought by patients following adverse events from medical care: the New Zealand experience'.

on track after a wrong or harm.⁶³ This might explain why relatives of deceased victims do not initiate legal proceedings for monetary reasons.⁶⁴

In contemporary tort law, monetary compensation is extremely important. In fact, it is the alpha and the omega of tort law. Concepts such as compensation and damages are commonly understood in monetary terms. For example, article 10:101 of the Principles of European Tort Law (PETL) states that:

‘Damages are a money payment to compensate the victim, that is to say, to restore him, so far as money can, to the position he would have been in if the wrong complained of had not been committed’.

And the Practice Directions on Article 41 ECHR mention three types of just satisfaction:

- i) pecuniary damages;
- ii) non-pecuniary damages and;
- iii) costs and expenses.⁶⁵

Given the positive effects of non-monetary needs, it is not surprising that the monetary perspective is criticized. As a victim who obtained damages after being wronged by another person stated:

‘I don’t feel validated because I got a few bucks. I haven’t got a real letter of apology’.⁶⁶

6. Limitations of Monetary Compensation

Tort law’s focus on repairing harm and losses by means of monetary compensation has important limitations. In his book, Sandel provides striking examples of the shortcomings of the dominance of monetary compensation.⁶⁷ To illustrate this, he refers to how people can cut lines by paying for a more expensive airline ticket or by paying another person – a ‘line stander’ – to stand in line for him. A market has even emerged for those who want to visit the US Congress in Washington DC or New York City’s Public Theatre’s Shakespeare performance without having to stand in line. The main problem in the line-

⁶³ Huver and others, *Slachtoffers en aansprakelijkheid. Een onderzoek naar behoeften, verwachtingen en ervaringen van slachtoffers en hun naasten met betrekking tot het civiele aansprakelijkheidsrecht. Deel I. Terreinverkenning*; Hickson, 'Factors that Prompted Families to File Medical Malpractice Claims Following Prenatal Injuries'.

⁶⁴ Bismark and others, 'Accountability sought by patients following adverse events from medical care: the New Zealand experience'.

⁶⁵ Rules of Court –September 19, 2016, Practice Directions at 1, 14 <www.echr.coe.int/Documents/PD_satisfaction_claims_ENG.pdf> (last accessed July 17, 2017).

⁶⁶ Bruce Feldthusen, Oleana A.R. Hankivsky and Lorraine Greaves, 'Therapeutic consequences of civil actions for damages and compensation claims by victims of sexual abuse' (2000) 12 Canadian Journal of Women & the Law pp.66, 76.

⁶⁷ Michael J. Sandel, *What Money Can't Buy: The Moral Limits of Markets* (Penguin 2013).

standing example is that the monetary perspective crowds out other values, or even supplants them – the moral norm of having to wait for your turn is replaced by considerations of costs and benefits.

The phenomenon of values being supplanted by a monetary perspective was also observed in a famous study which analyzed day-care centers that introduced fines (and later removed them).⁶⁸ Searching for a solution to the problem of parents arriving late to collect their children, an Israeli day-care introduced a monetary fine for late-coming parents. It was expected that the penalty would reduce the number of late-coming parents, but the effect was the opposite: the number increased instead of decreased. Nothing changed after the abolishment of the fine, as the moral norm of collecting their children on time was replaced by a cost-benefit analysis.

The problem of having monetary solutions for practical problems lies in the reduction of value to money. Just as meters are an expression of length, kilograms of weight, and degrees of temperature, money is an expression of one or more values.⁶⁹ The difference between money on the one hand, and length, weight and temperature on the other hand, is that the latter give expression to a physical reality, whereas money is a measure applied in a social reality that deals with welfare, happiness, and fairness.⁷⁰ The reduction of values, such as fairness, to money leads to a focus on how to measure the value of a good or service in monetary terms. However, as different kinds of assessments can be used to evaluate social reality,⁷¹ reducing these different matters to a single concept is a simplification that comes at a cost.⁷² The problem lies in the fact that the question of how a good, service, interest, loss or harm as such should be valued becomes irrelevant, since the monetary perspective prescribes money as the single measure to determine its value.⁷³

Monetary compensation works well in instances where no other values are at stake or where the same measure can be used to determine the value of something. This is the case when determining what should be awarded to a victim whose cell phone is damaged by another person. In this instance, the loss (damage to the cell phone) and the compensation (payment for the repair) can be assessed by means of the same measure: money. It does not work well in situations of personal injury, as living a healthy life is generally not measured or valued by means of money. Nevertheless, attempts have been made to translate non-monetary values such as health into money. *Quality Adjusted Life Year* (QALY) is an example of such an attempt. QALY allows the value for money of certain interventions (e.g. legal, policy, medical) to be evaluated, equating a value to one

⁶⁸ Uri Gneezy and Aldo Rustichini, 'A Fine is a Prize' (2000) 29 *The Journal of Legal Studies* p.1.

⁶⁹ Felix Martin, *Money: the Unauthorised Biography* (The Bodley Head 2013), p.53.

⁷⁰ *Ibid.*, p.53.

⁷¹ Elizabeth Anderson, *Value in Ethics and Economics* (Harvard University Press 1993), pp.3-4.

⁷² Cass R. Sunstein, 'Incommensurability and Valuation in Law' (1994) 92 *Michigan Law Review* pp.779, 784.

⁷³ Anderson, *Value in Ethics and Economics*, xiii.

year in a certain state of health.⁷⁴ By assigning a value to life, it can be determined whether a 2 million investment outweighs less traffic accidents equating to 3 million QALY: the 3 million QALY outweighs the 2 million investment. Another, but different, monetary measure is willingness to pay (WTP), which is commonly used in Law and Economics research.⁷⁵ WTP entails that a rational individual values his life at 1 million if the person wants to spend 100 on avoiding an accident and the probability of such an accident is 0.001.⁷⁶

Even though equating value to money can be helpful in a variety of circumstances and for various purposes, issues arise when the monetary perspective conflicts with other values. The monetary perspective as a sole value is then problematic, as the reduction of values to the single measure of price excludes other value domains that, following those values, justify other outcomes than the monetary perspective does.⁷⁷ For instance, it is morally difficult to choose between investing 10 million in road safety to save 16 lives or to invest 15 million to save 12 lives, or to translate a life into a monetary value and to subsequently compare these values with the costs of the investment.⁷⁸

The issue here is that such trade-offs are 'taboo trade-offs': trade-offs of conflicting values that are incommensurable,⁷⁹ with the incommensurability consisting of values that are incomparable or of values where one value is not better than the other value(s)⁸⁰ or, as Sunstein defines:

'Incommensurability occurs when the relevant goods cannot be aligned along a single metric without doing violence to our considered judgments about how these goods are best characterized'.⁸¹

Incommensurability is also an issue when awarding damages in tort law, particularly when non-pecuniary damages are awarded to remedy non-monetary losses.⁸² Sadness,

⁷⁴ Louis Visscher, *Debated Damages* (Eleven International Publishing 2015), pp.32ff (providing a description, examples and further references regarding the concept of QALY).

⁷⁵ James K. Hammitt, 'QALYs Versus WTP' (2002) 22 Risk Analysis p.985 (discussing the differences between QALY and WTP).

⁷⁶ See Sunstein, 'Incommensurability and Valuation in Law', pp.840-843 (discussing incommensurability in relation to cost-benefit analysis).

⁷⁷ Alan Page Fiske and Philip E. Tetlock, 'Taboo Trade-Offs: Reactions to Transactions that Transgress the Spheres of Justice' (1997) 18 Pol Psychol p.255 (distinguishing between *Communal Sharing*, *Authority Ranking*, *Equality Matching* and *Market Pricing*).

⁷⁸ For more examples, see Leo Katz, 'Incommensurable Choices and the Problem of Moral Ignorance' (1998) 146 University of Pennsylvania Law Review p.1465.

⁷⁹ Fiske and Tetlock, 'Taboo Trade-Offs: Reactions to Transactions that Transgress the Spheres of Justice', p.259.

⁸⁰ Sunstein, 'Incommensurability and Valuation in Law', p.780; *Incommensurable Values* 2008 (last accessed July 17, 2017).

⁸¹ Sunstein, 'Incommensurability and Valuation in Law', p.796.

⁸² *Ibid*, pp.845-846.

pain and suffering are non-monetary losses for which monetary compensation are ineffective and insufficient. Monetary compensation for relatives or for personal injury victims seeking recognition, an apology, closure or disclosure is sub-optimal at best, as the values of dignity and identity are incommensurable with the value of money: no monetary value will remedy or compensate for the loss of a relative or for temporary or permanent physical or mental impairment wrongfully caused by another person.⁸³

A recent case on the Srebrenica genocide further illustrates incommensurability issues in tort law. In July 1995, thousands of Muslim Bosniak men were deported from the enclave in Srebrenica, with a substantial number of them subsequently being killed by the Bosnian Serb army under the command of Ratko Mladić. The UN had declared Srebrenica a 'safe area', but the Dutchbat division was not able to prevent the capture and killing of the victims by the Bosnian Serb army. Years later, the International Criminal Tribunal for the former Yugoslavia (ICTY) and the International Court of Justice (ICJ) ruled that the massacre constituted genocide.

On 27 June 2017, the Court of Appeal held that those in charge of Dutchbat should have known as of 13 July 1995 that the men who were being transported (deported) from the compound were in real danger of being subjected to inhumane treatment.⁸⁴ The court, among other things, held that the State was negligent for not having offered the male refugees the option to stay in the compound. As a result of this, the refugees were, according to the court, not given a 30% chance of not being exposed to inhumane treatment. Since the concept of 'loss of a chance' is primarily designed to calculate losses in monetary terms, reducing the loss of a relative to a loss of a chance (of the relative surviving) introduces incommensurability between the norm (loss of a chance) and the harm (loss of a relative).

7. Solving the Mismatch

Different avenues have been explored to solve the mismatch between what victims need and what they can obtain in tort law, and to possibly overcome the monetary focus. Steps that have already been taken, in addition to common mediation or alternative dispute resolution approaches, include the introduction of compensation schemes such as the one developed for victims of sexual abuse by the Catholic Church, apology laws, court-ordered apologies, and open disclosure programs.

Apology laws make certain types of apologies inadmissible as evidence in a legal procedure.⁸⁵ A provision that covers a wide range of apologies is the Apology Act 2006 of British Columbia, Canada, which defines an apology as

⁸³ It may therefore not be advisable to increase the amount of damages if a wrongdoer fails to apologize, as the two types of relief (damages, apology) belong to separate domains and are perhaps incommensurable.

⁸⁴ Court of Appeal the Hague 6-27-2017, ECLI:NL:GHDHA:2017:1761.

⁸⁵ Daniel Shuman, 'The Role of Apology in Tort Law' (2000) 83 *Judicature* (describing apology laws).

‘(...) an expression of sympathy or regret, a statement that one is sorry or any other words or actions indicating contrition or commiseration, whether or not the words or actions admit or imply an admission of fault in connection with the matter to which the words or actions relate’

and provides that it is inadmissible as evidence in court and that it does not affect insurance coverage:

‘2(1) an apology made by or on behalf of a person in connection with any matter
(a) does not constitute an express or implied admission of fault or liability by the person in connection with that matter,
(...)
(c) does not, despite any wording to the contrary in any contract of insurance and despite any other enactment, void, impair or otherwise affect any insurance coverage that is available, or that would, but for the apology, be available to the person in connection with that matter, and
(d) must not be taken into account in any determination of fault or liability in connection with that matter.
2(2) Despite any other enactment, evidence of an apology made by or on behalf of a person in connection with any matter is not admissible in any proceeding and must not be referred to or disclosed to a court in any proceeding as evidence of the fault or liability of the person in connection with that matter’.

A provision like the latter is exceptional, as it protects admissions of fault in addition to expressions of regret.⁸⁶ Most apology laws merely include protection for an expression of regret or sorrow, consequently excluding an acknowledgment or admission of fault.⁸⁷ For example, the 2013 District of Columbia Code (Division II, Title 16, Chapter 28) states that:

‘an expression of sympathy or regret (...) made by or on behalf of the healthcare provider (...) is inadmissible as an admission of liability’.

Apology laws have been claimed to reduce payment size and to reduce the number of insignificant injury claims, at least in a medical malpractice context.⁸⁸ Interestingly, they

⁸⁶ Prue E. Vines, 'Apologies and civil liability in England, Wales and Scotland: the view from elsewhere' (2008) 12 *Edinburgh Law Review* (claiming the provision to be 'the broadest provision in existence so far').

⁸⁷ Benjamin Ho and Elaine Liu, 'Does Sorry Work? The Impact of Apology Laws on Medical Malpractice' (2011) 43 *Journal of Risk and Uncertainty* p.141, Table 1 (providing an overview of US apology laws and demonstrating that most laws only offer partial protection). For more examples of apology laws, see Charlie Irvine, 'The Proposed Apologies Act for Scotland: Good Intentions with Unforeseeable Consequences' (2013) 17 *Edinburgh Law Review* p.84; Vines, 'Apologies and civil liability in England, Wales and Scotland: the view from elsewhere' (categorizing apology laws in Australia, Canada, England, and the U.S.).

⁸⁸ Ho and Liu, 'Does Sorry Work? The Impact of Apology Laws on Medical Malpractice', pp.143, 146 (finding that severe injuries cases settle 19–20% faster in states that offer an apology compared to states

are also associated with an increase in the number of closed claims, especially in cases where patients suffered severe medical injuries.⁸⁹ However, the same study found that the number of claims was declining in the long run, suggesting that the increase was the result of claim resolution that took less time.⁹⁰

Despite their positive effects, apology laws have been criticized. Laws which do not protect admissions of fault, in particular, are said to be too narrow and are consequently deemed ineffective.⁹¹ It has also been claimed that apology laws will not increase the number of apologies, as the reasons for not apologizing lie outside the law,⁹² that they remove the moral content from the apology, since it will be used in an instrumental way,⁹³ that the apologizers, rather than the victims, will ultimately benefit from apology laws, considering that more apologies will result in less claims and less payouts,⁹⁴ and that apology laws prevent severe adverse events and failures of the medical system from surfacing⁹⁵.

An alternative for non-monetary relief is to introduce remedies which allow victims to claim specific types of relief and courts to order them.⁹⁶ Such a remedy may entail that an adjudicator may

‘order the respondent to publish an apology [...] and, as part of the order, give directions concerning the time, form, extent and manner of publication of the apology’.⁹⁷

In a recent article, I conceptualized the ordered apology.⁹⁸ It was proposed that a court-ordered apology is, primarily, a fulfillment of a legal requirement that is not necessarily

that do not; finding that apology laws reduce claim payouts in the most severe cases ‘by \$58,000–\$73,000 per case and claim payouts of the “somewhat” severe cases by \$7,000–\$14,000 per case’; finding differences between ‘full’ and ‘partial’ apology laws).

⁸⁹ Ibid, pp.143-144.

⁹⁰ Ibid, pp.143-144.

⁹¹ Maria Pearlmutter, 'Physician Apologies and General Admissions of Fault: Amending the Federal Rules of Evidence' (2011) 73 Ohio St LJ p.687 (proposing amendments to include general admissions of fault in apology laws).

⁹² Lucinda E. Jesson and Peter B. Knapp, 'My Lawyer Told Me To Say I'm Sorry: Lawyers, Doctors, and Medical Apologies' (2009) 35 William Mitchell Law Review p.1410 (providing further references); Marlynn Wei, 'Doctors, Apologies, and the Law: An Analysis and Critique of Apology Laws' (2006) 39 Journal of Health Law p.107 (discussing potential barriers to physicians' disclosure of medical mistakes and arguing that the underlying problem may lie outside the scope of the law).

⁹³ Jesson and Knapp, 'My Lawyer Told Me To Say I'm Sorry: Lawyers, Doctors, and Medical Apologies'.

⁹⁴ Gabriel H. Teninbaum, 'How Medical Apology Programs Harm Patients' (2011) 15 Chapman Law Review p.307.

⁹⁵ Steven E. Raper, 'No Role for Apology: Remedial Work and the Problem of Medical Injury' (2011) 11 Yale Journal of Health Policy, Law, and Ethics p.269.

⁹⁶ Procedural law prescribes that parties have a duty to disclose certain information prior to or during the formal procedure, but such an obligation is not a remedy like damages or an injunction.

⁹⁷ See also s 209 of the Queensland *Anti-Discrimination Act 1991*.

aimed at psychological healing. The same research found that, contrary to conventional wisdom, an apology does not need to be sincere in order for it to be effective. Empirical research in the field of psychology and in the field of law indicate that sincerity can be important to the person receiving the apology, but that ordered apologies can also be important, sometimes even equally or more important than sincere or voluntarily offered apologies.

The humiliation of having to provide an apology, the power of a victim to accept or reject an apology, and the recognition and validation that accompany a court-ordered apology can positively affect the well-being of the receiver of the apology. Ordered apologies can also have a signaling function; they can signal a wrong or reprehensibility to the public. It has even been claimed that an ordered apology deters wrongdoers (current and future) from inflicting harm on others in the future. Furthermore, empirical research suggests that an ordered apology does not need to be enforceable in order for it to be effective. In fact, research indicates that ordered apologies, without a penalty in case of non-performance, are valued more than enforceable apologies. Altogether, the insights call for a more welcoming approach regarding court-ordered apologies.

Perhaps the most rigorous initiative to close the gap between what tort victims pursue and what they obtain are open disclosure programs. These programs, which are particularly applied in the medical field, are intended to provide all relevant information to patients who were wronged (or to their relatives) after an adverse medical event. Open disclosure generally includes information about what happened and why, an admission of fault, and an apology. Consequently, open disclosure programs depart from the adversarial model that is commonly found in the legal domain.

Research has reported various positive effects of open disclosure programs. They have been positively evaluated by patients as well as by health care staff,⁹⁹ they can increase patient satisfaction,¹⁰⁰ and they have been found to reduce payments and the number of claims.¹⁰¹ Given the success of open disclosure programs, codes and

⁹⁸ Gijs van Dijck, 'The Ordered Apology' (2017) *Oxford Journal of Legal Studies*.

⁹⁹ Rick A.M. Iedema and others, 'The National Open Disclosure Pilot: evaluation of a policy implementation initiative' (2008) 188 *The Medical Journal of Australia* p.397 (finding strong support among patients and health care providers and providing suggestions to further improve open disclosure in the medical field); Cherri Hobgood and others, 'Medical Errors—What and When: What Do Patients Want to Know?' (2002) 9 *Academic Emergency Medicine* p.1156 (finding that a majority of patients wants full disclosure regardless of the severity of the mistake).

¹⁰⁰ Christine W. Duclos and others, 'Patient perspectives of patient–provider communication after adverse events' (2005) 17 *International Journal for Quality in Health Care* p.479 (effective communication after an adverse event increases patient satisfaction).

¹⁰¹ Steve S. Kraman and Ginny Hamm, 'Risk Management: Extreme Honesty May Be the Best Policy' (1999) 131 *Annals of Internal Medicine* p.963 (reporting that full disclosure at a Veterans Affairs medical system did not result in an increase in the number of liability claims nor in higher liability payouts); Steve S. Kraman and others, 'Advocacy: the Lexington Veterans Affairs Medical Center' (2002) 28 *Joint Commission Journal for Quality Improvement* p.646. See also Lorens A. Helmchen, Maureen E. Burke and

guidelines have been developed in order to urge physicians to disclose adverse events, and materials, guidelines, and communication and resolution programs have been developed for how to disclose.¹⁰² This information has emerged in various countries, including Australia, Canada, the UK, the US, and the Netherlands.¹⁰³

Despite the existence, implementation and success of open disclosure programs, disclosure of medical errors is limited.¹⁰⁴ Several causes have been identified which explain that limited disclosure: not knowing how to disclose, a lack of institutional support, expectations about the patient regarding his understanding of the disclosure or his willingness to really hear about the error and the fear of legal action.¹⁰⁵ Consequently, implementation clearly goes beyond regulation. It is not only about building a legal infrastructure, but also about how to use that infrastructure.

8. A Research Agenda

The mismatch between what tort victims pursue and what they can obtain shows tort law's limitations in addressing victims' needs. When the law is not capable of solving problems, there are two possibilities:

1. Conclude that the problem is not a problem that is to be addressed by the law.
2. Change the notion of law, so that, in its revised form, it is capable of solving the problem.

When exploring the latter, important challenges emerge regarding the dominance of the monetary perspective and the mismatch between what tort victims pursue and what they can obtain under the tort law system.

The challenges can be observed on various levels. At the *normative level*, questions arise as to how tort law can be modified in order to solve the mismatch. One possibility is to change how the concept of damages is defined and applied.¹⁰⁶ Damages

Janusz Wojtusiak, 'Designing highly reliable adverse-event detection systems to predict subsequent claims' (2015) 34 *Journal of Healthcare Risk Management* p.7 (finding that only a small portion of adverse event reports preceded a subsequent claim and that prediction algorithms can assist in screening which reports are likely to result in a claim).

¹⁰² Van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases' (providing references).

¹⁰³ Ibid (providing references).

¹⁰⁴ Albert W. Wu and others, 'Disclosure of Adverse Events in the United States and Canada: An Update, and a Proposed Framework for Improvement' (2013) 2 *J Public Health Res* p.186 (reviewing the empirical evidence and providing further references).

¹⁰⁵ Van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases' (providing references).

¹⁰⁶ Gijs van Dijck, 'Naar een nieuw schadevereiste in het aansprakelijkheidsrecht: Over herstel binnen de ontstane toestand, een toekomstgerichte maatstaf en een herstelgerichte én restitutiegerichte benadering' (2016) 91 *Nederlands Juristenblad* p.1608; Gijs van Dijck, 'Emotionele belangen en het

are commonly determined and calculated by means of the *Differenzhypothese* (difference theory). In this way, the situation the victim is in is compared to the situation the victim would have been in had the event (wrong) not occurred. As a result, applying this difference test can cause tension when a plaintiff seeks non-monetary relief such as an apology, disclosure or recognition, as such relief does not put the victim back in the situation he would have been in had the injustice not occurred.

The difference test does not function properly in some instances of financial compensation either, for example in instances where a victim suffers severe personal injury that consists of disablement or mental impairment. If the victim is a young child, it is often impossible to predict what would have happened had the wrong not occurred. This is partly a practical problem – how can damages be assessed in uncertain situations? – but it is also a conceptual problem, considering the mismatch between what victims seek and the restoration to the ‘would be’ situation that tort law offers. Instead, a forward-looking test that looks at the opportunities and possibilities (capabilities) that the victim still has in terms of personal autonomy might be more suitable in such instances than the backward-looking test. In the example of the child, a forward-looking test would need to ask: what does he need to lead a life with opportunities, to develop himself? Developing such a forward-looking test is challenging, as it requires a different reference point: if it is not the ‘would be’ victim who serves as the point of reference, which hypothetical victim does? How does a forward-looking test relate to the current difference test?

Moreover, the question may be raised as to whether the concept of remedy needs to be reformulated, as it is aimed at putting the person who was wronged back in the position that that person would have been in if the wrong had not taken place.¹⁰⁷ What should remedy consist of? Should it be limited to remedying the financial situation? Could remedy also be seen as a response that takes away the hurt rather than merely the negative financial consequences, and if so, to what extent? What would the implications of an alternative interpretation of the concept of remedy be? How would it relate to the more forward-looking test of the concept of damages? Research should further explore a forward-looking test and examine the necessity of reformulating the concept of damages.

A forward-looking test also triggers the question of whether existing duties should be expanded. Duties to inform, duties to warn and duties of care mostly focus on the pre-harm or pre-wrong period. A duty to inform, for example, is commonly imposed on a person to prevent certain harm or losses. ‘After harm’ duties are less common, but

aansprakelijkheidsrecht: Over schade en herstel binnen de ontstane toestand in plaats van in de oude toestand' (2015) 90 NJB p.2530.

¹⁰⁷ For example, article VI.6:101(1) of the Draft Common Frame of Reference (DCFR); B. Winiger and others, *Digest of European Tort Law: Essential Cases on Damage*, vol 2 (De Gruyter 2011), 18 (Germany), 21 (Austria, Switzerland), 26 (France), 33 (Spain), 37 (England and Wales), 43 (Norway), 44 (Sweden), 52 (Lithuania), 60 (Hungary), 63 (Romania), as well as Supreme Court January 11, 2013, ECLI:NL:HR:2013:BX9830, *NJ* 2013, 48.

possibly desirable to accommodate other needs than financial ones. Would it be preferable to have remedies that include a duty to apologize, a duty to acknowledge a wrong or a duty to disclose? If so, what should such duties entail? What should happen if a duty is violated? ‘After harm duties’ are uncommon and perhaps unprecedented, but worth exploring.

Research should pose the question of whether procedures and remedies should be modified in order for tort law to improve the facilitation of victims’ needs, and if so, how? The research on priest abuse cases suggests that it is possible to make such changes.¹⁰⁸ The study on court-ordered apologies has revealed that even ordered apologies can serve important purposes for victims and society as a whole.¹⁰⁹ In addition, evidence from open disclosure programs suggests that openness after an adverse event, which includes an admission of fault, an apology and measures to prevent future wrongdoing, may be the best available remedy to truly compensate victims and to achieve prevention other than through monetary incentives.¹¹⁰ Is it possible to create a tort law based on similar principles? As empirical research in the medical field has demonstrated, and was confirmed in the study on priest abuse cases, answering this question may require a holistic approach that not only includes a change of rules, laws, and remedies, but also a change of mentality through education, training, and openness. This type of research does pose methodological challenges, as it is not clear how this type of research should be conducted in a reliable and convincing way.

Furthermore, questions arise at *European level*. The *European Convention on Human Rights* (ECHR) and the *European Court of Human Rights* (ECtHR) are important vehicles for creating a legal infrastructure that allows the mismatch between what victims pursue and what they can obtain in ordinary tort law to be remedied. The ECHR contains several provisions that could assist in the harmonization and integration of tort law where it comes to non-monetary needs. The ECtHR has already, albeit carefully, paved the way for court-ordered apologies.¹¹¹ Moreover, the ECtHR has given the victim standing and has found violations of Article 13 (right to an effective remedy) in instances where relatives were denied a claim by their domestic courts to hold someone responsible or liable after an injustice.¹¹²

Nevertheless, the potential of the right to an effective remedy (Article 13) seems to be restricted by the monetary focus of the concept of ‘just satisfaction’ (Article 41). As explained above, the *Practice Directions* give a rather narrow interpretation of the concept of ‘just satisfaction’, as it may be afforded in respect of: (a) pecuniary damage;

¹⁰⁸ Van Dijck, 'Victim-Oriented Tort Law in Action: An Empirical Examination of Catholic Church Sexual Abuse Cases' (forthcoming 2017).

¹⁰⁹ Van Dijck, 'The Ordered Apology'.

¹¹⁰ See Section 7.

¹¹¹ Van Dijck, 'The Ordered Apology' (providing examples).

¹¹² Gijs van Dijck and Madalena M. Narciso, *Just Satisfaction is Not an Effective Remedy* (in preparation).

(b) non-pecuniary damage; and (c) costs and expenses.¹¹³ Considering the case law, which suggests that rights pursuant to the ECHR can be violated even if the victims' monetary losses have already been compensated, perhaps Article 41 itself is not an effective remedy.¹¹⁴ What if Article 41 also allowed the European Court of Human Rights (ECtHR), like the Inter-American Court of Human Rights (IACtHR), to award non-monetary relief, including an apology, information about what happened, an explanation or a statute for victims?¹¹⁵ What would such an approach result in? How would it shape domestic law?

At a more *fundamental level*, questions arise with respect to how a tort law that is not dominated by the monetary perspective, that provides more opportunities for including non-monetary needs and relief and that is also forward-looking, could be justified. Existing theories such as corrective and distributive justice, like tort law itself, have a strong monetary focus. The current concepts of damages and remedy are derived from corrective justice. Are these theories reconcilable with a tort law that is more welcoming to non-monetary needs? If the theories need to be modified, how? Incommensurability involves making difficult moral decisions.¹¹⁶ Research should expose the moral decisions and find ways to deal with them. Research at the fundamental level is important, as 'there is nothing more practical than a good theory'.¹¹⁷

At the *empirical level*, what should be analyzed is what a future-oriented criterion for assessing damages may look like. In practice, some insurers and medical experts have been promoting and applying a recovery-oriented approach that focuses on the needs of the victim, regardless of, for example, causality issues. It would be interesting to explore and identify different types of need-based approaches and to examine their effectiveness: do these different approaches have an effect on how well or how quickly victims recover and on the amount of damages paid to the victim?

Addressing non-monetary needs can be complicated. Such needs are highly personal, making it difficult to detect them and to provide adequate relief. The priest abuse study suggests that the practices of the adjudicators differed and that some practices were more successful at resulting in non-monetary relief than others. An interview study should reveal which differences explain whether and to what extent adjudicators are willing and able to provide non-monetary relief. This knowledge could provide valuable input for shaping the application of the law and how to overcome the monetary focus.

Non-monetary relief also has downsides. It has been argued that providing non-monetary relief prior to the decision is detrimental to the apologizer's case, as it may be

¹¹³ Rules of Court September 19, 2016 (Practice Directions) on Article 41 (Just Satisfaction) <www.echr.coe.int/Documents/PD_satisfaction_claims_ENG.pdf> (last accessed July 17, 2017).

¹¹⁴ Van Dijck and Narciso, *Just Satisfaction is Not an Effective Remedy*.

¹¹⁵ *Ibid.*

¹¹⁶ Katz, 'Incommensurable Choices and the Problem of Moral Ignorance'.

¹¹⁷ Kurt Lewin, *Field Theory of Social Science: Selected Theoretical Papers* (Tavistock 1951), p.169.

seen as an admission of fault, consequently establishing liability.¹¹⁸ Is providing non-monetary relief, such as an apology prior to the decision of the court, actually detrimental to the one's case? Does this mean that victims will claim more frequently after having received an apology, or less frequently? Research on open disclosure programs in the medical field suggests the latter, but more empirical evidence needs to be gathered. Answers to these questions may provide building blocks for alternative procedures such as the procedure for victims of priest abuse.

The empirical questions require the use of various methodologies, including empirical research, and perhaps even comparative-empirical research. Some consider empirical legal research as a novel type of research. I would like to go beyond 'ordinary' empirical methods and further expand the toolbox of legal researchers. The *Case Law Analytics* project which aimed to visualize network structures among court decisions is a stepping-stone towards the integration of technology in legal research.

9. Final Remarks

In baseball, various statistics were developed, but many did not make their way on to the field for a period of time, as managers and coaches controlled the on-field decisions.¹¹⁹ The situation may be similar in the legal field, where researchers and practitioners lack an empirical perspective and the tools to conduct, interpret and assess empirical research methodology. It will therefore be important to highlight the possibilities of empirical legal research and legal analytics. The textbook on empirical legal research methodology (with Jacques Hagenaaers) which is in the process of being written contributes to this highlighting of empirical legal research. The *Empirical Legal Studies initiative* (ELSi), part of the *Ius Commune Research School*, provides a platform where researchers can seek assistance when drafting or conducting empirical legal research. The proof is, however, in the pudding. In my future work, I hope to continue applying novel methodologies, techniques and technologies to legal issues, for example with respect to the issue of non-monetary needs in tort law.

With these final remarks, I have arrived at the end of this lecture. I would like to thank the University's Executive Board and the Dean of the Faculty of Law for appointing me. Appreciation also goes to my colleagues in and outside the Maastricht Law Faculty,

¹¹⁸ E.g. Thomas H. Gallagher and others, 'Patients' and Physicians' Attitudes Regarding the Disclosure of Medical Errors' (2003) 289 JAMA p.1001; Rae M. Lamb, 'Hospital Disclosure Practices: Results of a National Study' (2003) 22 Health Aff p.73 (arguing that tort defendants cite fear of litigation or liability as preventing them from apologizing); Jonathan R. Cohen, 'Advising Clients to Apologize' (1999) 72 S Cal L Rev p.1009 (claiming that insurance companies instruct their clients or customers not to apologize).

¹¹⁹ Sawchik, *Big Data Baseball: Math, Miracles, and the End of a 20-Year Losing Streak*, p.15.

particularly my colleagues in the Private Law department. Together with you, I hope to spark students' curiosity and to guide them through their journey whilst continuing ours.

Ik heb gezegd.