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THE IMPACT OF GUIDO CALABRESI ON LAW AND ECONOMICS SCHOLARSHIP

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INTRODUCTION: THE IMPACT OF GUIDO CALABRESI ON LAW AND ECONOMICS SCHOLARSHIP

On November 7, 2008, the Erasmus University Rotterdam conferred the title of Doctor *honoris causa* upon Guido Calabresi, Judge of the US Court of Appeals for the Second Circuit, Sterling Professor Emeritus, and former Dean of Yale Law School. With the awarding of this doctorate, the Erasmus School of Law wanted to honour Guido Calabresi for his extraordinary intellectual achievements in the field of Law and Economics. This special issue of the *Erasmus Law Review* is published on the occasion of the award of the honorary doctorate to Guido Calabresi. The issue contains four contributions, all written by European authors, which show how Calabresi's writings have had a profound impact on legal scholarship and judicial decision-making not only in the US but also in Europe.

Guido Calabresi is unanimously recognised as a founding father of the Law and Economics movement. Economic analysis began to penetrate the legal debate in fields of law that are usually referred to as 'economic law', such as competition law and economic regulation of sectors of industry. It later became apparent that economic insights are equally relevant for analysing problems in other areas, including private law. Meanwhile, economic analysis of law has proven to be an extremely powerful methodology to better understand the ways in which legal rules develop their outcomes and to assess their real-life effects. Guido Calabresi's seminal publications on private law significantly contributed to the beginning of this new intellectual enterprise. His insights have become established as indispensable for understanding the rationale of legal rules and his analytical toolkit has become prominent in legal scholarship. Indeed, any student wishing to embark on the field of Law and Economics must become familiar with the work of two intellectual heroes: the first is Ronald Coase, who received the Nobel Prize in Economics in 1991; the second is Guido Calabresi, who elaborated on Coase's central ideas and integrated them into a general framework for discussing legal problems.

It is not possible within the limited scope of this Introduction to provide a full overview of Calabresi's impressive intellectual work. Instead, the focus will be on two contributions, each of which had a decisive impact

on the development of Law and Economics research. Calabresi's first groundbreaking article is entitled 'Some Thoughts on Risk Distribution and the Law of Torts';¹ together with a later article co-authored by Jon Hirschoff,² it is one of the most cited articles of the *Yale Law Journal*. In these articles and the ensuing book *The Costs of Accidents*, Calabresi laid the foundations of the economic analysis of tort law.³ Tort lawyers tend to see compensation as the main goal of liability rules. In Calabresi's view, the major goal of liability rules is to minimise the costs of accidents. These costs can be divided into three categories: primary accident costs are determined by the number and severity of accidents; secondary accident costs materialise in the absence of optimal risk-spreading; and tertiary accident costs are the costs incurred by the legal system to establish and enforce liability. This powerful framework of analysis is able to accommodate concerns of both efficiency and justice. Efficiency is enhanced by deterring harmful activities and thus reducing primary costs of accidents. Justice considerations find their place when the goal of optimal risk-spreading (in other words, the reduction of secondary costs) is assessed. To reduce primary and tertiary costs, Calabresi developed his well-known concept of the 'cheapest cost avoider'. Liability should be the responsibility of the actor who is in the best position to make the cost-benefit analysis between accident costs and accident avoidance costs and to take preventive measures if they are cheaper than the avoided accident costs. Up until the present, the framework developed in *The Costs of Accidents* has provided a powerful structure to organise discussions on the strengths and weaknesses of diverging liability rules in various areas of tort law, ranging from traffic accidents to medical malpractice and environmental harm.

Guido Calabresi is also the main author of the most cited paper in Law and Economics. Together with Douglas Melamed, he wrote the seminal contribution 'Property Rules, Liability Rules and Inalienability: One View of the Cathedral'.⁴ This article is an important extension of the original ideas of Ronald Coase, which have become known as the Coase Theorem. Coase's insights can be best understood as a criticism of the Pigouvian approach towards externalities. In Pigou's view, externalities could be internalised by levying taxes on harmful activities. Coase criticised this view, arguing that externalities are reciprocal and that the initial allocation of property rights

¹ G. Calabresi, 'Some Thoughts on Risk Distribution and the Law of Torts' (1961) 70 *Yale Law Journal* 499.

² G. Calabresi and J.T. Hirschoff, 'Towards a Test for Strict Liability in Torts' (1972) 81 *Yale Law Journal* 1055.

³ G. Calabresi, *The Costs of Accidents: A Legal and Economic Analysis* (New Haven: Yale University Press 1970).

⁴ G. Calabresi and A.D. Melamed, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) 85 *Harvard Law Review* 1089.

has no impact on efficiency in the absence of transaction costs.⁵ Consequently, the legal system may contribute to efficiency by decreasing the size of the transaction costs. If transaction costs are prohibitively high, the initial allocation of property rights will be final and inefficiencies cannot be corrected through the market mechanism. Guido Calabresi carried this approach further by introducing the distinction between property rules and liability rules and by assessing the efficiency of either rule in the presence of transaction costs. This distinction, which can be seen as a sophisticated development of the Coase Theorem, has become one of the most prominent analytical tools for analysing protection of entitlements in various fields of law.

Property rules and liability rules are alternative ways to protect legal entitlements to scarce resources. A property right entitles the owner to stop infringements of his or her right without prior consent. The property rule guarantees that the transfer of a right is voluntary, and transactions can take place only if they increase the utility of the parties concerned (joint welfare maximisation). Liability rules do not prevent entitlements from being infringed, but the infringer is forced to pay compensation. In the latter case, the court will fix the amount of damages due for carrying out an involuntary transaction. If transaction costs are low, property rules allow consensual transactions, and the price for the transfer of the right will reflect both parties' subjective valuation and the relative bargaining power. If an entitlement is protected only by a liability rule, this gives incentives to third parties to take the entitlement upon payment of damages whenever its value for the third party is higher than the damage compensation. In principle, this compensation should be equal to the reservation price of the holder of the entitlement. Calabresi and Melamed have argued that such involuntary transactions are desirable whenever transaction costs are high and the market for the transfer of rights does not work efficiently. As the most cited article in Law and Economics scholarship, 'One View of the Cathedral' has initiated a very broad literature. The distinction between property rules and liability rules has proven to be useful for understanding different types of legal protection of entitlements in various fields of law, ranging from nuisance and environmental to intellectual property law and the legal protection of privacy. Differences in the size of transaction costs or difficulties in calculating amounts of compensation may explain differences in legal protection by means of either a property rule or a liability rule. This distinction also informs the normative debate about the most appropriate way to protect legal entitlements.

⁵ R.H. Coase, 'The Problem of Social Costs' (1960) 1 *Journal of Law and Economics* 3.

Several decades have passed since *The Costs of Accidents* and ‘One View of the Cathedral’ were published. Since the time of Calabresi’s early writings, different approaches have meanwhile established themselves in the Law and Economics landscape. One branch of literature focuses on the question of whether legal rules achieve the goal of economic efficiency. A strong emphasis on efficiency as a normative goal of the law was absent in the earliest Law and Economics contributions. Ronald Coase criticised traditional economic theories for their inability to explain real-world phenomena. He became interested in the study of law because knowledge of legal rules and institutions may enable economists to refine their economic models and increase their explanatory power. Whereas, in the Coasian approach, legal rules are analysed to enrich economic analysis, the relation between the legal and the economic thought changed in later writings that are often associated with the Chicago School. For Chicagoans, the central question is whether the law achieves effects that are in conformity with the goal of economic efficiency. According to this approach, economic criteria tend to become dominant and law risks being reduced to a passive object of study. Thus far, Guido Calabresi has steadfastly opposed any ranking of the two disciplines. In his view, it is crucial to reconcile economic approaches inspired by efficiency concerns and legal approaches that rely mostly on concepts of justice. By contrast, if efficiency is seen as the dominant value, many lawyers may be unwilling to engage in an interdisciplinary debate with economists.

New developments in Law and Economics entail an additional risk that may cause lawyers to be reluctant. Another branch of recent Law and Economics literature is dominated by economists who bring into play highly sophisticated economic models and who are intolerant of non-formalised arguments. This approach runs the risk of losing the link with the legal component and of being totally devoid of practical relevance for legal policy-making. By going back to the origins of the economic approach to law, as it was developed by Coase and Calabresi, both above-mentioned impediments to a fruitful interdisciplinary dialogue may be overcome. Lawyers should be open to economic arguments, but at the same time economists should bear in mind that economic approaches must accommodate concerns for justice. Moreover, it should be avoided that Law and Economics becomes a playground for highly skilled theoretical economists who no longer draw their inspiration from the desire to clarify legal practice.

This special issue of the *Erasmus Law Review* includes four articles that highlight the impact of Calabresi’s writings on legal scholarship and judicial decision-making, not only in the US but also in Europe. The first contribution, by Roberto Pardolessi and Bruno Tassone, aims to trace the impact of Calabresi’s ideas on Italian tort law. The authors present and comment on opinions that display the influence of Calabresi’s thought on

Italian case law. It appears that Italian judges are quite sensitive to Law and Economics insights. While in some judgments their reasoning only implicitly reveals economic wisdom, in others the reference to economic analysis is explicit and the Calabresian ‘cheapest cost avoider’ principle is mentioned overtly. Moreover, in nuisance cases, judges opt for property right protection when transaction costs are low. This is fully in line with the insights contained in Calabresi and Melamed’s ‘View of the Cathedral’.

The second and the third contribution in this special *Erasmus Law Review* issue illustrate the strength of the property rule/liability rule distinction as an analytical tool for explaining changes in legal protection of entitlements. In their contribution, Claus Ott and Hans-Bernd Schäfer discuss two examples from German civil law. At the beginning of the 19th century, land owners enjoyed property rights protection against polluters. However, when it became clear that private transactions were often impossible and that the injunctions caused huge economic losses, legislation and case-law gradually replaced the property rule with a liability rule. An opposite evolution took place in German privacy law. This is a field in which private transfers of rights are easy and transaction costs are low. Since privacy was only weakly protected, the development of modern mass media led to an ever increasing number of involuntary transactions. Ott and Schäfer show that this evolution triggered a wave of claims and caused a series of far-reaching court decisions, which aim at making involuntary transactions unprofitable.

In the third article, Ben Depoorter describes an emerging shift from property rule protection to liability rule solutions in US patent law and analyses more generally the causes of this trend in patent law. He argues that this shift is best understood by considering the relative impact of property and liability rules on economic welfare. A number of factors that work against liability rules similarly affect property rules and private bargaining. These factors include difficulties in valuing innovation, as well as difficulties in establishing the boundaries of patents and resolving the externalities involved in patent licensing. Depoorter concludes that patent market failure strengthens the case for liability rules that provide follow-up innovators access to patents, while eliminating the detrimental effect of the anti-commons.

The fourth contribution is by Michael Faure, who establishes a link between Calabresi’s work and the recent Behavioural Law and Economics literature. Decision-making often takes place in a different way than is assumed by traditional economic models, which rely on the rationality assumption. Current economic approaches to tort law are more differentiated and flexible than the early formal economic models. This allows taking into account different kinds of cognitive limitations. Faure demonstrates that Guido Calabresi was already aware of cognitive limits in his early

publications, which led him to balanced normative conclusions. Since Calabresi anticipated future criticisms of the rational choice model, he may be considered a ‘behaviouralist avant la lettre’. In summary, the four contributions in this special issue confirm Guido Calabresi’s role as an intellectual hero in the development of Law and Economics. It is for his extraordinary achievements that the Erasmus University has chosen to confer upon him the doctorate *honoris causa*.

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GUIDO CALABRESI ON TORTS: ITALIAN COURTS AND THE CHEAPEST COST AVOIDER

Roberto Pardolesi^{*}
Bruno Tassone^{**}

Abstract

Guido Calabresi proposed to replace the dominating paradigm of fault with simpler strict liability rules that put liability on the most appropriate actors (the cheapest cost avoiders). Assuming that the objective function of the tort system is the minimization of the sum of the injury and injury avoidance costs associated with accidents (primary costs), risk-spreading costs (secondary costs), and administrative costs (tertiary costs), he suggested that the adoption of strict liability, targeted to specified activities, would achieve the goal of cost minimization. The core of an extremely richer message was that the cheapest cost avoider test would abate the administrative costs of courts. Moreover, the manufacturers' ability to spread the costs of strict liability through the prices charged for their products would effectively insure product users against the risks of injury. This masterpiece of normative analysis has deployed an ever increasing influence on thinking about tort law, not only in the US but also in Europe. This paper aims to trace the impact of Calabresi's ideas on Italian case-law. After a brief introduction, section 2 outlines the methodology adopted in the research. The following sections, 3 to 13, present (and cursorily comment on) the

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opinions which display the influence of Calabresi's thinking. Section 14 summarizes and concludes.

1 Introduction

Guido Calabresi is recognised unanimously as one of the founding fathers of the Law and Economics (L&E) movement. His seminal articles and the derivative 'fresco' spelled out in *The Costs of Accidents* contributed significantly – with the parallel works of Ronald Coase, Gary Becker, Henry Manne, Richard Posner, and Pietro Trimarchi (to cite several of his esteemed peers¹) – to the start of a new intellectual enterprise that has proven to be extraordinarily challenging.

Many studies aim to offer an apologetic scrutiny of developments in L&E, with the most recent including contributions authored by Francesco Parisi,² Eli M. Salzberger,³ and Alessandra Arcuri.⁴ Even more numerous are those authors who have volunteered to construct a dedicated opposition. Critics and criticisms have always been abundant, as have Cassandras, claiming that the edifice's foundation has long since disappeared into the sand (Ernest Weinrib⁵), that the movement has peaked (Morton Horwitz⁶), that L&E is sick and spreads sickness (Leonard Jaffee⁷), and that it is not an edifice at all, just sand (Anita Bernstein⁸). True is that, despite its intuitive appeal, the economic analysis of law is no less controversial than the underlying economic theory.

¹ On the origins of the L&E movement cf., *ex multis*, A. Arcuri and R. Pardolesi, 'Analisi Economica del Diritto' (Economic Analysis of Law) in F. Parisi, *Enciclopedia Giuridica* (Milan: Giuffrè 2002) 7; and, for direct testimonies, F. Parisi and C.K. Rowley (eds.) *Origins of Law and Economics: Essays by the Founding Fathers* (Cheltenham: Edward Elgar Publishing 2005).

² F. Parisi, 'Positive, Normative, and Functional Schools in Law and Economics' in J.G. Backhaus (ed.) *The Elgar Companion to Law and Economics* (Cheltenham: Edward Elgar Publishing 2005) 58.

³ E.M. Salzberger, 'The Economic Analysis of Law – The Dominant Methodology for Legal Research?!', *University of Haifa Faculty of Law Legal Studies Research Paper No. 1044382* (2007) available at <http://ssrn.com/abstract=1044382>.

⁴ A. Arcuri, 'Eclecticism in Law and Economics' (2008) 1 *Erasmus Law Review* 60.

⁵ E. J. Weinrib, 'Understanding Tort Law' (1989) 23 *Valparaiso University Law Review* 485 at 487.

⁶ M.J. Horwitz, 'Law and Economics: Science or Politics?' (1980) 8 *Hofstra Law Review* 905.

⁷ L.R. Jaffee, 'The Troubles with Law and Economics' (1992) 20 *Hofstra Law Review* 777 at 779.

⁸ A. Bernstein, 'Whatever Happened to Law and Economics' (2005) 64 *Maryland Law Review* 303.

Were the future to be bet on, it is possible we would be conditioned by the vivid perception that the basic tenet of the mainstream approach – rational choice, people acting to best obtain what they want, given what they believe about the circumstances – is under mounting attack. A large and growing body of empirical evidence reveals that people often fail to live up to the *homo oeconomicus* paradigm and they take actions that conflict with how standard economic theory predicts they would look after their interests.⁹ Why bother then with models based on assumptions that do not reflect the main features of reality?

In a different but concurring vein, the problem is exacerbated by the rampant wave of L&E, composed of economists who bring with them sophisticated analytical tools while remaining intolerant towards ‘unstructured’ informal arguments. Today, a large and growing segment of L&E work involves formal modelling or technical empirical studies. However, this implementation risks severing the link with the origins and, even worse, with the legal component altogether. The implications are devastating, since economists might end up doing work substantially detached from that of legal institutions. One might wonder whether this path ultimately paves the way towards a process of divergence, which would be at odds with the original interdisciplinary inspiration of L&E, while shutting the door to further developments.¹⁰ The worst-case scenario is a completely auto-referential endeavour, which identifies key research questions and hot topics in a totally independent way, instead of drawing inspiration from the desire to clarify legal practice.

Be that as it may, and leaving aside the troubling question of whether L&E is an aging giant whose time has largely passed, it should be borne in mind that, as Henry Manne reminds us:

The original approach was simply a marginal (jurisprudentially speaking) movement from what most legal realist-oriented law professors were already doing but, alas, doing very badly. They were trying to explain why one rule of law was better than another [...], but the focus was always on improving the law and not on showing the

⁹ For a general overview of the role of empirical analysis, see T. Ulen, ‘The Unexpected Guest: Law and Economics, Law and Other Cognate Disciplines, and the Future of Legal Scholarship’ (2004) 79 *Chicago-Kent Law Review* 403. With specific regard to the empirical debunking of the rational choice paradigm, citations appear superfluous: experiments in behavioral economics, since Daniel Kahneman and Amos Tversky founded the field with their seminal 1979 paper, ‘Prospect Theory: An Analysis of Decision under Risk’ 47 *Econometrica* 313, are almost countless.

¹⁰ Cf. H.G. Manne and J. D. Wright, ‘The Future of Law and Economics: A Discussion’ (2008) *George Mason University Law and Economics Research Paper Series 08-35* available at <http://ssrn.com/abstract=1145421>.

methodological skills of the authors. This was the intellectual victory which revolutionized the law school world, and it was all because of [...] the power of economics, vastly greater than that of any other discipline, to resolve what had appeared to be purely normative issues in a positive way. It was the introduction to this kind of power that opened the eyes of many law professors back in the 1970s, and which I think still has the power to amaze people (including, alas, many economists) who are not familiar with economics' great analytical powers.¹¹

This was the archetypical inspiration and the recipe for success in the past – and should be, we believe, the lighthouse for the future. Guido Calabresi was perhaps the most genuine prophet with regard to this inspiration, even though, from the standpoint of a supposed – but questionable – orthodoxy, his very belonging to the movement has sometimes been doubted. No matter what happens to L&E, his contribution to frame our understanding of law has been enormous. In fact, the origin of the field rested on a broader view than the one sponsored by the Chicago School, which – despite the widespread identification with the 'lunatic fringe' blossoming on the shores of Lake Michigan – was not the movement's only cradle. Regardless of whether New Haven should be considered just a geographical alternative,¹² Calabresi offers a different perspective. His writing

focuses on welfare without perceiving it as a prize-fighter that has beaten or should beat a straw man, hapless fairness. It draws readers in with its clarity and reason, never trying to exclude or intimidate anyone. It is a model, indeed, of what law and economics scholarship can contribute in the eras following refutation of its core tenets: a wide social science that invites participants to consider the common good.¹³

Calabresi does not endorse the efficiency criterion as the polar star and the overwhelming value, but confines himself to suggesting that, when it comes to shaping the application of legal discourse, welfare should be factored in together with justice and fairness. Such a caution has been often interpreted as reluctance, if not a rejection of the L&E 'philosophy', while it should be deemed no more than a lack of empathy towards a certain way of conceiving the economic analysis of law. We can agree with Keith Hylton that "he tells us early on that economics is good for solving certain problems, but not all problems, especially those involving basic questions of identity or morality,"¹⁴ which urge the acceptance of the idea that the distribution of

¹¹ *Id.*

¹² As advocated by N. Mercuro and S. G. Medema, *Economics and the Law* (Princeton: Princeton University Press 2006, 2nd ed.) 284 ff, despite the scepticism of the supposed adherents.

¹³ Bernstein, above n. 8 at 308.

¹⁴ K.N. Hylton, 'Calabresi and the Intellectual History of Law and Economics' (2005) 64 *Maryland Law Review* 85 at 89.

wealth, not only its nominal creation, does matter. Though performing an economic analysis at the highest level of sophistication, he always shows – as stressed by Frank Michelman¹⁵ – an awareness of the machinery of law and government, and the limits of human rationality, which even the most pragmatic economists would lack.

After all, the very choice of topic in Calabresi's main work is revealing. Tort law was a pioneering field that had already been affected by economic insights, since the Learned Hand formula suggesting that negligence consists of the missed adoption of precautions that would cost less than the expected damage dated back to 1947.¹⁶ The economic analysis of tort law makes it clear that legal rules establish the environment for human activity. As a consequence, it demonstrates that economic tools – though falling short of presenting unmistakable solutions – may promote a better understanding of the way the law develops its outcomes. It is worth noting, as proof of a conceptual design that was definite from the very beginning, that this task was to be accomplished 'in terms that are intelligible to law teachers, if not to lawyers, and without that suicidal desire of the economist to make his theory so pervasive and detailed that it is rendered utterly useless to the lawyer who lives in the real world of men, and even to the law teacher, wherever he lives.'¹⁷

In the course of his writing devoted to tort law, Calabresi basically proposed replacing the dominating paradigm of fault with simpler, more direct, strict liability rules that, on a statistical basis, would place liability on the most appropriate actors – called the 'cheapest cost avoiders'. Assuming that the objective function of the tort system is to minimise the sum of the injury and avoidance costs associated with accidents (primary costs), risk-spreading costs (secondary costs), and administrative costs (tertiary costs), he suggested that the adoption of strict liability for specified activities would have promoted the minimisation of the sum of the above costs considerably more than the alternative approach. The core of Calabresi's message, which is extremely profound, was that the cheapest cost avoider test would abate administrative costs. This would result in the court simply determining

¹⁵ F.I. Michelman 'Pollution as a Tort: A Non-Accidental Perspective on Calabresi's Costs' (1971) 80 *Yale Law Journal* 647.

¹⁶ The rule stated in *United States v. Carroll Towing Co.* 159 F.2d 169 (1947) by Judge Learned Hand is considered the first application of a cost-benefit analysis to the legal system. Though handed down in plain English, the rule boils down to the formula $B < PL$, where B represents the cost necessary to avoid the accident, L is the amount of the loss if the accident materialises, and P is the probability that it will take place. Therefore PL is the expected cost of the accident or, in other words, the expected benefit of avoiding it.

¹⁷ G. Calabresi, 'Some Thoughts on Risk Distribution and the Law of Tort' (1961) 70 *Yale Law Journal* 499 at 500.

‘which of the parties is in the best position to make the cost-benefit analysis between accident costs and accident avoidance costs and to act on that decision once it is made’,¹⁸ without determining whether the injury should have been avoided (as required under negligence). Moreover – and here enters the distributional flavour – the manufacturers’ ability to spread the costs of strict liability through the prices charged for their products would effectively insure product users against the risks of injury.

This masterpiece of normative analysis has had an ever increasing influence on legal academia, and not only in the US.¹⁹ European tort law has dropped the unpretentious role to which it was relegated, when compared to the conceptual scope and prestige of contract law doctrines. It has started to attract attention as never before. The spirited texture of *The Costs of Accidents* has also, we believe, helped to change the judicial attitude, once again not only in the US. For several reasons, short of the specific features of the *civil law* tradition, the echoes on this side of Atlantic have been less tangible. Nonetheless, they occasionally surface. This is also the case in Italy, where the book had been translated already in 1975, thereby paralleling the independent research by Pietro Trimarchi, who had also advocated, on economic grounds, a principle of strict liability for risk of enterprise in some special cases of tort liability.²⁰

Notwithstanding the difficulties of detecting the influence of scholarly publications on adjudication, this paper aims to trace the impact of *Calabresian* teaching on Italian case-law. It is structured as follows: after this introduction, section 2 outlines the methodology adopted in the research; the following sections, from 3 to 13, present and briefly comment upon the opinions that, despite the formal prohibition of judges from quoting legal scholars under Italian law, display the influence of Calabresi’s thought; section 14 summarises and concludes.

¹⁸ G. Calabresi and J.T. Hirschoff, ‘Towards a Test for Strict Liability in Torts’ (1972) 81 *Yale Law Journal* 1055 at 1060.

¹⁹ Though increasingly impressive, the European movement has not yet been able to replicate the astonishing success in the US. After all, traditional scholars continue to resist the suggestion to look at the law from outside, which is one of the most important pieces of wisdom introduced by L&E, especially in Calabresi’s version. The ‘inside’ perspective, rejuvenating the dogmatic approach of the past two centuries, invites one to consider ‘alien’ whatever rings of functionalism, economic analysis, and the like. See for example K. Grechenig and M. Gelter, ‘Transatlantic Divergence in Legal Thought: American Law and Economics vs. German Doctrinalism’ (2007) *University of St. Gallen Law & Economics Working Paper* No. 2007-25, available at <http://ssrn.com>.

²⁰ P. Trimarchi, *Rischio e responsabilità oggettiva* (Milan: Giuffrè 1961).

2 Research Methodology

On the basis of recent studies, it appears that Italian judges are highly sensitive to L&E guidance, and often use it to decide interesting cases at any level of the judicial system. Ranging from the Constitutional Court to the Judges of Peace, decisions exist whose rationale is based on the achievements of the economic analysis of law.²¹ Needless to say, L&E principles are embedded in the relevant judgments with various ‘weights’ and with different degrees of recognition, contributing to the final decision in extremely varied ways. We propose to group them into the categories presented below.

In certain rare judgments, the application of L&E principles is straightforward and clearly defines the *ratio decidendi* as followed by the court. Adopting traditional views would have led to a different outcome or would have been insufficient to reach that outcome.

Other courts acknowledge and approve of L&E principles, although their decisions are also grounded on the current interpretation of the law. Their importance is to show the correspondence of application of the relevant rules based on a paradigm of efficiency with the traditional interpretation. This also demonstrates the silent inclination of legal systems towards economically sound solutions.

Some judges are less brave, and abide by L&E principles without referring to them. Their reasoning and the arguments used cast doubts on the real role of economic analysis. Tacit adherence should not be overstated. Quite often, judges are simply unaware of L&E principles. Thus, it would not be correct to include these decisions within the group of those where L&E is actually working behind the scenes.

Sometimes courts use expressions such as ‘free market’, ‘apportionment of risk’, and the like, but an economic reasoning is either not developed, missing altogether, or has no bearing on the outcome of the dispute. A variation on the theme is offered by judges who pay tribute to L&E scholarship by fully recalling its doctrines, while issuing statements that are, at the end of the day, only ‘compensation’ for or that pay ‘lip service’ to the judgment. Again, such a use of L&E contributes nothing to the solution of the case.

As to the area of the law of torts, it is worth noting that many relevant decisions fall within the first two categories mentioned. They

²¹ See R. Pardolesi and B. Tassone, ‘I giudici e l’analisi economica del diritto privato’ (Bologna: Il Mulino 2003); Id., ‘I giudici e l’analisi economica del diritto privato due anni dopo’ in *Mercato concorrenza e regole* (Bologna: Il Mulino 2005) 579 ff.

underline the intense (or rather necessary) link between the law of torts and L&E principles. Many of these judgments elaborate on the cheapest cost avoider principle or otherwise express a significant reception of Calabresi's tenets. The following overview will highlight this influence by examining decisions already commented upon in Italian law journals as well as those that are unpublished and are offered here to the reader for the first time.

To stress how widespread and multi-faceted the influence of L&E and Calabresi's notions can be, we will not display the judgments pursuant to the 'ranking' proposed above but will follow the order of the Italian Civil Code (hereinafter c.c.). In this way we will be able to show the link between economic analysis and the traditional structure of tort law. Therefore, we will start with decisions dealing with the general clause of article 2043 c.c., then we will move to opinions applying the special liability provisions embodied in articles 2048-2054. We will conclude by discussing cases in which only the amount of damages is at stake.

Finally, as the reader will notice, many of the decisions that are going to be commented upon deal with highly debated issues, ranging from passive smoking litigation to medical malpractice, from exposure to toxic substances to motor-vehicle circulation. This shows, from a different angle, the kind of contribution that both L&E and Calabresi's school of thought can give to the social engineering carried out by the law of torts.

3 Function of the Law of Torts

A good starting point for our overview is offered by judgments that explicitly recall the economic function of the law of torts. In this regard, attention can be drawn to a remarkable decision of the Tribunal of Venice, issued on January 20, 2003, which relates to an accident that occurred in a school.²²

The parents of a minor sued the Minister of Education because, while performing the scheduled physical exercise under the supervision of the teacher, their daughter fell heavily against the glass wall of the gym and was severely injured. The facts were fully proven at the trial, but the Court did not consider article 2051 c.c. applicable. This provision covers a specific hypothesis of liability for damages caused by things under custody. The causal relation between the 'thing' under custody and the damage was not demonstrated, because the child did not fall by stumbling into a specific object or because of a slippery floor.²³ Article 2048 c.c., which envisages a

²² *Id.* at 89 ff.

²³ Article 2051 c.c. reads as follows: 'Everyone is liable for injuries caused by things in his custody, unless he proves that the injuries were the result of a fortuitous event.' All translations of the Italian Civil Code provisions quoted in this paper are

specific hypothesis of liability of teachers for damage caused by pupils, was also held to be non-applicable, in line with the case-law of the Supreme Court, which requires that the injury be suffered by another person (even by another student) and not by the pupil himself.²⁴

The defendant's liability for the said accident was grounded on the general provision of article 2043 c.c.,²⁵ considering that:

It has been ascertained that not only the lack of organization [*of the school*] according to the required standard of care but even the violation of the destination of the room planned in the project of the building. It would have been irrelevant if specific measures had been taken, but they had not, as the only precaution carried out consisted of moving away the sink previously installed under the windows, while unbreakable glass began to be used only after the accident. This fact itself proves that the accident was fully foreseeable and that the Public Administration was negligent.²⁶

Furthermore, the judge elaborates his decision by arguing:

The decision is consistent with economic efficiency: that is, the balance between aggregated social benefits and costs, because the cost of the accident is borne by the one in the best position to control the risk and to invest in precautions apt to reduce it, without mentioning the possibility to apply for insurance. In this case, the cost of the accident would be spread among users because of the likely increase of the cost of the service, or among all people insured. Both solutions are much better than leaving the damage where it falls, also considering that in the case at stake the victim could not take any precaution or perhaps, overestimating the risk, she would give up the gymnastic class. In both cases the solution would be inefficient.

The application of article 2043 c.c. and the subsequent shift of risk are led, no doubt, by L&E insights. The cheapest cost avoider principle is explicitly referred to. It is worth noting that, in the case dealt with by the tribunal, the

taken from S. Beltramo, *The Italian Civil Code* (Dobbs Ferry, New York: Oceana Publication 2007-2008).

²⁴ Article 2048 c.c. reads as follows: 'The father and mother, or the guardian, are liable for the damage occasioned by an unlawful act of their minor emancipated children, or of persons subject to their guardianship who reside with them. The same provision applies to a parent by affiliation. Teachers and others who teach an art, trade, or profession are liable for the damage occasioned by the unlawful act of their pupils or apprentices while they are under their supervision. The persons mentioned in the preceding paragraphs are only relieved of liability if they prove that they were unable to prevent the act.'

²⁵ Article 2043 c.c. reads as follows: 'Any fraudulent, malicious, or negligent act that causes an unjustified injury to another obliges the person who has committed the act to pay damages.'

²⁶ All translations of passages of Italian judgments were made by the authors.

victim could not have taken any precaution on her own, apart from abandoning the involved activity and its related benefits. This implies that a decision leaving the prejudice on the victim would have missed the goal of minimising the sum of the primary costs (injury and avoidance) associated with the accident, and would have elicited undesirable consequences in terms of ‘signals’ – quite a fruitful activity for no other reason than a burden external to the activity itself – conveyed to society.

4 Pure Economic Loss and Third-party Liability towards the Employer for Damages Caused to the Employee

In the mid-1980s, the Supreme Court issued an important decision – No. 4550, dated August 26, 1985 – with regard to the claim brought by an employer against the person responsible for a car accident that resulted in one of his employees being unable to perform his duties for several months.²⁷

The facts refer to a typical situation known as ‘tort protection of credit’ cases in Italian law. The employer cannot enjoy the employee’s activity but remains under the obligation to pay the monthly salary and social security.

After the claim was rejected by both the trial court and the court of appeal, the Supreme Court found that the cause of action was not grounded on the illicit interference by a third party (the car driver) with the employee-employer relationship, but rather on the ‘economic loss, represented by the payment of the salary without the corresponding performance of the employee.’ In short, the damage is directly caused to the employer, since

the issue is not the breach of the credit [*scil. of the employer towards the employee*], but the recovery of the economic loss, due to the payment of the salary without the corresponding performance of the employee. [...] Then the rule followed by this Court is not applicable, and according to which if a credit of one of the parties of the contractual relationship is breached by a third party, the right to compensation for damages set forth by article 2043 c.c. is limited – by the principle stated in article 1223 c.c. – to the damages that are an immediate and direct consequence of the wrong, pursuant to a strict nexus of causality.²⁸

²⁷ In *Foro italiano* (1985) I, 2886, with a comment by R. Pardolesi, ‘Invalidità temporanea del dipendente, illecito del terzo, «rivalsa» del datore di lavoro (ovvero: l’analisi economica del diritto in cassazione).’

²⁸ Article 1223 c.c. reads as follows: ‘The measure of damages arising from non-performance or delay shall include the loss sustained by the creditor and the lost profits insofar as they are a direct and immediate consequence of the non-performance or delay.’

Therefore, when the conduct of a third party affects an employment relationship it has to be determined in fact, case by case, whether the lack of performance of the employee – immediately and directly linked to the wrong – raised an effective need to replace the employee with another worker, with the subsequent economic burden, or the impossibility of replacement, having regard to the special nature and importance of the missing performance (definitively or temporarily), with the ensuing serious and irreparable damage.

In contrast, in the case at stake the employer asked for a decision against the tortfeasor only for the damages the company suffered in relation to the salary paid to the employee during the period of vacation due to the temporary physical inability.

The importance of the subtle distinction made by the Supreme Court can be fully understood only by examining the history of Italian case-law on the matter. This discussion would exceed the limits of this paper, however, so it should be sufficient to stress that the rationale of the decision is totally grounded on a typical economic reasoning:

Article 2110 c.c. sets forth the cases in which the employer has to pay the employee's salary notwithstanding the lack of performance.²⁹ This provision – concerning the lack of performance only within the contractual relationship between the employer and the employee – does not affect at all the right to compensation of the one who has to definitively bear the cost of the salary stemming from the missing performance and due to a fact pertaining to the sphere of action of a third party.

There is no doubt that the cost relating to an illness is to be paid by the employer when the illness is directly linked to the [*normal*] risk of the individual existence, but it can not be said with the same confidence that the cost is to be borne by the employer when the illness is the consequence of the conduct or an activity of a third party.

More in detail, the damage in question is the same as or part of that suffered by the employee and it is only shifted from the sphere of the employee to that of the employer because the latter continues to pay a salary to the former. [...] This clarifies the difference between the present dispute and the [*typical*] cases of violation of the credit.

²⁹ Article 2110 c.c. reads as follows: 'In the case of accident, sickness, pregnancy or child-birth, if equivalent forms of security or assistance are not provided for in special laws or corporative norms, an employee is entitled to his remuneration or to an allowance in such amount and for such a period as are established by special laws, corporative norms, usage, or on an equitable basis. In the cases set forth in the preceding paragraph, the employer has the right to withdraw from the contract in accordance with Article 2118, after the lapse of the period established by the law, corporative norms, usage, or on an equitable basis. The period of absence from work for any of the aforesaid reasons shall be included in computing the employee's seniority.'

Following a heated debate in the *Meroni* case, L&E principles help to avoid the application of the precedent established.³⁰ Moreover, they are also used to shape the liability rule to be applied:

It is necessary to choose between the liability rule that disciplines the conduct of the third party, charging her with the cost of the violation, and the one embodied in article 2110 c.c., which bears on the employer. [...] The choice is to be made according to the criteria inferred by the system and that, arguably, the lawmaker would have made explicitly had the case been disciplined.

It is a matter of *analogia iuris*, which requires [*when no legal provision is applicable either directly or by analogy*] that the principles of the system be relied upon. The leading guideline of tort law is to charge with liability the subject that the lawmaker would consider in the best condition to evaluate the costs of the damage and to choose between the latter and the costs necessary to avoid it.

This principle has to be used to decide whether the cost of the wrong suffered by the employee [...] has to be borne by the employer or by the third party who caused it. [...] In the case at stake – through the ascertainment of the unlawfulness [*of the conduct of the third party*] – the system made its choice, identifying the tortfeasor as the one who has to pay the costs of the damages he caused [...].

The above costs [...] cannot include the social security duties paid during the vacation of the employee, since damage for lack of performance does not occur. Their payment [...] is no consideration for the tasks carried out by the employee [...], and it is due because of the mere existence of the employment relationship, even though the performance of the employee does not take place.

Again, the driving tool of the analysis is the cheapest cost avoider principle. As hinted by Calabresi, a choice – an educated guess, when there is no certainty³¹ – must be made (by the legislator, the judge, or the interpreter) in order to focus on the subject, who is better placed to take precautionary measures. In the case at stake, the cheapest cost avoider is the third party, as the risk is mainly related to his/her conduct. The solution seems also consistent with the Learned Hand rule: if the employer were burdened with the cost of the accident, a situation of moral hazard would occur, inducing the third party to drop any investment in precautions.

³⁰ In the *Meroni* case (decided by the Supreme Court, Joint Sessions, January 26, 1971, n. 174, in *Foro italiano*, 1971, I, 372), the Supreme Court stated that ‘the person who, by any fraudulent, malicious, or negligent act, causes the debtor’s death is obliged to pay the damages suffered by the creditor, if the death has provoked the extinction of the credit, together with a final and irrecoverable loss for the creditor’, specifying that such is the case, inter alia, whenever the debtor’s substitution is impossible or extremely costly.

³¹ G. Calabresi, ‘Transaction Costs, Resource Allocation and Liability Rules - A Comment’ (1968) 11 *Journal of Law and Economics* 67 at 72.

It is worth noting that the reasoning of the Supreme Court is, in a sense, incomplete, since it does not consider the problems of insurance, which come into play when the employer is functionally regarded as an insurer against the risks referred to above.³² A recent decision of the Tribunal of Venice, dated November 25, 2002 – issued in a case similar to the one dealt with by the Supreme Court – reaches exactly the same solution, explaining the following:

Tort protection of credit [*is*] aimed at stressing the more-than-bipolar relevance of the [*employment*] contractual relationship [...] and [*is*] justified by the difficulty in viewing people as assets protected by tort liability. This implies rejection of the “*pure economic loss*” principle, and also the inapplicability of the doctrine that considers the employer an insurer of the risk covered by article 2110 c.c. This leads, in turn, to the application by analogy of article 1916 c.c.

The technicalities evoked by this passage may render it obscure for the foreign reader, but the underlying idea is quite simple. The comparison between the professional insurer and the employer, obliged by law to act as an informal insurer, compels the conclusion that the former is better equipped to handle the risk of damages for the employee. However, the first paragraph of article 1916 c.c. states that the insurer, who has indemnified the insured, is left with a claim, up to the amount paid, against the third party *in lieu* of the insured, which permits preservation of the appropriate incentives. Therefore, this decision demonstrates how the trial court found an alternative path to reach the same solution devised (and supports the same L&E approach endorsed) by the Supreme Court, through the application of different rules.³³

5 Passive Smoking and Government Liability

In a very recent and unpublished decision, dated June 6, 2008, the Tribunal of Venice had to deal with the following complex issue. An employee of the Public Administration sued the Italian Government and the Minister of Internal Affairs for not having drafted and put into force legal rules banning smoking in public premises other than those provided in article 1 of the law 584/1975, and for not having taken measures to actually enforce the ban already included in the statutory law. The facts of the case show that from

³² For more details on the issues mentioned, see Pardolesi, above n. 27, at 2889 ff.

³³ One of the consequences stemming from the application of article 1916 c.c. is that the third party can raise against the insurer the same exceptions he could oppose to the insured, so that, for example, in motor-vehicle circulation cases the right is subject to a two-year statute of limitation.

childhood the plaintiff had suffered from serious allergic bronchial asthma resulting from any exposure to smoking. The negligent behaviour of the Italian public authorities caused both damage to his health and to his social life, since he had to avoid public places where people were in the habit of smoking, notwithstanding the ban.³⁴

After dismissing the defendants' petition to drop the case for want of cause of action, the judge did not uphold the claims on their merits. As to the first one, the judge observed:

In the present case, a breach of an obligation to exercise the lawmaking power did not occur. In other words, this power is constitutionally attributed to the two Houses of the Parliament and it is exercised through the legislative initiative set forth by article 71 ff. of the Constitution. The Parliament, constitutionally endowed with one of the fundamental powers of the State through which people's sovereignty is exercised, cannot be compelled to adopt any legislative provision. Nevertheless, it cannot be excluded that the lack of consideration for certain interests of society, and the respective transposition into suitable bills, give rise to a political responsibility, though that problem is different from the one at stake.

Immediately following the argument grounded on constitutional law, the tribunal underlined:

The legislative way, namely, the adoption of a collective regulation, is not always the more suitable, as the regulation [*of interests*] can be left to the individual level: namely, to the contract. Alternatively, [*it is possible to*] opt for a liability rule when negotiations appear to be too complex and such as to imply very high burdens because of the amount of transaction costs.

³⁴ After the facts at trial, Law 584/1975 was significantly revised by Law 3/2003. According to the text currently in force of article 1 of the Law 584/1975: '[I]t is forbidden to smoke: in hospital areas reserved for patients]; in school rooms of any type and grade; in vehicles belonging to the government, to local public entities and to private enterprises that are entrusted with public transportation services of people; in subways; in waiting rooms of train, tram, maritime-harbor and airport stations; in train compartments reserved for no-smokers, which must be present in any coach of public trains and in any coach of train services entrusted with private enterprises; in train sleeper rooms, occupied by more than one person during the night service; b) in closed premises used for public meetings, in closed rooms for movies and theatrical entertainment, in dancing rooms, in betting rooms, in meeting rooms of academies, in museums, in libraries and in reading rooms open to the public, in picture galleries in public art galleries and galleries open to the public. The ban embodied in the previously quoted provision is also extended by article 51 of the Law 3/2003, which establishes that 'It is forbidden to smoke in closed premises, with the exception of: a) private premises not open to consumers or the public; b) premises reserved to smokers and indicated as such.'

The analytical frame thus provided corresponds to Calabresi's distinction between specific deterrence and general deterrence. Specific deterrence results from collective decisions laid down in *ad hoc* regulations, such as prohibitions whose cost-effectiveness can seldom be appreciated by individual actors. General deterrence relies on a market-based approach: spontaneous transactions are replaced by 'exchanges' forced by tort liability. The value of the exchanged good is fixed *ex post*, and will have a bearing on the decision to be taken *ex ante* whether to engage in a particular activity and the extent of precautionary measures. As suggested by Calabresi,³⁵ these options should not be pursued in their pure form but adapted in order to reach efficient outcomes.

With regard to the second claim, the judge reasoned as follows:

Besides the fact that the said law [No. 584/1975] placed on many addressees the duty to enforce the ban, and in particular to tenants of the places set forth in article 1, letter b), the claim tends to turn civil liability, through the mechanism of omissive behaviour, into an indemnity tool, based on the deep pocket of the Government, that is the society [...].

In this respect, the duty to ensure the applications of sanctions by public bodies cannot automatically result in a claim for damages arbitrarily raised by a party that complains about noncompliance. The limitation of the nexus of causality has to take into account the dimension of the obligation to act and respectively identify those damages which can be prevented with an *ex ante* evaluation. As the defendant has to bear the consequences that in a foreseeable (and reasonable) way could stem from his/her actions, it is necessary to begin from the extension of his duty to care. Therefore, it cannot be conceived (since it would be economically unfeasible, unless the country is 'militarised'), that compliance with the ban is to be ensured ubiquitously [...] or rather in any single place listed in article 1 of the Law No. 584/1975. In other words, the condition of the [*accident*] foreseeability provided for in article 2043 c.c. [...] would risk being wiped out if rules of conduct to be complied with by the potential tortfeasor [...] were extended to society as a whole [...].

As to the plaintiff's attempt to prove, during the trial, the specific situations in which he expressly asked for the intervention of the public authorities to sanction the violation of the ban, the court argued:

It gives the Minister of Internal Affairs the role of 'guarantor' because of its position of control over the risk's sources. In this regard, scholarship noted that the function of prevention that the Government exercises through the public authorities is not grounded on the assumption that citizens are reckless people, needing to be continuously controlled [...]. If this was the case, any function of deterrence by legal

³⁵ Cf. Calabresi, above n. 31 at 70.

sanctions would fail, by assuming that individuals are unable to self-regulate their own conduct.

Furthermore, the tribunal went on to explain that:

The plurality of addressees, charged with the duty to ensure that the ban is complied with, [...] makes the alleged lack of initiative less significant, since the main omissions were those listed by article 2 of that law.

The references contained in the decision with regard to the ‘deep pocket method’ are clearly inspired by the rejection of this approach as the basic technique to cope with the primary costs of accidents. Actually, that method, together with the one based on loss spreading, represented the ‘state of the art’ with regard to the manner of allocating resources in the tort area at the time that Calabresi was beginning to build his conceptual structure.³⁶ Both perspectives, unworthy as allocative tools, would surface again, in the different guise of compensation, pertaining to the ‘fairness’ and ‘justice’ of the system (*i.e.* to the realm of secondary costs).³⁷ From this perspective, the decision appears remarkably sympathetic to the Calabresian model and shows a significant degree of analytical consciousness.

6 Robbery and Bank Liability

Another decision that explicitly mentions and uses the cheapest cost avoider principle is the one issued by the Tribunal of Vibo Valentia, Section of Tropea, dated July 9, 2001, concerning the liability of a bank for losses suffered by its clients in the event of a robbery.³⁸ After rejecting the traditional arguments, which had led many courts to dismiss similar claims in the past, and after examining the issue of liability by omission, the judge observed that the real issue is to ascertain whether the bank has an obligation towards its clients to prevent the accident.

This way of proceeding is not only necessary in order to answer the question about the causal nexus between the accident and [*the alleged*] negligent conduct but has also a justification in terms of efficiency of the rules. Before ascertaining whether a fact can be foreseen or avoided by the defendant, it should be asked whether he has

³⁶ Calabresi, above n. 17.

³⁷ In Calabresi’s view, as already noted, fairness and justice do matter, no less than allocative efficiency. Cf., e.g. G. Calabresi, ‘The New Economic Analysis of Law: Scholarship, Sophistry or Self-Indulgence?’ (1981) 68 *Proceedings of the British Academy* 85.

³⁸ In ‘*Danno e responsabilità*’ (2001) at 1095, with a comment by F. Agnino, ‘Responsabilità della banca per danno al cliente’.

the duty to prevent it. From this perspective many issues surrounding the nexus of causality would be resolved or would be at least less dramatic. Let us assume that Tizio negligently causes serious injury to Caio with his car [*and that*] because of a fire [*the latter*] passes away in the hospital where he was brought [*after the accident*]. It makes no sense [...] to ask whether the conduct of Tizio is one of the causes of the death of Caio [...] as it is sufficient to raise the question of whether Tizio had or did not have an obligation to avoid the fire. [...] What really matters is that Tizio has no obligation to avoid the fire and this is enough to rescue him from the consequences stemming from it.

The doctrine endorsed by the court – against the approach to causation followed both by criminal and civil judges – is sustained by specific economic considerations.

Why has Tizio no obligation to avoid the fire in the hospital? It is clear that different criteria can be followed while creating duties [*for citizens*]. French legal interpreters, for example, ground them on ethical and social obligations [*the opinion alludes to the strict application of the 'but-for' causation theory, occasionally endorsed by the French jurisprudence*³⁹]. However, undoubtedly the consideration pertaining to the capacity to prevent accidents has an influence on this choice. In the example used above, Tizio cannot be obliged to avoid the fire because he is not in the position to efficiently arrange prevention tools [...]. The ever-present problem of civil liability is to establish the rules according to which the damage suffered by one person has to be borne by someone else; paramount importance is to be attributed to the capacity to avoid the accident at the lowest cost. That is, the damage has to be borne by the one who had the possibility to prevent it efficiently, setting up the necessary measures with a cost lower than the harm.

From this perspective, it is not questionable that the bank can use alarm and defence tools, while clients cannot: [*the bank*] is then in the best position to prevent the accident [...] and a consideration of liability rules in terms of efficiency leads to the conclusion that the loss has to fall on [*the individual*] who was in the best position to prevent or avoid it. [...]

In practice, this means that the bank has the duty to arrange for alarm and safety tools suitable to prevent criminals from entering the premises. According to customary standards, these tools consist not only in recording on video what happens inside, or of a rudimentary “*detector*”, as in the case at stake, but even in hiring private guards. This measure has been adopted by almost all banks. [...]

In addition to this, it cannot be excluded that the bank has at least to warn clients when the prevention tools adopted are insufficient [...]. Otherwise, it creates the misleading belief that the premises can be entered safely, with a reliance whose violation is in turn a source of liability.

As well as the fact that also in the commented decision the reference to the cost avoider principle is self-evident, it is worth noting that such a principle

³⁹ See for example Cour de Cassation 8/1/1964, in *D.* 1964, comm. 70.

does not always lead to upholding the damages claim of the victim. Under a negligence rule, the victim is only entitled to compensation if the precautionary investments to be taken by the injurer are less costly than the risk to be avoided, pursuant to the previously mentioned Learned Hand formula. In the case examined by the court, the bank had adopted only very basic and insufficient measures to manage the risk of a relevant and multi-party harm, so that its behaviour falls short of shielding it from exposure to liability.

7 Medical Malpractice

A recent judgment of the Tribunal of Venice, dated May 10, 2004, deals with a case of medical malpractice. This topic is heavily debated, and it calls for difficult policy decisions all over the world.⁴⁰

The parents of a young child born with serious impairment to an arm alleged that the damage was caused by the negligent and untimely assistance at the delivery (questioning several aspects of the conduct of the hospital personnel). The hospital protested against all grounds of liability, but the court observed that in principle, when the plaintiff claims a breach of the contractual relationship, it is on the defendant to prove that its personnel was diligent and that the harm occurred for a cause independent of its personnel's behaviour.⁴¹

Nevertheless, the judge argued that, in the field of medical malpractice, the shifting of the burden of proof needs to be balanced against the circumstance that many medical activities give rise to an 'iatrogenic risk'. Moreover, it is necessary to establish whether the accident was effectively caused by reckless behaviour. In this perspective, the defendant's liability is established only when there are patterns of conduct to blame, in order to avoid 'an excessive over-deterrence'.

In the case at stake, none of the risk factors listed in the medical literature – which could have made the performance of the doctor and the obstetrician particularly complex – was present. However, the medical

⁴⁰ In *Danno e responsabilità* (2005) at 426 ff.

⁴¹ The most recent Italian case-law reaches a certain degree of uniformity in deciding that both the liability of the hospital personnel and of the hospital itself originate from the breach of obligations pertaining to a contractual relationship. In general terms – but with all exceptions and nuances that medical malpractice offers (as the subsequent considerations in the text show) – also in this area it is standard procedure to apply the principle established by the decision of October 30, 2001, no. 13533, of the Joint Sessions of the Court of Cassation. According to this, when the creditor alleges the breach of an obligation, it falls upon the debtor to prove that he or she duly acted according to the contract (unless the obligation allegedly breached was a negative one, providing for something the debtor did not have to do).

records of the hospital gave little information about the actions of the personnel when difficulties in the birth became apparent, thus preventing any evaluation of their behaviour. It was up to the hospital to keep a record of, and to provide the documents related to, the conduct of its personnel immediately after the delivery, in order to show compliance with medical guidelines, whereas the victim had no serious opportunity to check that compliance and control the relevant sources of risk.

As a consequence,

the liability of the hospital is not grounded on a rule that infers a lack of diligence of the personnel on the basis of the scarcity of information available, but rather on the consideration that given the lack of information it is not possible to ascertain what has been done and then to discharge the debtor from liability.

The subsequent difference between the diligence required by the personnel and that required by the hospital, based on the possibility that the hospital is not only vicariously liable for the conduct of the personnel but also directly liable for poor organisation and the defective working of medical tools, is justified by the technical and scientific complexity of modern medical activity. This calls for, especially in specialised sectors, the presence of costly structures and devices of the kind that only public institutions can buy, even though in the case at stake it would have been sufficient to follow a higher standard of recording. However, the higher availability of human and economic resources on the part of public structures would justify, within a relational logic, the burden related to risks avoidable through the adoption of suitable investments in precautions.

The proverbial intricacies of the fault principle are thus discarded and the rationale adopted by the tribunal leaves no room for doubts. Poor organisation is wholly attributable to the hospital, which had the obvious opportunity to frame and to devise its activities in a more transparent way, in the interest of both the patients and itself. Basically, the opinion answers one question: who was in the best position to avoid costs, both primary and secondary? And the answer fits the Calabresian approach nicely. Moreover, it lines up with the widespread inclination to recognise that, since a large portion of the errors that occur in patient care are due to system breakdowns, much more attention needs to be given to the identification and improvement of the points in the system where errors are most common and less to the individuals who make the errors. Even when an injury appears to have been caused by an individual error, prevention of similar injuries in the future is often best accomplished by changing the system or environment in which individual doctors and nurses work.⁴²

⁴² Cf. P.J. Peters, 'Resuscitating Hospital Enterprise Liability' (2008) 73 *Missouri Law Review* 369 at 379 f.

8 Liability for Accidents Occurring to Students: Burden of Proof

The judgment commented upon in Section 3 – under the heading ‘function of the law of torts’ – can be coupled, to some extent, with a more recent decision of the Tribunal of Venice, dated June 20, 2006, which involves, again, liability for an accident that occurred to a student.

A young girl was playing with friends during recess and fell when a fellow-student pushed her during a game in which everybody was running after each other. The parents sued the Ministry of Education, alleging that when the accident occurred 210 students were present in the area and were being supervised by only eleven teachers. The defendant contended that the facts were different from those reported by the plaintiffs: namely, when one of the other children fell down, another stumbled into him and accidentally pushed the young girl. Hence, the accident was totally unforeseeable and unavoidable and the school personnel could not be blamed at all.

The way in which the facts of the case occurred was not proven during the trial and the court opined that plaintiffs were entitled to proceed on the presumption embodied in article 2048, second paragraph, c.c., as they demonstrated that the harm occurred during school hours, when their daughter was under the custody of the teachers. Therefore, it was for the defendant to show that notwithstanding the compliance with all precautions the accident could not be foreseen and avoided.⁴³ In short, the Minister of Education should have proven that the damage was due to a fortuitous event and not just to the unlawful conduct of another student.

The court then explained that:

A different solution would imply laying upon a person, not necessarily present when the accident occurs (as classes or the recess break cannot take place in front of parents), the heavy burden of proving [...] that the damage to the student was self-caused or that it was impossible to avoid the accident.

When the provision at stake sets forth a presumption of fault, it expresses the trend to charge with liability the one in the best position to manage the risk and to adopt precautions, if not to spread the risk through insurance at all. It follows that the burden of proof necessary to escape this presumption must cover the full dynamic of the facts, either to exclude the wrongful conduct of the third party or to demonstrate the impossibility of avoiding the accident.

⁴³ The principle is often endorsed by the Italian Supreme Court, which asks the defendant to prove that the custody was as diligent as the one required to prevent the accident (see Court of Cassation of November 7, 2000, No. 14484) or all organisational measures necessary to the said end were taken (see Court of Cassation of February 3, 1999, No. 916; Court of Cassation of January 22, 1990, No. 318; Court of Cassation of March 27, 1984, No. 2027).

In a sense, the decision completes the one mentioned above, as L&E principles are not used to choose how to apply the general clause embodied in article 2043 c.c. but to construct a single element of a special provision: namely, that part of article 2048 concerning the burden of proof. While the statement demonstrates which refinements are possible through L&E, the ‘surgery’ carried out by the court over the provision at issue recalls Calabresi’s warning about the need to overcome the alternative between two extremes: perfect general deterrence on the one hand, and specific (or collective) deterrence on the other. These options cannot be pursued in their pure forms but should be accommodated in order to obtain the best outcome.

9 Exposure to Toxic Substances

An unpublished decision of the Tribunal of Venice, dated June 19, 2008, deals with a complex case of liability for exposure to toxic substances. In the case at hand, the widow and the daughters of a deceased worker sued the companies that had employed him as a chemical operator, exposing him to aromatic amines and allegedly causing a bladder cancer, which ultimately caused his death.

After rejecting various preliminary exceptions, the tribunal upheld several allegations of the plaintiffs and decided to resort to article 2050 c.c.,⁴⁴ observing that:

According to legal literature, article 2050 c.c. aims at protecting strangers to the activity, as “*it wants that the ones who carry out the activity internalize the costs of the risk so created*”. From this perspective the distance between articles 2050 and 2043 c.c. becomes clear. The typical feature of the negligence envisaged by the latter entails the difference between the concrete framework of the action and the abstract one, which should have taken place according to social norms or a specific regulation applicable to the subject matter. Within the progressive trend towards an objective notion of negligence in civil law, this feature becomes strictly tied to risk: that is, the perceived possibility, surely uncertain but subject to evaluation, that a given type of accident will occur. [...]

The different notion of risk, envisaged by the general clause of article 2043 c.c. and by article 2050 c.c., lies in the concrete difference between their perspectives with regard to the exercise of a dangerous, but socially useful, activity giving rise to a lawful risk: the world of “what actually happens” and of “what ought to be”, for the former; and the realm of uncertainty (or, rather, of the absence

⁴⁴ Article 2050 c.c. reads as follows: ‘Whoever causes injury to another in the performance of an activity dangerous by its nature or by reason of the instrumentalities employed, is liable for damages, unless he proves that he has taken all suitable measures to avoid the injury.’

of a consolidated system of behavioural rules), for the latter. In the evaluation of negligence the judge must look backward and see whether there are parameters governing the conduct of all actors, in order to ascertain which behaviour the tortfeasor adopted to mark out the difference between his conduct and the one required by the law. Conversely, in the case of article 2050 c.c. this parameter is missing, as the system has not yet developed a suitable apparatus of knowledge and precautions. In this context, the system puts on the actor the burden to take whatever precaution is considered suitable pursuant to the available state of knowledge.

The above considerations forced the court to adopt a different approach to the assessment of causation. In the case at stake, there was no causal relation between a specific conduct and the event, but only a general nexus between an activity and an event, thereby demanding an *ex ante* perspective in order to estimate the inclination of the activity itself to cause that specific type of event. Therefore, it was for the plaintiffs to prove the length of the work relationship, the tasks carried out by the employee, and the occasions in which he could have been exposed to the toxic substances. Conversely, it was for the defendants to demonstrate adoption of all suitable measures, not only pursuant to the regulation in force but even to the level of scientific knowledge at the time of the activity, or to show that the damages occurred because of an exogenous cause. It is then irrelevant that the employees had regular medical checkups and used the safety equipment prescribed by the law (such as gloves, masks, helmets, and so on).

With a long excursus on the witnesses' contributions and the experts' opinions (which cannot be shown here), the court explained how the plaintiffs met the burden of proof, while the defendants did not. The court also rejected the comparative negligence exception based on the fact that the victim had been addicted to smoking up to twenty cigarettes a day for forty years. Even though this habit was considered an important risk factor for bladder cancer, the evidence showed that two non-smoking employees of the defendants, sharing the same work conditions of the victim, contracted bladder cancer a remarkably long time before the statistically expected age.

A thorough analysis of the most recent case-law on causation would go beyond the boundaries of this paper. Suffice it to mention that, unlike in criminal cases, causation in tort law can be based on a probabilistic evaluation of cause-effect relations. However, this may not be an abstract or merely statistic evaluation but should be an assessment based on the facts of the dispute. The judge explained this as follows:

We know that [*the victim*] was a habitual smoker, and then exposed himself to another risk factor. It is no doubt that in all cases characterized by the impossibility to have a direct representation of the dynamic of relevant facts, even though filtered by the description offered during the proceeding [...], the construction of the nexus of causality is carried out through inference and without reaching a degree of

absolute individual certainty (which is no longer [...] seen as a goal of the system's policy).

This evaluation is allowed in the civil area, provided that a complete description of the event and of all relevant risks is given, not only in consideration of the compensatory function of tort law, but also based on the deterrence goal. In other words, an approach based on the notion of foreseeable (and avoidable) risk *ex ante* provides incentives to adopt investments in precautions for the professional manager of the activity, who is able to make an appropriate choice as to the internalization of the costs (as well as to spreading them on the market) and as to the uncertainty pertaining to the same activity, deemed dangerous, avoiding that they lay were they fall.

The framework sketched out by the judge in the last sentence shows consistent adhesion to the tenets of Calabresi's approach to tort law. The *ex post* evaluation, typical of a judicial opinion, cannot ignore the signals that will be given to parties dealing with analogous situations. One of them, the entrepreneur, has the clear opportunity to internalise a foreseeable risk: namely, one that should have been considered and that the victim would not have been able to control. The entrepreneur can make the right choice and, therefore, is the obvious candidate for liability when he/she does not behave accordingly.

10 Liability for Things under Custody

With its unpublished decision of June 18, 2007, the Tribunal of Venice dealt with a case calling for the application of article 2051 c.c., which – as already noted – provides for the discipline of liability for things under custody. The plaintiff claimed that he was on the way to his shop, crossing a street that had two carriageways divided by a centre strip. To reach the other side he had to step over the strip, and he accidentally put his left foot into a tap-water drain, which was about twenty centimetres deep and had no protective grate. In so doing, he lost his balance and fell, suffering serious injuries to his left knee and leg veins. The Municipality of Venice claimed that the event occurred because of the plaintiff's negligence, as the opening was quite visible, and denied that article 2051 c.c. should apply.

After ascertaining that the facts took place according to the plaintiff plea, the tribunal refused to deploy the 'trap doctrine', stemming from the judicial interpretation of article 2043, and opted for article 2051, which has crucial consequences. While the first cause of action requires the plaintiff to prove that the state of the thing, which resulted in the accident, was both (subjectively) not visible and (objectively) not evitable (thereby grounding a claim of negligence against the Public Administration), the second cause of

action requires simply that causation be proved between the thing and the damage.

Mainstream case-law disallows application of article 2051 to goods such as public roads, because the extension of the thing and its intense use by society at large make it impossible for the administration to effectively exercise control powers as custodian, which is a precondition for the liability in question. The Court then explained that:

The argument [*based on the interpretation of article 2051 c.c.*] usually goes hand-in-hand with the fear of excessively burdening public bodies with the costs of the system in comparison to the negligence regime, and of over-restricting judicial discretion in the assessment of the case.*[In short,]* the economic burden of compensations to be paid would be exorbitant for the Public Administration and, ultimately, for the entire collectivity.

Nevertheless – the judge goes on to say – it is also to be noted that the above doctrine turned out to be a rule of strict liability, even though formally not related to the concept of custody. As liability automatically follows from lack of maintenance implied by the very presence of a danger (without any possibility to prove the contrary), this implies that a rule of ‘negligence in re ipsa’ is implemented.

After an excursus on the most relevant and recent case-law on the matter, the above argument led the tribunal to reconsider the traditional scope of application of article 2051 c.c. and to state that in the case at stake there was no reason to exclude it. The portion of the good that created the danger was delimited, such as to allow for actual control and to burden the custodian with liability only when the risk connected to the custody materialises. In other words, this provision is not to be applied to dangerous situations that are extemporary and exceptional (as it would be, for instance, for a banana skin dropped by a pedestrian or for oil leaked out from a car). However, the opening in question, located along the centre strip, seemed to have been the result of a state of things consolidated over time. Then – the judge concluded – article 2051 c.c. does not implement a mere presumption of negligence but rather a rule of strict liability based on the relation of custody. This can be avoided only by proving a fact outside the sphere of control of the custodian (such as the conduct of a third party or of the victim), which would exclude the nexus of causality between the thing and the harm.

In the tribunal’s view, pursuant to a way of reasoning close to the first decision commented upon in this article:

The solution is consistent with economic efficiency – that is, the trade-off between aggregated social benefits and costs – because the cost of the accident is borne by the one in the best position to control the risk and to invest in precautions suitable to reduce it, leaving aside the possibility to apply for insurance. In this case, the cost of

the accident will be spread among all users because of the likely increase of taxation, or among all people insured. Both solutions are much better than leaving the damage where it falls, also considering that the harshness of a strict liability rule can be mitigated taking into account the comparative negligence of the victim, who relies on the full responsibility of the tortfeasor, but also receives an incentive to prevent risk situations connected to the use of roads, at least because of the incompleteness of the compensation for damages in this kind of accidents. Indeed, it is not indifferent for the victim to preserve her health (primarily injured in such events) or to recover the potential monetary equivalent. On the other hand [...] the mechanism of article 1227, first paragraph, c.c. is not consistent at all with the trap or danger doctrine [*since*], if there is a causal contribution of the victim, the conditions of non-foreseeability and non-visibility are lacking⁴⁵. In clearer terms, a rule of strict liability, with a comparative negligence defence, makes the economically oriented opposition to the extension of article 2051 c.c. to damages suffered by public road users questionable.

It is worth remarking that a similar rationale was followed by another judgment inspired by L&E principles, which was rendered by the Tribunal of Monza on October 25, 2001.⁴⁶ A pedestrian sued a municipality, asking to be compensated for damages suffered when he slipped and fell because of subsidence on the road surface. Also in this case, the tribunal rejected the trap or danger doctrine, in favour of the application of article 2051, because

[*The traditional view*] does not conform with [...] the application of economic analysis of law methodology, with which the implementation of liability rules is to be made consistent.

After this general statement, the tribunal advanced many other arguments about public goods, the ‘tragedy of commons’, and the consequent free riding problems. All of them contribute to recommend (strict) liability as the preferred remedy:

Liability for the thing under custody means to give the custodian (that is the one entitled to intervene on the thing) an incentive to adopt measures suitable to avoid damages for third parties. The construction of the provision [*article 2051 c.c.*] as a strict liability rule then prompts not only the adoption of precautionary tools already

⁴⁵ Article 1227 c.c. reads as follows: ‘If the creditor’s negligence has contributed to cause the damage, the compensation is reduced according to the seriousness of the negligence and the extent of the consequences arising from it. Compensation is not due for damages that the creditor could have avoided by using ordinary diligence’.

⁴⁶ In *Danno e responsabilità* (2002) 1201, with a comment by Laghezza, ‘Responsabilità della P.A. per omessa manutenzione delle strade: la prospettiva dell’analisi economica del diritto.’ For a more in-depth analysis of the long part of the judgment, which deals with L&E issues, see Pardolesi and Tassone, above n. 21, at 137 ff.

known and available (which also a negligence rule would stimulate), but even an investment in technological research, aimed at finding new remedies.

Returning to general L&E principles, the judge explained that a liability rule is the best solution because in the case at stake the allocation of resources, of property rights, and of entitlements to compensation for damages is not a matter of indifference.

Above all, for goods which raise a 'collective' problem, such as public ones, [...] transaction costs become prohibitive. This reason alone implies that a mitigation of the ordinary liability regime, as to the custodian, might be seriously inefficient, reducing the already poor incentives to control dangers, when a real possibility for potential victims to negotiate a preliminary protection is lacking.

The decision also excluded a solution based on the regulatory logic – implemented through administrative controls and criminal sanctions – because it would raise agency costs without ensuring an efficient level of deterrence. In the judge's view, this solution would also increase the indirect costs for public medical assistance if the level of expected damages were not limited.

As to the contents of the liability rule, after examining the situations in which a strict liability regime would be inefficient, the judge concluded that the case in question is not among them – because the municipality had a real possibility to control the risk – and strongly criticised the trap or danger doctrine. On the one hand, it leads to some irrational outcomes, as liability may be established when the public administration is not to blame at all and may be excluded when it is really negligent. On the other hand, it is not compatible with the comparative negligence rule, whose application entails the rejection of the claim in the present case), since:

The management of ordinary rules of civil liability is able to fulfil the need to stimulate a diligent and careful conduct of citizens, avoiding burdening the collectivity with the costs of non-excusable behaviours.

In summary, the traditional reliance of the Italian judiciary on the fault principle as the pivotal rule, which inspires and governs the whole realm of torts, is overcome. Strict liability emerges as the new emperor's clause in quite a large set of situations where Italian lawyers were used to resorting to negligence. This trend may be considered as an endorsement of ideas coming from New Haven. The two opinions show an unmistakable familiarity with the analysis developed in *The Costs of Accidents*. Calabresi is speaking through the judges' pages.

11 Motor-vehicle circulation

Another interesting decision was issued by the Tribunal of Venice on January 14, 2003,⁴⁷ in the field of motor-vehicle accidents, calling for the application of article 2054 c.c.⁴⁸

The passenger of a car sued the driver together with his insurance company, asking for a high compensation of damages (estimated at more than 500,000 euro). The judge ascertained that the exclusive responsibility for the accident was with the defendant, and then explained that:

Rejecting the discriminatory case-law rule, based on an unproven possibility, for the victim, to foresee the danger and control the risk, as well as on a highly questionable possibility for her to demonstrate the fault of the accident, the Supreme Court considers article 2054 c.c. (a provision embodying general principles in the matter of motor-vehicles circulation) applicable also in favour of persons transported gratuitously or by simple courtesy. Therefore, the victim is entitled to make the same claim that can be made against the owner. [...] This tribunal agrees to the just-mentioned doctrine [...] because it stems from a social-economic evaluation of the motor-vehicles circulation phenomenon.

Then, in the tribunal's view:

Considering that tort liability provisions are also a tool to prevent accidents, it is not clear which unilateral precautions the transported person can take, as she cannot ensure the good condition of the vehicle nor the compliance with the regulations applicable to circulation by the part of the driver, unless we imagine an obligation to cooperate in making the driver aware of risky situations. Her possibility of foreseeing the danger and controlling the risk is the same, taking into account the vehicle in which she is transported and any other vehicle, with a basic alternative: to accept or not to accept being transported. The alternative, in the light of tort law provisions, is not such to affect the possibility of preventing accidents through investments in precautions, or the capacity to internalize the externalities of one's own action, as the person transported – who does not contribute to the occurrence of

⁴⁷ *Id.* at. 89 ff.

⁴⁸ Article 2054 c.c. reads as follows: 'The operator of a vehicle that is not guided by rails is liable for the damage caused to persons or to property by operation of the vehicle unless he proves that he did everything possible to avoid the damage. In the case of collision of vehicles, it is presumed, until proof to the contrary is offered, that each operator contributed equally towards causing the damage suffered by each vehicle. The owner of the vehicle, or in his place the usufructuary or purchaser with reservation of ownership, is liable in solido with the operator of the vehicle, unless he proves that the vehicle was being operated against his will. In any case, the persons indicated in the preceding paragraphs are liable for damage arising from defects in the manufacture or maintenance of the vehicle.'

the accident – is a mere bystander on the ‘stage’ of motor-vehicle circulation. [...] we imagine an obligation to cooperate in making the driver aware of risky situations.

Therefore, according to article 2054, first paragraph, the plaintiff is not burdened to prove the driver’s fault, whereas the latter, according to a model of liability based on the intrinsic danger of the activity or on the possibility of controlling the risk, must demonstrate having done everything possible to avoid the damage.

Recalling the analogous economic *rationale* that inspired the judgments of January 20, 2003, commented upon in section 3, the underlying logic of efficient allocation of risk is evident. If the victim cannot be reasonably required to adopt precautions, no apportionment between her and the driver has to be carried out. Again, the cheapest cost avoider principle offered the best solution to the judge.

While issues of insurance need not be raised, as the Law No. 990/1969 (in force at the time of the decision)⁴⁹ sets forth a regime of compulsory third party insurance, it is less clear why a strict liability rule is preferred to the ordinary fault regime implemented by article 2043 c.c. A tentative explanation might be that the references to the ‘*social-economic evaluation*’ of the phenomenon and the ‘*intrinsic danger*’ of the motor-vehicle circulation led the tribunal to consider the economically oriented distinction between the reasonable care standard and the level of activity (i.e. driving safely vs. how much driving). While the former is obviously promoted by the fault machinery, the latter cannot be effectively monitored through diligence. This state of things clearly supports the choice in favour of a strict liability rule.

Eventually, even though the decision focuses on a specific provision, no-one could ignore its link to the general themes dealt with by the first judgment commented upon, expressly recalling the economic function of the law of torts.

12 Spoiled Holidays and the Amount of Damages

In completing our overview, it is worth stressing that L&E insights do help Italian courts not only to establish liability but also to assess damages. This result is shown in an unpublished decision of January 12, 2007, of the Tribunal of Venice.

As a by-product of a collision involving a scooter and a car, the driver of the former asked compensation for all damages suffered. Among other things, he claimed that, because of his impaired physical integrity, he

⁴⁹ The subject matter is now regulated by the ‘Code of Private Insurances’: that is, the Legislative Decree of September 7, 2005, No. 209.

had to give up a planned holiday and lost the monthly rent of 1,870.00 euros already paid for an apartment. In addition to this, the victim claimed that 10% of all damages were to be paid to an ‘accident expert’, who had assisted him in the negotiations carried out prior to the proceeding.

After ascertaining the exclusive liability of the car driver and having assessed the other components of the harm, the tribunal noted that the assessment of the damage for the ‘spoiled holiday’ required more definite proof. Information was needed about the time during which the scooter driver would have joined his family at the rented accommodation (in a region not far from their residence) for the whole month of July. Due to the lack of evidence with regard to his work duties, it could only be assumed that he would have spent at least each weekend with his relatives. In this respect, the judge observed that:

[*Concerning*] more significant elements to assess the value of the loss of the deserved holiday, it is possible to consider the planned costs, which demonstrate the amount the plaintiff was willing to pay for carrying out non-profitable activities. Assuming a daily cost for the rent of Euros 62,30 (1.870 : 30), it is possible to award the sum [...] of Euros 412,40.

As to the claim concerning the debt towards the expert assisting the plaintiff before the lawsuit, the judge underlined that, in general, this kind of expense can be accounted for within the liquidation of the economic harm (as they are incurred in order to ensure the victim a technical and professional support during pre-trial negotiation). However, at the time of the decision nothing had been paid yet to the expert.

From this perspective, there is a risk of overlap between not reserved [*to lawyers*] extra-judicial assistance and pre-trial assistance functional to the (reserved) judicial assistance, whose burdens are allocated pursuant to the procedural rules on fee shifting [...]. This could induce an exponential increase in managing costs of accidents to the detriment of victims. In addition to this, as these expenses have not yet been incurred by the plaintiff [...], it is not possible to assess its consistency with respect to the activity effectively carried out.

Here the flavour of Calabresi’s thought, as a distinctive ‘soul’ of L&E, is admittedly impalpable. At most, this may amount to a feeble echo of tertiary costs. The reason for reporting this opinion is that it confirms, in an almost clerical way (and precisely for this humble attitude), the growing sensitivity of Italian case-law to the economic dimensions of adjudicative decision-making. All in all, this is invaluable evidence of the inroads of L&E into the citadel of Italian law.

13 Nuisances

The best opportunity to conclude our views on the influence of Calabresi's thought on Italian case-law is offered by an unpublished injunction of the Tribunal of Venice of July 27, 2007, dealing with a nuisance controversy. In such disputes, the distinction between property rules and liability rules necessarily comes into play.

Both the owner and the user of an apartment (enjoyed through a bailment contract) claimed that the restaurant located on the ground floor made too much noise, owing to the music played throughout the premises and to the loud conversations of restaurant guests who regularly stood outside the building. In particular, the owner alleged that the prolonged exposure of the good to disturbing noise raised the risk of termination of the bailment relationship, and it might even have decreased the value of the property in the long run. The other plaintiff claimed harm to his health in the broad sense, considering the disrupted sleeping conditions, the decrease in mental concentration, and the ensuing stress and nervousness: in short, all the negative consequences relating to the quality of his life. Therefore, both plaintiffs asked the judge to immediately order the restaurant to cease its activity in originating the nuisances or to take all measures necessary to eliminate them.

Before determining that the nuisances exceeded the limit of what is ordinarily bearable and that no precautions can be taken to bring them below the threshold, the judge observed that article 844c.c. can be seen as a tool to protect not only rights on real estate but even the person who lives in it and his health.⁵⁰ Therefore, both plaintiffs were entitled to ask for a final injunction, whereas only the apartment dweller could apply for an interim order, considering that he was the one bearing the risk of irreparable damages if the remedy was granted only at the end of the trial.

Regarding restaurant clients conversing loudly outside the restaurant, the tribunal noted that:

As the function of the law of torts is to internalize the negative externalities in the perspective of reducing the social costs of accidents, the circumstance that clients hang out in front of the premises to drink and smoke does not exonerate the defendant from liability. In other words, it is totally lawful to pursue a profit goal (selling drinks [...]), but this cannot be done to the detriment of the neighbours' sphere. [...] As a result, in this context, even in light of the impossibility of adopting precautionary measures apt to abate the nuisances, the only workable remedy at this

⁵⁰ Article 844 c.c. reads as follows: 'The owner of land cannot prevent the emission of smoke, heat, fumes, noises, vibrations or similar propagation from the land of a neighbour unless they exceed normal tolerability, with regard to the condition of the sites. In applying this rule, the court shall reconcile the requirements of production with rights of ownership. It can also take account of the priority of a given use.'

moment is a full injunction: that is, the order to stop the use of any musical equipment and the conversations of clients inside and outside the restaurant.

In addition – the judge concluded – the above reasoning is supported by the recent reform of the Italian Code of Civil Procedure, according to which the preliminary injunction becomes permanent and definitive if no party asks for the prosecution of the proceeding on the merits.

It is not to be excluded that the preliminary order totally fulfils the need of protection, above all when the damages occurred are difficult to assess and the comparison between the negative externalities and the adoption of precautions justifies the implementation of a *property rule* – that is, [*a rule grounded on*] the impossibility of intruding on the sphere of other citizens without their assent – thus paving the way to the injunction.

On the whole, the opinion seems to be influenced by both the perception of the function of tort law as a means to reduce the costs of harmful activities and by the awareness that the nuisance framework is the prototypical case of conflicting interests. According to the scheme proposed by Calabresi and Melamed's 'View of the Cathedral'⁵¹ as a sophisticated development of Coase's theorem,⁵² for the purpose of protecting legal entitlements a choice is to be made between property rules and liability rules. Property rules confer on the entitled party a strong protection forbidding interferences by other parties, whereas liability rules allow the other party to take the entitlement upon the payment of damages established by a court. Where transaction costs are sufficiently low (and this might have been the situation submitted to judicial evaluation in the case presented, since the owner of the restaurant was held to be perfectly aware of the individuals exposed to the by-products of her activity), the property rule is best suited to handle the problem: in fact, the parties are not impeded from negotiating towards the optimal allocation of resources.

⁵¹ G. Calabresi and A.D. Melamed, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) 85 *Harvard Law Review* 1089.

⁵² This is the nickname forged by George Stigler for the celebrated article by R.H. Coase, 'The Problem of Social Costs' (1960) 1 *Journal of Law and Economics* 3. The real significance of the Coasian message is still hotly debated: see A. Nicita and R. Pardolesi, 'Il Nobel che fece l'impresa,' forthcoming in *Mercato, concorrenza, regole*.

14 Conclusion

Some authors argue that the popularity of L&E is rapidly increasing, especially with regard to its European strand. Other writers evoke a doctrinal background that focuses on the inherent structure of the law as an autonomous system and refuse programmatically to accommodate any invasive contribution from the outside. Which of the two approaches will be dominant in the following years is still an open question. Moreover, it is uncertain whether the movement will evolve towards a more refined level of economic/econometric sophistication, banishing as inchoate all that rings of idle chatter about least cost avoider, efficiencies, transaction costs, and so forth. An alternative evolution would realise that, beyond mathematical niceties and formal elegance, the insights of economics should be deployed at the level at which economics works for lawyers and judges.

The hardcore economists' view would probably assert that the work of the founding fathers was of heroic origins, which have definitely vanished. Unfortunately, in so doing, it would also ignore that the main achievement of L&E was to illuminate many black holes in the Kafkaesque technicalities of the law. Thanks to the ingenuity of the forerunners – Calabresi being in many respects the first in line, precisely for his lack of addiction to the tenets of wealth maximisation and for his attention to other values – much has been done in the direction of clarifying and rationalising legal concepts. And a great deal more may be added in the future, always aiming to help lawyers to better grasp the very sense of their mission: applying the law in a less than arcane way, open to scrutiny from external perspectives, and conscious of the necessity that the rule be consistent with its functional fabric. After all, this has been – and hopefully will continue to be – the most genuine contribution of the movement.

Since the publication of *The Costs of Accidents*, tort doctrine has developed a policy awareness that has deeply reshaped its conceptual foundations. Calabresi's insights have penetrated the academic world, well beyond its candour in recognising the occurrence of the phenomenon. But this legacy was not destined to be confined simply to law in the books or in the university classrooms. To the surprise of no-one, it has made significant inroads into the day-by-day operations of the courts, and not only in the US, as we have tried to demonstrate. The appropriate mix of different techniques aiming to minimise the costs of accidents is not, according to Calabresi, a choice reserved for the legislator: the judge is equally involved, and is called to handle delicate trade-offs. The analysis presented in this paper should be coupled with the more general trend to re-interpret some key provisions of the Civil Code, from the original primacy of the fault principle to the new 'credo' of strict liability. And this confirms that a section of the Italian

judiciary not only did not refute the hurdle but possibly tried to abide conscientiously by the guidelines stemming from Calabresi's work.

The view that L&E has forged Italian case-law in the field would appear, at first glance, to be an overstatement. Nonetheless, if one thinks of the almost metaphysical attitude that was dominant just a few decades ago, the perception of Calabresi's involvement in the new manner of dealing with tort law and policy cannot but gain momentum.

THE DICHOTOMY BETWEEN PROPERTY RULES AND LIABILITY RULES: EXPERIENCES FROM GERMAN LAW

*Claus Ott**

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Abstract

Calabresi and Melamed delivered a powerful theory to explain under what conditions it is economically efficient to transfer a property right by voluntary and alternatively by involuntary transactions. In the first instance, the property right should be protected by a property rule or an injunction as well as by criminal law sanctions in order to prevent involuntary transactions altogether. In the second instance, it should be protected only by a liability rule that provides compensation for involuntary transactions. Their theory is normative in the sense that they defend involuntary transactions under one

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set of conditions and voluntary transactions under another. However, their analysis is also analytical insofar as it predicts an evolutionary pressure on legal norms to encourage voluntary or involuntary transactions if the conditions, which they identified, are met. This article describes two diametrically opposed legal changes in Germany. In nuisance law, the development was from voluntary to involuntary transactions, while in privacy law it was from involuntary to voluntary transactions. We try to make it clear that these developments were triggered by the underlying causes that Calabresi and Melamed identified in their seminal paper on property rules vs. liability rules.

1 Introduction

The award of the academic degree of Honorary Doctor by the Erasmus School of Law to Guido Calabresi provides us with a most welcome opportunity to contribute to this special issue of the *Erasmus Law Review* and to reflect on the fundamental importance of his work on law and economics for a modern understanding of the structure of private law. This essay discusses developments in the relationship between private entitlements and emissions in German nuisance law and developments in German civil law on the protection of privacy. It also illustrates the gradual development from a property to a liability rule for the protection of private entitlements in nuisance law and the opposite tendency, from liability rules to property rules, in the law applicable to the protection of private life and reputation. These developments in opposite directions can be neither analysed nor understood without the analytical framework provided by Calabresi's insights.

2 Property rules vs. liability rules: a fundamental distinction

In their seminal paper, Calabresi and Melamed presented an integrated concept for the protection of entitlements by rules pertaining to property, liability, and inalienability.¹ This article became of fundamental relevance for the understanding of voluntary transactions, as opposed to torts or involuntary transactions. Voluntary transactions depend on entitlements that are protected by a transferable absolute right. Every infringement or trespass of that right is sanctioned by an injunction and by criminal law sanctions. Consequently, a third party can use a resource protected by such a right only

¹ G. Calabresi and A.D. Melamed, 'Property Rules, Liability Rules and Inalienability: One View of the Cathedral' (1972) 84 *Harvard Law Review* 1085.

through an agreement with the owner. In contrast to such a property rule that aims to ensure that only voluntary transactions arise, liability rules grant damage compensation in cases of transactions without consent. According to Calabresi and Melamed, transactions by consent – namely, voluntary transactions – are to be preferred, because the price for the transfer of a right then reflects the subjective valuation of those who give up their rights. However, as transaction costs are high and hold-up positions of owners of rights become important, the entitlement should only be protected by a liability rule. In this case, a third party, typically a court, fixes the amount of compensation for an involuntary transaction.

Providing protection by way of a property rule is fully in line with the jurisprudential approach that focuses on autonomy as the guiding principle of civil law. This approach regards the protection of absolute rights, such as property, as a natural extension of individual autonomy.

The property rule, however, also implies that worthwhile activities may be precluded because voluntary transactions are prohibitively costly. To facilitate such activities, the legal order may provide for the limitation or nullification of an entitlement if the taker is willing to pay a value determined by a third party, such as a state organ. The law, for example, may allow an actor to use someone else's property by way of a servitude, the price of which is determined by the court.

From an economic cost-benefit point of view, this line of argument is straightforward and quite convincing. It points to the criteria under which the initial set of entitlements over resources leads to an efficient allocation of costs. Under the conditions of the Coase theorem, society could limit itself to the property rule.² This would have two advantages. Resource allocation would be efficient, which is an important element of a welfarist concept of law, and the protection of entitlements would be fully in accordance with the autonomist view of the law. Under high transaction costs, however, a discrepancy arises between the economic welfarist and the autonomist concept of law. A pure liability rule violates the autonomist approach because it justifies the infringement of property without the consent of the owner. In a recent article, Calabresi has pointed to the fact that involuntary transactions take place in many legal orders even in areas that seem to be natural high ground of autonomous and doctrinal thinking. Not even the human body can be protected by a property rule and excluded from an involuntary transaction. 'Thus, people can be conscripted into the military against their will and be made to put their bodies to the service of the common good.'³ One might add that if an incompetent sergeant sends the

² R. Coase, 'The Problem of Social Cost' (1960) 3 *Journal of Law and Economics* 414.

³ G. Calabresi, 'An Introduction to Legal Thought: Four Approaches to Law and to the Allocation of Body Parts' (2003) 55 *Stanford Law Review* 2113.

conscript on an unnecessary but deadly mission, neither a property rule nor a liability rule protects the body of the conscript; consequently, nobody has a damage claim either.

Obviously the distinction between property rules, liability rules, and inalienability rules is implicit in the legal order, in which the property rule corresponds to the protection of an entitlement by an injunction based on *actio negatoria*. Liability rules are the domain of tort law. Inalienability rules can be found in statutory laws that forbid transactions such as the sale of human organs.

In this essay we will elaborate on the relevance of Calabresi's categories of legal rules to the development of law under the evolutionary pressure of social and economic change. At first glance, the categories of rules distinguished by Calabresi and Melamed pose no problems for lawyers. These rules are part of the legal order and belong either to the law of property or to the law of torts. On closer inspection, however, there appears to be a gap between the authors' concept and the traditional legal understanding of the function of tort law.

In legal terms, tort law grants a remedy of restoration or damage compensation if an injurer violates a property right that is protected by law against violation by anyone: namely, if the injurer acts illegally. The legal remedy is triggered by an illegal act for which the tortfeasor is responsible under the *culpa* doctrine. This legal manner of reasoning again reflects the autonomist concept of civil law, entailing that where damage was caused against the categorical intent of *neminem laedere*, this leads to the imposition of a sanction.

Calabresi and Melamed do not hold this traditional view. They focus on activities that necessarily imply damages but that are socially desirable. Consequently, the law has to guarantee that such socially desirable activities can take place and that external effects are internalised. Under low transaction costs, a property rule would solve both problems and would lead to an agreement on efficient levels of care and activity. Under the same condition, any rule would lead to the same result. However, the property rule has the advantage over other rules of being in accordance with the autonomy principle. Moreover, there is no need for a third party to fix levels of compensation.

Under high transactions costs, the property rule would result in blocking all dangerous activities, especially by the accumulated veto powers of potential victims. Harmful but socially valuable activities might not occur. In this case, society can decide not to ban a harmful activity: for instance, by not prohibiting motor vehicle traffic but by providing damage compensation for victims. A liability rule therefore implies the acceptance of a dangerous but socially desirable activity, which, however, leads to damage compensation. As Calabresi/Melamed put it:

Liability rules involve an additional stage of state intervention: not only are entitlements protected, but their transfer or destruction is allowed on the basis of a value determined by some organ of the state rather than by the parties themselves.⁴

From this juxtaposition it becomes clear that the view of Calabresi and Melamed on the function of tort law is consequentialist, welfarist, and cost-benefit-oriented but is still embedded in contractual thinking.⁵ As such, their view stands in sharp contrast to the traditional legal understanding, which is based on the concept of autonomy. Private property in this view is an emanation of private autonomy and, as such, is regarded as a natural right that is protected for its own sake. Both the property and the liability rule are oriented towards the concept of a natural right that is non-empirical and therefore not subject to a balancing of interests in a utilitarian or wealth-maximising way. This view corresponds to the concept of autonomy, which was fully developed in the 18th century period of enlightenment with the writings of Locke and Kant, for whom the basic concepts of law are inherently non-empirical and non-consequentialist. These ideas were taken up in the 20th century and developed further, mainly by Hayek and some proponents of the ordoliberal school, such as Mestmäcker.⁶ They concentrate not only on the irrelevance but on the impossibility of welfarist analysis and evaluation of consequences, their main argument being that an organ of the state lacks and cannot acquire the information needed to make such assessments. Welfarist considerations that limit private autonomy are therefore strictly rejected. Mestmäcker in this context underlines the position held by Manfred Streit, according to which ‘efficiency beyond the individual logic of choice becomes an irrelevant concept’.⁷

We do not intend to elaborate further on this debate between welfarists and autonomists. Instead we will trace the relevance of the Calabresi and Melamed approach for an understanding of the adaptation of law under evolutionary pressure in two selected fields of German property law and tort law. Calabresi and Melamed favour a property rule in cases

⁴ Calabresi and Melamed, above n. 1 at 1092.

⁵ In a recent article Calabresi describes this view as follows: ‘Rather, tort law viewed in this way is characterized by a set of rules which determine when entitlements, when ownerships, can be shifted not as a result of direct agreement of the parties, nor as a result of direct decisions by the State, but as a result of the willingness of parties to take part in activities which will be charged a price determined by the State, a price which will, as a result, both limit the number and type of transfers that occur, and yet permit such transfers.’ G. Calabresi, ‘Toward a Unified Theory of Torts’ (2007) 1 *Journal of Tort Law* 1 at 2.

⁶ E.J. Mestmäcker, *A Legal Theory without Law, Posner versus Hayek on Economic Analysis of Law* (Tübingen: Mohr Siebeck Verlag 2007).

⁷ *Id.* at 34 and M. Streit, ‘Cognition, Competition and Catallaxy: In Memory of Hayek’ (1993) 4 *Constitutional Political Economy* 223.

involving low transactions costs. This reconciles the autonomist and the welfarist position, as all social outcomes are the result of consensual transactions, and they are efficient. They reject the autonomist view in favour of a welfarist solution in cases involving high transaction costs.⁸

We follow the development of the property rule in the 19th century under the influence of the Industrial Revolution, where in Germany under the pressure of increasing transaction costs the effect of the original property rule was reduced and the rule was partly replaced by a welfarist liability rule. Furthermore, we follow the development of the *Allgemeines Persönlichkeitsrecht* (right of personality) under the influence of intrusion of privacy by mass media. In this field of low transaction costs, we find a metamorphosis of the liability rule, which encourages involuntary transactions to a rule that induces voluntary transfers.

3 From property rule to liability rule in the process of German industrialisation

The development of nuisance law in Germany during the process of early industrialisation is an example of the gradual transformation of norms from an autonomist protection of property to a welfarist balancing of interests. At the dawn of the Industrial Revolution, nuisance law in the modern sense was undeveloped, and emission and technology standards in particular were lacking.⁹ In the absence of environmental law, several classical Roman texts dating back to the second century A.D. gained importance. These texts held emissions to be illegal unless allowed by a servitude.¹⁰ The recipient or victim of the polluting substance could interdict the emission through an *actio negatoria*. In 1826, Spangenberg proposed to develop this norm into a legal system for the comprehensive protection of landed property.¹¹ In the first half of the 19th century, German courts developed the *actio negatoria*

⁸ The extended debate on the Calabresi and Melamed proposition has shown that for the differentiation between liability rules and property rules, factors other than transaction costs of the entitlement holder should be taken into account, especially the cost and reliability of damage assessment: L. Kaplow and S. Shavell, 'Property Rules versus Liability Rules' (1996) 109 *Harvard Law Review* 713.

⁹ N. Koch, *Die Entwicklung des deutschen privaten Immissionsschutzrechts seit Beginn der Industrialisierung* (Rechtshistorische Reihe 293) (Berlin: Verlag Peter Lang 2004) at 2.

¹⁰ Dig. 8.5.8.5.

¹¹ E.P.J. Spangenberg, 'Einige Bemerkungen über das Nachbarschaftsrecht' (1826) 9 *Archiv für die civilistische Praxis* 268, cited in N. Koch, above n. 9 at 23.

into an instrument of civil protection against all emissions.¹² As Zimmermann puts it, the *actio negatoria* was ‘liberally extended in this context’.¹³ This approach was in particular applied to the use of rivers and lakes, which in Germany remained almost completely unregulated by public law until the end of the 19th century. However, emissions into the air were also interdicted on the basis of the *actio negatoria*.

This legal development can be explained partly by a conservative bias against industrialisation. More importantly, however, 19th century civil law was based on the concept of absolute property of the *ius commune*. The law did not regard the industrial use of land as a factor in the balancing of interests. If industrial use was predominant in a particular area, this fact did not constitute a defence against traditional land owners.¹⁴ The principle of *neminem laedere* also led to the view that, irrespective of the nature of the economic activity engaged in, each landowner should be entitled to basically the same level of emissions, and the legal level of emissions was not subject to a balancing of interests between society at large and the interests of a victim.

With the benefit of hindsight, we know that the *neminem laedere* principle is an empty concept in the event that the incompatible use of resources as the option of not inflicting harm on someone else is not available. As Coase has shown in his seminal article on the problem of social costs, in such cases the damage problem is of a reciprocal nature.¹⁵ Either the industrial land owner inflicts harm on the traditional land owner or vice versa. The choice is not between harm and no harm but between the agricultural or industrial use of the land with the consequence of harm to the one or to the other side.

The balancing of interests between the incompatible economic activities of the new industry and the traditional economy was not in accord with the concept of absolute property rights, which was generally accepted in Germany during the phase of early industrialisation. Consequently, the *actio negatoria* often led to a closing down of industrial sites.¹⁶ We can only speculate why the fundamental insight of the reciprocity principle, which points to the necessity of balancing interests, was not used in the practice of property law in this period of legal development in Germany. One probable

¹² A. Thier, ‘Zwischen action negatoria und Aufopferungsanspruch’ in U. Falk and H. Mohnhaupt (eds.) *Das Bürgerliche Gesetzbuch und seine Richter* (Frankfurt am Main: Vittorio Klostermann 2000) at 415.

¹³ R. Zimmermann, ‘The German Civil Code and the Development of Private Law in Germany’ (2006) *Oxford University Comparative Law Forum* 1.

¹⁴ Thier, above n. 12 at 420.

¹⁵ R. Coase, ‘The Problem of Social Cost’ (1960) 3 *Journal of Law and Economics* 1.

¹⁶ See Thier, above n. 12 at 419 with references to several legal cases.

reason is that in pre-industrial periods the incompatible use of land, despite occurring especially in cities, was of a different scope, compared to land use after the beginning of industrialization. The routines and doctrines developed in pre-industrial times survived for a certain time even though they became increasingly dysfunctional. Moreover, it is certain that legal science did not deal with emissions on any significant level before the time of the Industrial Revolution.¹⁷ The justification of ‘thick’ property rights on the basis of the principle of autonomy by scholars like John Locke and Immanuel Kant, however, did support the concept of property prevalent in society and did not contradict the life of a predominantly agrarian society. None of the philosophers of the enlightenment could have imagined that they lived at the dawn of a new era of economics with unprecedented spillover effects between actors. There is a general agreement among legal historians that the traditional concept of absolute property was an impediment to industrial development in Germany in the 19th century. Coasean bargains, by which industrialists would buy entitlements from the traditional land owners, could not solve this problem in a general way due to high transaction costs and hold-up positions.

This constellation of German property law in the 19th century presents a classical case of the proposition of Calabresi and Melamed, according to which a property rule becomes dysfunctional if transaction costs are high and it should be replaced by a liability rule. The necessity of a fundamentally different approach to the problem was far beyond the imagination of even some of the most prominent legal scholars of the time. As late as 1862, Rudolf von Jhering wrote: ‘The industrial plants should relocate to reclusiveness because the law is not obliged to consider the specific needs of particular kinds of professions and establishments and to enable their existence at the cost of their neighbours.’¹⁸

Jhering’s position reflects a strict property rule approach that is prepared to accept the consequence of restricting industrial development to some remote places. However, it was already outdated when it was published. Von Jhering was not blind to the problems that had emerged, but he believed that market solutions were available to solve them. He proposed that the owners of industrial land should either buy servitudes from the owners of agricultural land, which would entitle them to emissions, or that

¹⁷ Koch, above n. 9 at 22.

¹⁸ ‘Die Fabriken mögen sich in die Einsamkeit zurückziehen, (weil) das Recht auf die eigenthümlichen Bedürfnisse besonderer Berufsarten und Einrichtungen keine solche Rücksicht zu nehmen (braucht), dass es auf Kosten der Nachbarn ... deren Existenz zu ermöglichen hätte’, R. von Jhering, ‘Zur Lehre von den Beschränkungen des Grundeigentümers im Interesse der Nachbarn’ (1862) in R. von Jhering, *Jahrbücher für die Dogmatik des heutigen römischen und deutschen Privatrechts*, 6, S. 81-130; cited by Thier, above n. 12 at 424.

they should buy all the land on which the effects of the emissions were to be expected as a consequence of their industrial activity.¹⁹ This proposal was overly optimistic.

The fundamental change came when the property rule was partly substituted for or replaced by the liability rule. The change was implemented through fresh legislation and a new approach by the courts. In 1869, a law was adopted that precluded injunctions against all industrial plants approved by state authority.²⁰ It replaced the *actio negatoria* by a pure claim for damage compensation. This law was enacted under the pressure of the National Liberal Party, which in particular represented the interests of industry.²¹ In addition, courts gradually replaced injunctions by damage compensation. According to Regina Ogorek²², this process started well before the 1870s; this point is disputed but can be left open here.²³ In any case, it is certain that after the unification of Germany in 1871 the Imperial Court (*Reichsgericht*) took decisive steps to replace in part the property rule by a liability rule in a large number of relevant cases. Thus, during the course of industrialisation the liability rule gradually reduced the scope of injunctions available to traditional landowners but gave them damage claims instead. Between 1882 and 1932, the Imperial Court took important decisions. In the process, the court dismantled the whole concept of the absolute protection of property. An Imperial Court decision in 1882 stated that an industrial plant without harmful emissions is impossible, but held that it should be privileged if its continued operation is necessary for the general well-being.²⁴ With this decision, the concept of equal competences resulting from property of land was relinquished and replaced by a welfarist concept, according to which these competences could be different for distinct pieces of land depending upon their use and their contribution to general welfare. This is an important

¹⁹ Von Jhering, above n. 18 at 127 ‘Dann mögen sie entweder die Vorrichtungen treffen, um die nachtheiligen Wirkungen zu beseitigen, oder sie mögen von den benachbarten Grundeigenthümern die erforderlichen Sevituden aquiriren und dieselben für die Nachtheile, die sie ihnen zufügen, entschädigen oder endlich in dem Umkreise ihres Einwirkungsgebiets das Land aufkaufen.’

²⁰ §26 der Gewerbeordnung für den Norddeutschen Bund vom 21.6.1869, Bundesgesetzblatt für den Norddeutschen Bund (1869) at 245.

²¹ Thier, above n. 12 at 425.

²² R. Ogorek, ‘Actio negatoria und industrielle Beeinträchtigung des Grundeigentums’ in H. Coing and W. Wilhelm (eds.) *Wissenschaft und Kodifikation des Privatrechts im 19. Jahrhundert* (Frankfurt am Main: Verlag Vittorio Klostermann 1979) 40-78.

²³ Thier, above n. 12 at 419.

²⁴ Reichsgericht, I. Zivilsenat vom 29.3.1882, RGZ 6, 217, 220.

example of a move from a property rule to a liability rule after the property rule had become inefficient.²⁵

4 Towards strong protection of privacy under German civil law

A person's right to privacy encompasses the following entitlements to protection against intrusion of his/her sphere of private life and intimacy: not to be subject to slanderous publications; not to be subject to distortion of his personal image and reputation in public; and not to have his/her name, personal features, and appearance appropriated.

The German Civil Code of 1900 did not contain a right of privacy that covered the full scope of a person's interest in defending his/her private life and reputation against intrusions by others. Instead, the protection of private life and reputation was generally shifted to criminal law offences relating to slander and defamation. Tort law instead focuses on property rights, which include private property and the rights to life, health, and bodily integrity, as well as on other comparable entitlements,²⁶ including the protection of an individual's name.²⁷ These entitlements are protected by property rules (injunctions, *actio negatoria*) and also by liability rules granting damage compensation. Only specific infringements of personality interests are covered by tort law: namely, the endangering of a person's credit by assertion or publication of knowingly untrue statements.²⁸ Furthermore, tort law contains a general rule of damage compensation in case of wilful infliction of damage in violation of *bonos mores*. In addition, a particular entitlement concerning copyright with regard to one's own image was introduced in 1907 by a copyright law concerning works of art and of photography.²⁹

Apart from these restricted rules and the rules of criminal law, the Civil Code protected a person's reputation and privacy neither by a property rule nor by a liability rule. The legislators of the German Civil Code rejected all approaches by legal scholars to include a comprehensive right of privacy

²⁵ It is worth mentioning that recently a new approach to the protection of the environment has been developed. Western countries and especially the European Union use a system of tradable pollution rights. These rights are individual and transferable entitlements to emit a fixed quantity of certain noxious substances into the environment. Public and criminal law sanction any pollution beyond the limits of the certificate. The violation is not an infringement of individual rights of others. The violation cannot be prohibited by an injunction of a victim. Therefore tradable pollution rights do not lead to environmental protection by a property rule.

²⁶ § 823 Abs. 1 BGB.

²⁷ § 12 BGB.

²⁸ § 824 BGB.

²⁹ § 22 Kunsturhebergesetz.

in the Civil Code. They also refused to incorporate into the Code relevant legal doctrines of the preceding law, the German *ius commune* (Pandektenrecht), which was derived from ancient Roman Law. In the law of the 19th century, a right of privacy was still part of tort law in the form of the *actio iniuriam aestimatoria*. The main characteristic of this action was *contumelia*: insults with regard to the personality of another person. This action was directed at bodily injuries as well as at injuries caused by libel and slander. The sanction consisted in penalty payments, the amount of which had to be set at the discretion of the judge. The *actio iniuriam aestimatoria* was a privately prosecuted criminal action and was finally abolished in the 19th century in the course of the strict separation of civil law from criminal law.

The legislators of the Civil Code refused to establish a comprehensive right of privacy for different reasons. One of these was the anticipated difficulty of clearly and properly defining the scope of such a right, and the reluctance of the legislator to leave it to the courts to structure and limit it. Another equally important reason was the reluctance to grant damage compensation by money payments for immaterial damages. To quote a statement from the early legislative process:

According to the common view it is not regarded as honourable to trade an insult for money; and he who seeks monetary compensation for damage done to his honour has not much of it to lose.³⁰

Accordingly, the Civil Code restricted damage compensation to payments for pain and suffering in cases of bodily harm and deprivation of personal freedom.³¹

Subsequently, German courts adhered strictly to the rules of the Civil Code. It was only after World War II that they embarked on a new approach to overcome the restrictions of the Civil Code regarding the protection of privacy. A property right of privacy was established and integrated in tort law by the Federal Court of Justice (Bundesgerichtshof) and was continuously developed, beginning with judgments in 1956 and 1958.³² This development can be explained as a reaction to ongoing social

³⁰ 'Nach der allgemeinen Volksansicht ist es nicht ehrenvoll, sich Beleidigungen durch Geld abkaufen zu lassen, und derjenige habe wenig Ehre zu verlieren, der die Verletzung derselben durch eine Klage auf Geld zu reparieren suche', Kommissionsbericht, in B. Mugdan, Die gesamten Materialien zum Bürgerlichen Gesetzbuch für das Deutsche Reich, Band II; 1899, S. 1297.

³¹ § 847 BGB a.F.

³² BGHZ 13, 334 – Judgment from May 25, 1954 (unauthorised publication of an attorney's writ); BGHZ 20, 345 – Paul Dahlke – Judgment from May 8, 1956 (unauthorised use of photos of the actor Paul Dahlke for sales promotion); BGHZ

change, including the decline of traditional barriers based on social norms protecting privacy, as a response to new technologies of information and communication permitting deep intrusions into privacy, and last but not least as a reaction to the increasing relevance of the mass media.

The right of privacy differs from traditional property rights in that it is less predetermined than private property rights on land or tangible goods. Instead, its structure resembles that of a blanket clause whose content and scope have to be formed in a process of balancing interests between privacy and reputation on the one hand and the right to the freedom of communication and the press on the other. The property right to privacy does not aim to exclude all interferences with one's personal sphere. The problem arises from the interpretation of the unique *Spannungsverhältnis* (interrelation of tensions) that characterises the modern human being. In particular, this holds true for the interrelation between the individual, public opinion, and the role of the mass media as mediators. Anyone who enters the public sphere and seeks publicity for his/her activities must in turn accept a closer inspection of his/her personal affairs. Accordingly, the scope of privacy rights typically has to be defined on a case-by-case basis and will differ depending on the circumstances of the case.

As Calabresi and Melamed have shown, property rights may be protected either by a property rule or by a liability rule, whereby from an economic point of view the property rule generally deserves priority because it only allows transactions with the consent of both parties involved – the seller and the buyer. Transactions, then, are based on valuations of the parties, not on value assessments of third parties such as courts or mediators. This consideration is particularly relevant to the integration of subjective valuations in the transaction, which in turn is especially relevant where the transfer of entitlements related to the right to privacy is concerned. The values attributed to such entitlements depend on subjective valuations of private life and reputation by the holder of the entitlement. Markets exist for particular elements of the right to privacy. The widespread use of the public image and reputation of celebrities, including stars from TV, movies, music, and sports, for sales promotion, and the license fees actually paid to these celebrities, are proof of a flourishing market, including market prices, for transactions of personal features and images. However, a market-based valuation for elements of privacy entitlements often does not coincide with the owner's subjective valuation of those entitlements. Take the example of a movie actor or a musical performer who regularly sells licences with regard to his/her image and which entitle the buyer to use these images to promote the sales of various products. However, one day the public figure might be depicted in a commercial for denture additives or for the promotion

26,340 – Herrenreiter – Judgment from Feb. 2, 1958 (unauthorised use of the photo of a businessman on a horse to promote sales of an aphrodisiac).

of goods to enhance sexual performance. Even if market prices for licences of the latter types of exposure exist, an individual's subjective valuation of being exposed in such a specific context and the personal value attributed to this exposure will not necessarily be reflected by the market price.

It is obvious that in many instances market prices do not reflect the subjective valuations of many or even most holders of the entitlement. Such valuations cannot be assessed by third parties. Take the example of a girl whose nude pictures are published in a newspaper. Whether she is willing to consent to have her photo published and whether she attributes a high or a low monetary value to this act of publicity depends on how she personally estimates and values the consequences for her reputation among her relatives, friends, and colleagues. It also depends upon her personal views about what constitutes proper behaviour. This valuation varies dramatically from victim to victim. Courts are not well placed to assess such subjective valuations, and as a result they fix an appropriate amount of damage compensation.

Such constellations correspond to the conditions under which only a property rule will lead to efficient solutions, provided that transactions costs are low. A property rule ensures that transactions of segments of the right to privacy take place only at prices that fully internalise subjective valuations. Furthermore, the structural preconditions of a property rule are met because transaction costs are low. Typically, there are only two parties involved in the transaction: the holder of the entitlement and the person who wants to use it, the latter being a single party or firm, such as a promotion agency or a newspaper corporation. Calabresi and Melamed have demonstrated that efficient transactions are to be expected only under a property rule. However, based on 'new bargaining theory', doubt has been cast on the authors' fundamental claim. New bargaining theory focuses on the substantial likelihood of bargaining failure due to informational asymmetry – in particular if each party to a bargain knows his/her own subjective valuations but not those of the other parties. This asymmetry implies strategic behaviour and hold-up positions that impede efficient transactions.³³ It has been argued that, as a consequence, the proposition that property rules are socially preferable to liability rules when transactions costs are low appears to be either no longer valid or severely weakened. Hence, Kaplow and Shavell develop an ambiguity proposition: The property rule and the liability rule cannot be ranked in terms of welfare when transactions costs are low and information is imperfect. Imperfect

³³ See Kaplow and Shavell, above n. 8. For more references to the recent bargaining theory literature, see K. Hylton, 'Property Rules and Liability Rules, Once Again' Boston University School of Law Working Paper Series, Land and Economics No. 05-17 available at <<http://www.bu.edu/law/faculty/papers>> or <<http://ssrn.com> abstract_id=818944 >(Boston University 2005).

information can indeed raise transaction costs to a level at which consensual transactions are not possible even if both parties were to profit from it; hence, the property rule is not workable. Under this condition, only the liability rule remains as a remedy; however, it is inherently imperfect because it does not protect subjective valuations. This leads to the conclusion that even in the event of imperfect information the property rule generally should be given priority as far as possible. As Keith Hylton puts it: ‘Where the inefficiencies resulting from bargaining failure are relatively mild or infrequent, society should put more weight on the subjective valuation protecting function of property rules.’³⁴ This is of particular relevance in the context of infringements of privacy rights. In such cases, a general shift to the liability rule would pose a severe impediment to legal sanctions because – as has been mentioned – subjective valuations are essential for privacy rights and are, for most individuals, not reflected by market prices.

Although property rules appear to fit the requirements for efficient transactions of entitlements to private life and reputation, they fail to prevent effectively unauthorised intrusions into those entitlements in many or even in most cases. Notwithstanding the formal availability of the *actio negatoria* also in cases of infringements of privacy rights, it is in fact of little use. Injunctions are of help only against impending infringements that are anticipated by the victim. Typically, however, intrusions into private life and reputation come without warning and cannot be eliminated by means of correction, revocation, or an apology by the offender.

This situation leads to a legal dilemma. On the one hand, the socially optimal rule would be *actio negatoria*, which fully protects subjective values. On the other hand, the only practical possibility to protect the right is a payment of money after the right has been violated. The solution to this dilemma – as will be shown – is to modify the liability rule in such a way that it becomes a perfect substitute for the property rule and thus provides an effective deterrent against involuntary transactions.

Protection of the right to privacy by liability rules was indeed the predominant approach of German courts and legal doctrine until very recently. Infringements of these rights were regarded as torts, resulting in claims for damage compensation. This approach, however, met with many difficulties.

The first was a rule in the Civil Code that restricted monetary compensation in the case of pecuniary losses, the only exception being immaterial losses from pain and suffering resulting from bodily harm or deprivation of personal freedom. This positive law restriction was overruled by the Federal Court in 1958 in the ‘Herrenreiter’ case.³⁵ The court argued

³⁴ Hylton, above n. 33 at 41.

³⁵ BGHZ 26,340 – Herrenreiter – Judgment from Feb. 2, 1958.

that the protection of privacy rights would remain ineffective without sanctions in the form of monetary payment and therefore it granted damage compensation.

The other problem in applying the liability rule proved to be the assessment of damages caused to the 'owner' and the calculation of the appropriate amount of monetary compensation. In the first case decided by the Federal Court concerning the unauthorised use of photos of the actor Paul Dahlke for sales promotion, the Court granted damage compensation according to a hypothetical licence fee.³⁶ This was a great step forward but with the typical shortcomings of a liability rule: subjective valuations above the market price were disregarded.

However, soon afterwards the Court abandoned this approach in the 'Herrenreiter' case. Here, the court found that the plaintiff had not suffered pecuniary loss, based on the argument that he would not have agreed to be exposed in such a humiliating and ridiculous situation, given his social status as an esteemed business man and member of society. Instead, the loss suffered by the plaintiff was regarded as an immaterial loss, and damage compensation was granted as satisfaction for the distress suffered as a result of the assault, in analogy to damage compensation for pain and suffering in the event of bodily assault. This approach dissociated damage compensation from the market price but still did not protect all subjective valuations.

A change in the judicial approach has emerged in recent years, which has eventually led to a change of paradigm in the direction of a property rule. The first step in this direction was a judgment of the Federal Court focusing on the preventive function of damage compensation. The leading case concerned an action for compensation of immaterial losses brought by Princess Caroline of Monaco against the Burda Publishing Company.³⁷ The claim was based on a fictitious interview with the princess, which was published in a yellow press journal together with a photo of the princess with a partner. These photos were declared to be snapshots from the family album, but were actually taken by paparazzi from a long distance. The publisher was held liable of tort and was first charged with a payment of 30,000 DM by the lower courts.³⁸

The Federal Court overturned this judgment with regard to the amount of damage compensation and ordered the lower court, the Hamburg Court of Appeals, to reconsider the case and to fix damage compensation high enough to provide an effective barrier against unauthorised commercialisation of the plaintiff's right of privacy and reputation. Finally,

³⁶ BGHZ 20, 345 – Paul Dahlke – Judgment from May 8, 1956.

³⁷ BGHZ 128, 1 – Judgment from Nov. 11, 1994 – Caroline von Monaco.

³⁸ OLG Hamburg judgment from Dec. 16, 1993 (3 U 60/93) not published.

damage compensation was set at 180,000 DM, an amount that up until that time was unprecedented in cases of infringement of personality rights.

This development signals a change of paradigm. The focus is being shifted from satisfaction for immaterial losses to sanctions for violating the autonomy of the holder of the entitlement and to make the involuntary transaction unprofitable. In the *Caroline of Monaco* case, it became apparent that the protection of personality rights aims at restoring the property rule. The journal had first asked the princess for an exclusive interview. When the princess refused, the management of the journal decided to invent one and to publish it. The text of this false interview was as such neither slanderous nor did it contain untrue statements. But it was held by the court that the publication constituted an intrusion of privacy because it violated the autonomy of the princess to decide for herself whether to agree to an interview, and if so, at what price. Again it must be pointed out that only a property rule protects the subjective valuation of the entitlement holder, which is at the core of the personality right in question in the *Caroline of Monaco* case. Although the monetary compensation in this case was set far above the compensation granted in previous cases and thus the transaction was made less profitable, it is not guaranteed that the transaction would either have been voluntary or would not have taken place.

The same structure applies to other less prominent cases of infringements of personality rights, where elements of private life or reputation are made available to the public without the consent of the owner. Such elements are generally transferable and may be purchased depending on the price. Many entitlements to private life and even of intimacy are sold especially to mass media, as one can witness in certain afternoon television series where often embarrassing details of private life and sometimes even sexual habits are presented by individuals having no sense of shame. If consent is too difficult or too costly to obtain, the media often make unauthorised use of personal information, bypassing the entitlement holder and undertaking the risk of being held liable, possibly much later, for payments that until recently were quite moderate. Thus, any incentives for the unauthorised use of elements of private life and reputation should be removed in order to ensure that only consensual transactions take place.

This is a strong argument for the use of the liability rule as a substitute for the property rule. The problem, however, remains that courts cannot determine subjective valuations. They cannot reconstruct the hypothetical decision of the plaintiff as to whether and at what price to sell elements of private life or reputation, because it is not possible for a third party to assess subjective valuations. Therefore compensation granted on a liability rule cannot guarantee that involuntary transactions are prevented and that only voluntary transactions take place. As a result, compensations that are based on a liability rule lead to inefficiency. This holds true even if information about transaction prices of somewhat comparable cases is

available. Such information is not representative of the subjective valuations of other parties in other cases. Again take the case of Princess Caroline of Monaco, who was awarded a payment of 180,000 DM as compensation for an unauthorised and fictitious interview.³⁹ Compared to a payment of 250,000 DM paid by a journal for an interview with a formerly prominent prison inmate convicted of large-scale fraud, the compensation payment to the princess appears to be low. It seems plausible that the princess would not have accepted a lower fee for a voluntary interview. For the rest, we can only speculate on her subjective valuations.

Because of these inherent shortcomings, a liability rule that provides compensation for the violated holder of the entitlement will not effectively deter involuntary transactions and thus substitute for the property rule. Instead, the subjective valuations of the offender can be assessed reliably by focusing on the profit he expected from drawing on the personality of the entitlement holder. The offender would not pay a fee that exceeds his expected profit. Consequently, a transaction would not take place if the owner demanded a higher fee according to his subjective valuations. This would lead to a solution in conformity with the property rule. If the owner accepted a fee lower than the expected profit of the offender, a consensual transaction would occur. This result again would be in conformity with the property rule and would guarantee efficiency. The motive for the offender to violate the personality right of the holder is to benefit from using the right at a price that does not reflect the subjective valuations of the holder. This development is contrary to the property rule and leads to an inefficient solution. If the holder of the entitlement is given a claim to recover the profit from the offender, the incentive to circumvent the consent of the holder is removed. Consequently, to base the payment to the holder on a disgorgement of profits would be a perfect substitute for the property rule.

5 Conclusion

In a seminal paper, Calabresi and Melamed illustrated that the law can protect a private entitlement either by a property rule (injunction) or by a liability rule. The property rule guarantees that the transfer of a right is voluntary. A property rule protection guarantees first that the transaction does not violate individual autonomy and is therefore compatible with the philosophical ideal of the Enlightenment. It further guarantees that the transaction increases the utility of the parties concerned and generates a win-win situation. However, if an entitlement is protected only by a liability rule that leads to damage compensation, this gives incentives to third parties to

³⁹ BGHZ 128, 1, 5 above n. 37.

take the entitlement away from the owner whenever its value for the third party is higher than the expected damage compensation. A liability rule therefore triggers involuntary transactions that violate the principle of autonomy. Nevertheless, Calabresi and Melamed argue that such involuntary transactions are recommendable whenever transactions costs are high and the market for the transfer of rights does not work smoothly enough. In such cases, the legal system should resort to a weaker protection of entitlements by liability rules despite the increase in involuntary transactions.

In this article, we present two examples of legal development in German Civil Law. We demonstrate that the approach of Calabresi and Melamed is not only a normative principle but that it explains the evolutionary pressure to change legal norms in two important fields of the law. Our first example is from nuisance law. In the beginning of the 19th century – before the Industrial Revolution – the rights of pollutees were protected by property rules of land owners against the polluter. Only when it became clear that private transactions between the polluter and the pollutee were often impossible and that the injunction of landowners caused huge economic losses for society did legislation and jurisdiction gradually replace the property rule with a liability rule. This resulted in an entitlement to pollute against compensation and removed an important barrier against the development of modern industry.

The second example is from privacy law. This is a field in which private transfers of rights are easily possible and transaction costs are low. Originally, however, privacy was only weakly protected, which with the development of modern mass media led to ever increasing numbers of involuntary transactions. We show that this triggered a wave of claims and caused a series of far-reaching court decisions that aim at making involuntary transactions unprofitable. The Calabresi and Melamed approach is therefore an analytical starting point to explain two important legal developments in Germany. These developments in two different fields of the law went in opposite directions because market transaction costs for the transfer of an entitlement were different.

PROPERTY RULES, LIABILITY RULES AND PATENT MARKET FAILURE

*Ben Depoorter**

Abstract

Relying on the economic theory of real property, commentators argue that patent law is better suited to a property rule regime than a liability rule system. The underlying assumption is that *ex ante* incentives for innovation are best promoted by enabling patent holders to negotiate licenses against the backdrop of an injunction. By contrast, judicially determined damage remedies systematically undervalue innovation. However, recent judicial developments have started to deny injunctions in patent infringement cases in favour of awarding damages, making it appear that patent law will now be increasingly governed by liability rules. This article reflects on this trend by considering the case of patent market failure. It argues that many of the preconditions that work against liability rules similarly affect property rules and private bargaining. Patent market failure is caused by difficulties in valuing (and pricing) innovation, establishing the boundaries of patents and resolving the externalities involved in patent licensing. Patent market failure strengthens the case for liability rules that provide follow-up innovators access to patents, while eliminating the detrimental effect of the anticommons.

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1 Introduction

The distinction between property rules and liability rules, set forth by the groundbreaking article ‘Property Rules, Liability Rules, and Inalienability: One View from the Cathedral’, is well established as one of the most prominent analytical tools in legal scholarship.¹ In this article on the protection of entitlements, Judge Guido Calabresi and Douglas Melamed have stimulated a new generation of scholars to cross boundaries between the different fields of law and reach beyond settled legal terminology in order to recognize similarities and analyze functional differences among legal systems and varying areas of the law. Unifying concepts, such as property and liability rule protection,² provide highly valuable instruments that can be used to critically examine remedial opportunities. Likewise, in the field of intellectual property law the property-liability rule framework has inspired a range of illuminating scholarship and lively debates over the appropriate legal protection for information goods.³

The distinction between liability and property rules has proved to be instrumental in explaining the role of collective rights organisation,⁴ analyzing the conditions amenable to compulsory licensing,⁵ determining the

¹ G. Calabresi and A.D. Melamed, ‘Property Rules, Liability Rules, and Inalienability: One View of the Cathedral’ (1972) 85 *Harvard Law Review* 1089.

² *Id.* at 1092 (‘Whenever someone may destroy the initial entitlement if he is willing to pay an objectively determined value for it, an entitlement is protected by a liability rule.’).

³ See generally on the question whether property rules are more or less likely than judicially administered liability rules to encourage bargaining to efficient licensing outcomes, R.D. Blair and T.F. Cotter, ‘An Economic Analysis of Damages Rules in Intellectual Property Law’ (1998) 39 *William and Mary Law Review* 1585. For a critical examination of the general presumption in favor of injunctive relief, see D.L. Burk, ‘The Trouble with Trespass’ (2000) 4 *Journal of Small and Emerging Business Law* 27 at 53 (in the Internet context); A. Kozinski and C. Newman, ‘What’s So Fair About Fair Use?’ (1999) 46 *Journal of the Copyright Society of the USA* 513 at 525-527 (in the context of copyright law).

⁴ R.P. Merges, ‘Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organisations’ (1996) 84 *California Law Review* 1293 at 1303–1309 (arguing that the strong property rule protection in copyright law prompted authors and users to contract out of a property rule into a liability rule regime enforced by copyright collectives, for instance with blanket licenses).

⁵ R.P. Merges, ‘Of Property Rules, Coase, and Intellectual Property’ (1994) 94 *Columbia Law Review* 2655.

appropriate protection of incentives to innovate,⁶ and examining the relationship between various intellectual property regimes, to give a few examples.⁷

In this article, I contribute to this literature by applying the liability-property rule toolkit, firstly to describe an emerging shift towards liability rule solutions in US patent law and, secondly, to analyse the causes of this liability rule trend in patent law more generally. I argue that, despite the current trend of applying property rules to analyse intellectual property rights, several factors of increasing importance in the field of technological innovation suggest that the property rule approach to patent disputes is becoming increasingly costly. Specifically, I argue that boundary costs, fragmentation costs, and the costs of bundling necessities have substantially increased the burden on patent licensing markets. By contrast, nuanced liability-based alternatives are able to ensure access to science without hurting incentives to innovate.

This article unfolds as follows. Part 2 describes the traditional property rights/property rule approach to intellectual property. Part 3 provides a concise summary of the recent judicial trend that has broadened the application of liability rules in patent law. Part 4 examines the transaction costs involved in patent licensing markets. Part 5 concludes by considering the advantages inherent in using liability rule defaults for follow-up innovations.

2 The property rule paradigm in patent law

To a high degree, the equitable remedy of injunction has dominated the law of intellectual property.⁸ For instance, when a court deems an author's copyright has been infringed upon by another's unauthorized derivative work, the copyright holder may exercise his or her right to halt the publication and dissemination of the infringing work.⁹ Similarly, patent holders may prevent non-licensed uses of their underlying technology in

⁶ See generally on remedial choices in patent law M. Schankerman and S. Scotchmer, 'Damages and Injunctions in Protecting Intellectual Property' (2001) 32 *Journal of Industrial Economics* 199.

⁷ J.H. Reichman, 'Legal Hybrids between the Patent and Copyright Paradigm' (1994) 94 *Columbia Law Review* 2558.

⁸ *Id.* at 2667 ('All familiar with the IPR field recognize the strong presumption in favor of injunctions.').

⁹ See 17 U.S.C. § 502 (enjoinment in civil cases) and 17 U.S.C. § 506 (a) (criminal cases).

subsequent technologies.¹⁰ Because of the strict liability nature of patent infringements, the patentee will in effect enjoin the unauthorized manufacturing, use, sale, or importation by the infringer.¹¹

The traditional legal emphasis on property rule protection fits well within a general tendency to equate intellectual property law with the law governing property more generally.¹² Spurred by the intellectual prominence of the ‘law and economics’ movement, concepts behind laws governing real property have firmly established the paradigm of private property rights in intellectual property.¹² The underlying concepts in the economic theory of real property justify granting strong rights to intellectual property owners in order to internalise positive externalities and prevent free riding.

Leading commentators have argued that patent law is better suited as a property rule regime than a liability rule system.¹³ Strong remedial protection promotes *ex ante* incentives for innovators and enables patent holders to license their patent to users and follow-up innovators. Arguing from the assumption that patent rights are relatively well defined, law and economics scholars have generally operated on the expectation that patent holders and follow-up innovators will have little trouble negotiating licenses against the backdrop of an injunction. By contrast, judicially determined damage remedies (such as *ex post* compulsory licenses) may misjudge the value of the intellectual property or the injuries caused by a patent infringement. Specifically, the objection to liability rule protection is that courts will not only inaccurately identify damages, but that the deviation will

¹⁰ Patent right is the right to exclude others from using your patented innovation. See J. Bessen and M. Meurer, *Patent Failure* (Princeton: Princeton University Press 2008).

¹¹ R.P. Merges, ‘Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents’ (1994) 62 *Tennessee Law Review* 75 at 77: ‘The basic rule [in patent law] is that the rightholder has an almost absolute right to obtain an injunctive remedy against the infringer.’ See also *Smith Int’l, Inc. v. Hughes Tool Co.*, 718 F.2d 1573, 1578 (Fed. Cir.), *cert. denied*, 464 U.S. 996 (1983) (‘[W]ithout the right to obtain an injunction, the right to exclude granted to the patentee would have only a fraction of the value it was intended to have, and would no longer be as great an incentive to engage in the toils of scientific and technological research’).

¹² This is not met with unequivocal approval. Some commentators argue that information goods should not a priori be reward absolute exclusion rights; for Congress awards only so much protection as to ensure ‘the progress of the Arts and Sciences’. See M.A. Lemley, ‘Property, Intellectual Property and Free Riding’ (2005) 83 *Texas Law Review* 1031.

¹³ See R.D. Blair and T.F. Cotter, ‘An Economic Analysis of Damages Rules in Intellectual Property Law’ (1998) 39 *William and Mary Law Review* 1585; R.P. Merges, and J. Duffy, *Patent Law and Policy* (San Francisco: Matthew Bender 2002).

lead to a systematic undervaluation of innovation.¹⁴ Patent owners, on the other hand, are acutely aware of what it will take to recoup their initial investments through licensing revenues. Also, by satisfying the non-obvious requirement of patent law,¹⁵ a patent holder demonstrates ingenuity and a unique expertise regarding the technology. This places him or her in the best position to evaluate the contribution and decide the appropriate price for using the patent in a follow-up innovation.¹⁶

To summarise, by emphasizing the *ex ante* incentive for the innovator and the reliance on private bargaining, law and economics scholarship operates on the presumption that property rules (injunctions) may be preferred in the field of patents.

3 The liability rule shift in patent law

Recently a new paradox has emerged, alongside the scholarly trend of conceiving intellectual property as real property. As the property right paradigm gains ground in scholarly commentary, recent judicial developments in patent law have begun to cast doubt upon the quintessential stick in a property owner's bundle of rights: the right to exclude by way of injunction.¹⁷ In *eBay v. MercExchange*, the United States Supreme Court vacated the Federal Circuit's long-standing policy of automatically enjoining infringing defendants in patent cases.¹⁸ In effect, the Court abrogated the well-established property rule entitling a patent holder to an absolute right to exclude and replaced it with a conditional property rule, which awards protection for patents based on the outcome of a balancing test completed at trial. In the underlying dispute, MercExchange owned a patent for a business model which allowed private buyers and sellers to transact via an online market place that is regulated by 'a central authority to promote trust among participants.'¹⁹ MercExchange attempted to license its patent to Ebay, the renowned Internet auction site; however, no deal was subsequently reached.

¹⁴ R.A. Epstein, 'A Clear View of the Cathedral: The Dominance of Property Rules' (1997) 106 *Yale Law Journal* 2091 (would-be purchasers of a property right invariably prefer liability rules).

¹⁵ 35 U.S.C. § 103.

¹⁶ Along these lines, the veto right of patent holders in future innovation has been compared to a mining right in innovation. See E.W. Kitch, 'The nature and function of the patent system' (1977) 20 *The Journal of Law and Economics* 265.

¹⁷ See in the context of takings law, R.A. Epstein, 'Takings, Exclusivity and Speech: The Legacy of *PruneYard v. Robins*' (1997) 64 *University of Chicago Law Review* 21 at 22 ('[I]t is difficult to conceive of any property as private if the right to exclude is rejected').

¹⁸ 547 U.S. 388 (2006).

¹⁹ *Id.* at 390.

MercExchange filed suit against Ebay, claiming Ebay had infringed upon its patent. Instead of continuing the long tradition of using property rules to regulate patent law, the Supreme Court determined MercExchange did not have an absolute right to enjoin Ebay from using patented innovation without a license. The court held that: ‘The decision to grant or deny permanent injunctive relief is an act of equitable discretion by the district court’²⁰ Justice Thomas, writing for the majority, reasoned that: ‘The Patent Act itself indicates that patents shall have the attributes of personal property ... including, presumably, the provision that injunctive relief “may” issue only “in accordance with the principles of equity.”’²¹ Specifically, the Court provided a discretionary, four-prong test for lower courts to apply.

Thus, following this decision, a plaintiff seeking a permanent injunction must establish that he or she can meet all four requirements set forth by the test before a court may grant such relief. A plaintiff must demonstrate that: (1) he has suffered an irreparable injury; (2) remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) the public interest will not be disserved by a permanent injunction.²² On remand, the District Court completed the four-part analysis and held, *inter alia*, that the harm caused to MercExchange was not irreparable, money damages could justly compensate for the wilful infringement, the ‘balance of hardships favoured neither patent owner nor competitor,’ and that the public interest was slightly disfavoured by a permanent injunction.²³ The absence of injunctive relief that may result from the application of this four-part test creates, in effect, a compulsory licensing regime based on a liability rule, under which infringement is permitted at a price determined by a court.²⁴

Since the decision in *Ebay*, several district courts have denied requests for permanent injunctions where a patent holder has failed to meet all four prongs of the test. A prominent example of such a denied request can be seen in *z4 Technologies v. Microsoft*,²⁵ in which plaintiff z4 owned the

²⁰ *Id.* at 391.

²¹ *Id.* at 392 (quoting 35 U.S.C. §283).

²² *Id.* at 390.

²³ *MercExchange, L.L.C. v. eBay, Inc.*, 500 F. Supp. 2d 556 (E.D. Va. 2007).

²⁴ G.D. George, ‘What is hiding in the Bushes? Ebay’s Effect on Holdout Behavior in Patent Thickets’ (2007) 13 *Michigan Telecommunications and Technology Law Review* 557.

²⁵ 434 F. Supp. 2d 438, 439 (E.D. Tex. 2006); See also *Voda v. Cordis Corp.*, No. CIV-03-1512-L, 2006 WL 2570614 (W.D. Okla. Sept. 5, 2006) (denied plaintiff’s motion for permanent injunction where a plaintiff introduced evidence that the defendant’s infringement caused harm to a third-party exclusive licensee. The Court held that the evidence proffered failed to meet the irreparable harm component of the test because a plaintiff must show he, himself, was harmed.); See G. Barten,

patent for software used by Microsoft in Office and Windows. While a jury verdict found that Microsoft had infringed upon z4's patent, the court denied the plaintiff's motion for permanent injunction, reasoning that monetary damages serve as adequate compensation where the protected property is only a small part of the defendant's product.

Similarly, many post-*eBay* district court decisions have denied injunctions in patent infringement cases in favour of awarding damages, thus making it appear that patents will now be increasingly governed by liability rules.²⁶ While the critical examination of *Ebay* is underway,²⁷ this article attempts to explain the weakened link between patent rights and property rule protection. As I argue in more detail below, the shift to a liability rule system in patents is best understood when one considers the relative impact of property and liability rules on the access to innovation and the cumulative effect of patent rights on follow-up innovation.

4 Patent market failure

Commentators in the field of intellectual property rights now fully recognize that innovation is characterised by an increasing degree of composite innovation. Seen from this viewpoint, the progress of science depends on every innovator standing on the shoulders of his or her predecessors.

However, in order to make use of patented innovations, a patent license must be obtained. Each patent provides an inventor with the

'Permanent Injunctions: A Discretionary Remedy for Patent Infringement in the Aftermath of the *Ebay* Decision' (2007) 16 *University of Miami Business Law Review* 1.

²⁶ Of course, by now means does this trend signify an exclusive shift to liability rules. Many permanent injunction motions in patent infringement claims continue to pass muster under the four factor test. See for example, *Transocean Offshore Deepwater Drilling, Inc. v. GlobalSantaFe Corp.*, 2006 WL 3813778 (S.D. Tex. Dec. 27, 2006). Also, even though courts now unanimously apply the four-part test from *Ebay* to motions for permanent injunctions, courts are 'split as to whether the presumption of irreparable harm applies in motions for preliminary injunctions.' *Hologic, Inc. v. Senorx, Inc.*, 2008 WL 1860035 at 14 (N.D. Cal. Apr. 25, 2008).

²⁷ See for example, Kozinski and Newman, above n. 3 at 525-527 (Arguing that both injunctive relief and fair use should be rejected and copyright owners should be entitled only to actual damages.); See also M.A. Lemley and P.J. Weiser, 'Should Property or Liability Rules Govern Information?' (2007) 85 *Texas Law Review* 783 (identifying situations where property rule protection invariably enjoins the underlying right as well as noninfringing conduct). But see P.M. Schoenhard, 'Who Took My IP?—Defending the Availability of Injunctive Relief for Patent Owners' (2008) 16 *Texas Intellectual Property Law Journal* 187.

exclusive right against all unauthorized uses of the patented product.²⁸ Non-patent holders are constrained not only from manufacturing, but also from using, selling, or importing the resource without prior consent from the patent holder.²⁹ A patentee's exclusive right extends to identical inventions, regardless whether these inventions were copied from the patent and irrespective of any good faith intentions on the part of the patent infringer. In addition, the doctrine of 'equivalent patents' extends the control rights of the patentee beyond the terms of the patent description. Under this doctrine, the holder may exclude the development of all subsequent, similar, non-identical, useful inventions. In effect, a property rule creates a setting where any subsequent innovator is at risk of being enjoined from using already patented innovations.

As discussed above, property-rights oriented scholars have traditionally presumed that the transaction costs involved in patent license negotiations are negligible compared with the information costs involved when courts apply compulsory licenses (liability rule protection) to patents. Accordingly, property rules provide better footing for consensual agreements in the area of patents, without having courts impose prices on innovation. This conventional wisdom is outdated. Firstly, a number of recent articles have discovered ways in which liability rules do indeed enhance negotiations.³⁰ Others have explored ingenious modifications to liability rule regimes that improve the effectiveness of bargaining under liability rule protection.³¹ Secondly, as I argue in more detail in this part, transaction costs in private bargaining are higher than regularly assumed. Properly conceived, successful patent license negotiations depend on an accurate assessment of (1) the value of innovation, (2) the boundaries of patents on the underlying innovations, and (3) externalities involved in patent license agreements.

²⁸ See generally M. Adelman and others, *Cases and Materials on Patent Law* (St. Paul: West Group 2002).

²⁹ See 35 U.S.C. §§ 154(a), 271(a) (1994 & Supp. III 1997). This stands in contrast to most other areas of intellectual property law, where only some unauthorized uses are prohibited. Consider for instance the exceptions in copyright law, such as the fair use and first-sale doctrines, 17 U.S.C. §§ 107-12. Also, wrongful intent is not a condition for infringement.

³⁰ L. Kaplow and S. Shavell, 'Property Rules Versus Liability Rules: An Economic Analysis' (1996) 109 *Harvard Law Review* 713 (providing importance nuances to the claimed bargaining advantage of property rules).

³¹ I. Ayres and E. Talley, 'Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade' (1995) 104 *Yale Law Journal* 1027 at 1031-1033 (arguing that liability rules make possible credible signaling among entitlement holders); A. Bell and G. Parchomovsky, 'A Theory of Property' (2005) 90 *Cornell Law Review* 531 (suggesting that liability rules may be helpful in overcoming strategic obstacles to successful negotiations).

Together, these factors significantly increase the probability of patent market failure.

4.1 Innovation uncertainty

In the particular case of patent licenses, there are several factors that complicate the licensing process between a patent holder and an improver or follow-up inventor. These stem from the problem of assessing the value of any given innovation, the level of product complexity, the difficulty of sharing information regarding the innovation at the pre-patent stage, and from cognitive limitations.

Firstly, research into patentable inventions entails a significant degree of *ex ante* uncertainty.³² It is unduly hard to predict inventions or estimate their value with any degree of success.³³ A historic example that demonstrates the difficulty of obtaining an accurate estimation of the expected value of a present invention is IBM's underestimation of the future market for home computers.³⁴ Such uncertainty increases the reluctance of a follow-up innovator to license the follow-up invention. The uncertainty over the value of any given innovation may extend to both the original innovation that is the subject of a potential license by a follow-up innovator and the licensor's follow-up invention. The uniqueness of each respective invention prevents parties from accurately estimating the value of both a license and

³² What I mean when referring to uncertainty is the difficulty of perfectly predicting *ex ante* how whether any given innovative activity will be successful *ex post*.

³³ M.A. Lemley, 'The Economics of Improvement in Intellectual Property Law' (1997) 75 *Texas Law Review* 989 at 1049 and n. 280 (referring to the literature that illustrates the computational problems firms have in the management of intra-firm inventions: S.A. Lippman and others, '*Heterogeneity Under Competition*' (1991) 29 *Economic Inquiry* 774; M.E. Porter, 'The Structure Within Industries and Companies' Performance' (1979) 61 *The Review of Economics and Statistics* 214; D.J. Teece, 'Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy' (1986) 15 *Research Policy* 285).

³⁴ Merges, above n. 11 at 86 n. 41, citing N. Rosenberg, *Exploring the Black Box: Technology, Economics and History* 220 (1994): 'The computer was regarded by its inventors as a purely scientific device' (quoting B.G. Katz and A. Phillips, 'The Computer Industry' in R.R. Nelson, *Government and Technical Progress* (New York: Pergamon Press 1982) 162, 171). See also J. Elster, *Explaining Technical Change* (Cambridge: Cambridge University Press 1983) at 111; J. Mokyr, *The Lever of Riches: Technological Creativity and Economic Progress* (New York: Oxford University Press 1990) at 154; C. Freeman, *The Economics of Industrial Innovation* (London: Frances Pinter 1982, 2nd ed.) at 75.

the follow-up innovator's innovation.³⁵ The reasons for this are that it is often hard to place separate values on relative contributions of the pioneer and improver, and that there is a high degree of uncertainty regarding the likely profitability of the overall combined technology.³⁶

Secondly, these high levels of uncertainty regarding the value of a patent make a prospective licensee more cautious and less generous when negotiating a price for a patent license. When both parties' expectations diverge too widely, no licensing agreement will be reached.³⁷ Also, as experimental research has demonstrated, uncertainty has a magnifying effect on the price asked for a good or service.³⁸ Moreover, the bargaining range in patent license negotiations is further reduced by the general tendency of researchers, commonly referred to as attribution bias, to overvalue the contribution of their own research compared to that of others.³⁹

Finally, the information problem is even more complex in the course of license negotiations that involve potential rather than actual improvers.⁴⁰ In such a context, parties face what is known as Arrow's information

³⁵ Highly detailed contracts might ameliorate the problem, but integrating all possible contingencies into contracts is costly and not all eventualities are foreseeable.

³⁶ Merges, above n. 11.

³⁷ On the dynamics of bargaining breakdown, see generally R. Cooter, 'The cost of Coase' (1982) 11 *Journal of Legal Studies* 1; R. Cooter and others, 'Bargaining in the Shadow of Law: A Testable Model of Strategic Behavior' (1982) 11 *Journal of Legal Studies* 225.

³⁸ In fact, in cases of uncertainty, the anticommons pricing effect is amplified. The results in Depoorter & Vanneste suggest that licensors ignore the expected value of the licensee's project, and instead focus on the upper range of profitability of surplus. Willingness to accept seems to be anchored to a proportion of the maximum profitability, rather than a proportion of the expected benefits of the project. In one particular experiment the total uncoordinated reservation price of all licensors was seven times above the expected value of the project. In the experiment this created a serious gap between the amount licensors' holders were asking, on the one hand, and what a third-party entrepreneur could reasonably offer, on the other hand. See B. Depoorter and S. Vanneste, 'Putting Humpty Dumpty Back Together: Pricing in Anticommons Property Arrangements' (2007) 13 *Journal of Law, Economics and Public Policy* 59.

³⁹ See M.A. Heller and R. Eisenberg, 'Can Patents Deter Innovation? The Anticommons in Biomedical Research' (1998) 280 *Science* 698 at 698.

⁴⁰ Lemley, above n. 33 at 1051. On the interaction between initial inventors and improvers in science, see, e.g., S. Schotchmer and J.R. Green, 'Novelty and Disclosure in Patent Law' (1990) 21 *RAND Journal of Economics* 131; S. Schotchmer, 'Standing on the Shoulders of Giants: Cumulative Research and the Patent Law' (1991) 5 *Journal of Economic Perspectives* 29; J.R. Green and S. Schotchmer, 'On the division of Profit in Sequential Innovation' (1995) 26 *RAND Journal of Economics* 20.

paradox.⁴¹ The actual improver possesses valuable information that he would like to disclose to the patent owner in exchange for money.⁴² However, the exchange cannot occur before the original owner is in a position to evaluate the information. At the same time, however, under prospect theory,⁴³ the patent owner will be free to use the patented information once he finds out what the improvement consists of.⁴⁴

4.2 Uncertain patent boundaries

The real property-property rule analogy to patents, as described above, operates based on the assumption that patent rights are relatively well defined. As recent scholarship has illuminated, this assumption does not hold true. In this respect, a patent is very different from a parcel of land. While the extent of a parcel of land can be surveyed with relative ease, ascertaining the boundaries of a patent is much more demanding. That is because the boundaries of a patent are determined by individual patent right holders' exclusionary rights as described-claimed in a patent application.

⁴¹ K.J. Arrow, *Collected Papers of Kenneth H. Arrow: The economics of information vol. IV* (Cambridge: Belknap Press 1984) at 222-224. Arrow's paradox encapsulates the notion that imperfect information of another's utility function inhibits the ideal Coasian bargaining model.

⁴² *Merges*, above n. 11 at 81. Arrow's paradox also provides a case for the existence of blocking patents.

⁴³ Under prospect theory, the patent system provides incentives but is based on the ability of intellectual property ownership to drive the efficient use of inventions and creations through licensing. The patent system rewards not future investors but instead insures 'further commercialization and efficient use of as yet unrealized ideas by patenting them, just as privatizing land will encourage the owner to make efficient use of it.' See *Lemley*, above n. 33 at 1046.

⁴⁴ To a certain extent, this dilemma is recognized in intellectual property law doctrine. The balance between the protection of the right of present innovators and future talents features strongly in the 'doctrine of improvement' of patent law. What is improvement and what is imitation? Too much freedom to improvers (imitators?) will discourage future development, while granting too much protection to the original parties may halt development of new products. *Id.* (arguing that patent doctrines of blocking-patents and the reverse doctrine of equivalents should apply equally to the realm of copyright law, because the various imperfections in the licensing markets, *e.g.*, transaction costs and strategic behavior, will discourage copyright improvements): 'Some improvements fall within the scope of the preexisting intellectual property right, either because of an expansive definition of that right or because economic or technical necessity requires that the improver hew closely to the work of the original creator in some basic respect. Here, the improver is at the mercy of the original intellectual property owner, unless there is some separate right that expressly allows copying for the sake of improvement' (footnotes omitted). *Id.* at 991.

This process is much more elaborate than that of establishing the physical boundaries of land. There are several reasons for this. Firstly, the scope of a patent is ascertained at different stages, by different decision makers. When a patentee argues that his patent has been infringed, he or she needs to demonstrate that the infringer's patent or use falls within the boundaries of the claimant's prior, protected patent. The initial decision on patent scope is made by the patent claimant.⁴⁵ This decision is subject to the scrutiny of the Patent Office, which verifies whether the claimed invention meets the statutory requirements of novelty, non-obviousness, utility and enablement.⁴⁶ If a patent infringement is litigated, these aspects are re-evaluated by the court.

Secondly, determining the boundaries of a patent is a difficult process, which involves a mixture of difficult questions of fact and interpretations of (often vague) law. The difficulties in determining the exact scope of a patent are illustrated by the notoriously high costs of patent litigation. Moreover, the exact meaning or interpretation of the language in a claim may change over time. Thirdly, while information on land boundaries is always available in public records, patent owners can hide from the public claim language that defines the exact boundaries of a patent.⁴⁷ Finally, the sheer amount of patents complicates the establishment of patent boundaries. It is important to recognize that there is 'no simple "one-to-one" mapping of products and property rights.'⁴⁸ As Merges notes:

A commercially viable product will often be assembled from a number of components. One or more of these components may be covered by IPRs [intellectual property rights], but it is not always true that a complete product will be covered by one, and only one, comprehensive IPR. Complex, multi-component products are the

⁴⁵ Almost universally a patent claim consists of (i) a specification of the invention that describes the problem and solution-process which allows others to reproduce the invention; and (ii) the claim, which specifies the application's proposed scope of the invention and allows delineation of the invention from the existing state of the art.

⁴⁶ See, respectively, 35 U.S.C §§ 102(a), (e), (g); 103; 101; and 112. Similarly, European patent applications must meet the substantive requirements of novelty (not part of the state of the art), involve an inventive step (not obvious to a person skilled in the art), and must be susceptible to industrial application. See Convention on the Grant of European Patents, Oct. 5, 1973, art. 52, 13 I.L.M. 271. For a summary, see G. Tritton, *Intellectual Property in Europe* (London: Sweet & Maxwell 2002) 325 n.68.

⁴⁷ Bessen and Meurer, above n. 10 at 62-64.

⁴⁸ R.P. Merges, 'Intellectual Property Rights and the New Institutional Economics' (1997) 53 *Vanderbilt Law Review* 1857 at 1859 (critiquing the assumption implicit in the neo-classical economic model that 'one, and only one, property right covers the entirety of a marketable product,' *id.*, while pointing out, more generally, the important role of institutions in the coordination of intellectual property rights).

norm in many industries (e.g., autos and consumer electronics), and individual patents often cover only a single component or subcomponent ...[M]ulti-component works are far from uncommon.⁴⁹

The difficulties inherent in determining the boundaries of patents obviously drive up the costs of license negotiations. For, as Mark Lemley states: ‘[I]n order for the parties to divide the gains from trade, they must know what those gains are’.⁵⁰ Partly because of how difficult it is to establish the boundaries of what is to be purchased in a license agreement, transaction costs in technology licenses amount to 20 per cent of the total value of the underlying license.⁵¹

4.3 Patent externalities

If a subsequent innovator has to obtain several licenses, the successful negotiation of patent license agreements is further complicated by the existence of externalities among the different patent right holders. If many different prior innovations play a role, a tragedy of the ‘anticommons’⁵² may

⁴⁹ *Id.*

⁵⁰ Lemley, *Economics of Improvement*, above n. 33 at 1055.

⁵¹ *Id.* at 1053-1054.

⁵² Originally coined by F.I. Michelman, ‘Property, Utility and Fairness: Comments on the Ethical Foundations of “Just Compensation” Law’ (1967) 80 *Harvard Law Review* 1165, Michael Heller revitalized the concept of anticommons property. In an article on the transition to market institutions in contemporary Russia, Heller discussed the intriguing prevalence of empty storefronts. Stores in Moscow were subject to underuse because there were too many owners (local, regional and federal government agencies, Mafia, etc.) holding rights of exclusion. As employed by Heller, the definition of the anticommons as ‘a property regime in which multiple owners hold effective rights of exclusion in a scarce resource,’ provides a powerful tool for property theory. See M.A. Heller, ‘The Tragedy of the Anticommons: Property in the Transition from Marx to Markets’ (1998) 111 *Harvard Law Review* 621 at 639. For a classic treatment of the danger of over-fragmentation, see, e.g., M.A. Heller, ‘The Boundaries of Private Property’ (1999) 108 *Yale Law Journal* 1163 (recognizing a ‘boundary principle’ in property law that purports to prevent excessive fragmentation and criticizing the Supreme Court’s violation of the above principle by way of protecting increasingly minimal property fragments in a recent number of cases). See also M.A. Heller and R. Eisenberg, ‘Can Patents Deter Innovation? The Anticommons in Biomedical Research’ (1998) 280 *Science* 698 (cautioning against the stationary effects of upstream patents on downstream patent markets); D. Lichtman, ‘Property Rights in Emerging Platform Technologies’ (2000) 29 *Journal of Legal Studies* 615 (identifying externalities in emerging markets of platform technology and peripheral sellers); B. Depoorter and F. Parisi, ‘Fair Use and Copyright Protection: A Price Theory Explanation’ (2002) 21

emerge, whereby patent rights are overpriced and consequently remain underused.⁵³

Consider the following formal illustration by Schulz et al.⁵⁴ If two firms each hold a patent in a technology that requires the use of both (complementary) patents, any third party desiring use of the technology will need to obtain access to both patents. Suppose that there is a continuum of such third-party firms where each firm is characterized by its willingness (w) to pay for the use of the two patents. Let w be uniformly distributed across $[0, 1]$. Suppose the patent-holding firm 1 asks a price p_1 for a license to use its patent. Hence the price to be paid to both patent-holding firms is $p_1 + p_2$. All third party firms with a willingness to pay at least such amount will ask for a license from both firms. Given the assumption that on the distribution of the potential licensees the demand for patents is $1 - (p_1 + p_2)$, patent-holding firm 1 has a profit of $p_1 (1 - (p_1 + p_2))$.

There is an analogous expression for firm 2. The decision to set a price for an equilibrium value of both prices is $1/3$ such that both licenses cost $2/3$. Suppose now that both patents are in the hands of just one firm that demands a price of P for a license on both patents. Then the profit of this firm will be $P (1 - P)$.

This profit will be maximized at $P = 1/2$. Hence, fragmentation raises the price for both licenses. This induces some firms not to employ the technology. The result of underuse of a patent derives from a positive externality due to complementary features of the various patents. Neither of the two patent holders captures the full value of their individual decisions for the third party. As such, the various patent holders are faced with a strategic problem, given the interdependence of their decisions. These strategic costs increase the transaction costs involved in bundling the various patent rights required by law to allow the follow-up innovation to proceed. For potential

International Review of Law and Economics 453 (upholding the usefulness – from a strategic costs perspective – of fair use in copyright law in the digital era); T. J. Miceli and C.F. Sirmans, ‘Partition of Real Estate; or, Breaking Up Is (Not) Hard to Do’ (2000) 29 *Journal of Legal Studies* 783 (examining the modern statutory remedy that allows courts to order forced sale of an undivided land under joint ownership).

⁵³ J. Buchanan and Y.J. Yoon, ‘Symmetric Tragedies: Commons and Anticommons’ (2000) 43 *Journal of Law & Economics* 1, demonstrating that the price charged by complementary monopolists is higher than that of a single agent monopolist); N. Schulz, F. Parisi and B. Depoorter, ‘Fragmentation in Property: Towards A General Model’ (2002) 158 *Journal of Institutional & Theoretical Economics* 594 (Proposing that the anticommons deadweight losses are an increasing function in the following three factors: (a) number of property fragments; (b) degree of complementarity of such fragments in subsequent uses; and (c) independence of the pricing of such inputs by the fragmented property owners).

⁵⁴ Schulz, Parisi and Depoorter, above n. 53, at 600-601.

improvers, the transaction costs involved may well outweigh the perceived value of obtaining a license on a prior patent or the follow-up innovation. In the advent of these transaction costs, improvers might choose to forego improvements *ex ante*.⁵⁵

To summarise: While property-rule entitlements may provide an incentive for truly alone-standing pioneering innovations, they may complicate innovations involving original combinations of existing (patented) technology. Overall, this threatens to reduce the rate of innovation.

5 Concluding remarks

As Calabresi and Melamed's classic article explains, courts should rely on property rules when transaction costs are low and parties can negotiate to reach an efficient outcome.⁵⁶ By contrast, if such bargaining is unlikely to succeed, a liability rule enables courts to attempt to achieve efficiency, even in the absence of bargaining. For example, patent market failure might be overcome by imposing compulsory licenses,⁵⁷ for instance by applying conditional property rule regimes, such as those introduced in the *Ebay* decision.

Much of the concern about under-compensation in cases of non-voluntary licensing may well be misplaced. Firstly, as several recent studies indicate, courts regularly unduly deter patent infringements by applying

⁵⁵ Lemley, above n. 33 at 1055.

⁵⁶ I. Ayres and J.M. Balkin, 'Legal Entitlements as Auctions: Property Rules, Liability Rules, and Beyond' (1996) 106 *Yale Law Journal* 703 at 706 n. 9 ('[L]egal scholars have interpreted Calabresi and Melamed to be saying that property rules are more efficient when transaction costs are low.');

J.E. Krier and S.J. Schwab, 'Property Rules and Liability Rules: The Cathedral in Another Light' (1995) 70 *New York University Law Review* 440 at 451 (deeming a 'virtual doctrine' the principle that '[w]hen transaction costs are low, use property rules; when transaction costs are high, use liability rules');

Merges, above n. 5 at 2655 ('Ever since Calabresi and Melamed, transaction costs have dominated the choice of the proper entitlement rule, with a liability rule being the entitlement of choice when transaction costs are high.').

⁵⁷ See J.H. Reichman and C. Hasenzahl, 'Non-voluntary Licensing of Patented Inventions' in UNCTAD/ICTSD, *Capacity Building Project on Intellectual Property and Sustainable Development* (2003) available at <http://www.ictsd.org/pubs/ictsd_series/iprs/CS_reichman_hasenzahl.pdf> (providing an historical perspective, reflections on the TRIPS framework, and a discussion of licensing practices in Canada and the United States).

enhanced damage awards.⁵⁸ Secondly, while it might be correct that courts are ill equipped to estimate the value of a patent license, uncertainty and information costs might similarly trouble private bargaining among patent holders and potential licensees. Finally, liability rules provide follow-up innovators access to prior patents, thereby eliminating some of the detrimental effects that anticommons tragedies have on the progress of the sciences.

⁵⁸ T.F. Cotter 'An Economic Analysis of Enhanced Damages and Attorneys' Fees for Willful Infringement' (2004) 14 *Federal Circuit Bar Journal* 291; United States Federal Trade Commission (2003), *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, available at: <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>; K.A. Moore, 'Judges, Juries, and Patent Cases – An Empirical Peek Inside the Black Box' (2000) 99 *Michigan Law Review* 365.

CALABRESI AND BEHAVIOURAL TORT LAW AND ECONOMICS

*Michael G. Faure**

Abstract

Written in honour of Guido Calabresi, this essay discusses critically several of the basic assumptions of the neo-classic model of tort law: one being that rational individuals will respond to applicable tort rules, striving to maximise their utility and to satisfy their own self-interest. Insights from behavioural law and economics are used to show that decision-making often takes place in a way that is different from that assumed by traditional economic models. The paper discusses the consequences of the behavioural literature for the economic analysis of law. It also demonstrates that Calabresi's approach to tort law is more differentiated and flexible than some of the more formal models. This approach has the advantage that it allows one to take into account all kinds of cognitive limitations, errors, and information problems, as did Calabresi himself in many of his publications on this issue in the 1960s and 1970s. The paper illustrates how Guido Calabresi was already aware of cognitive limits: for instance, concerning the ability of parties to assess how much they should spend 'for their own good'. This led him to arrive at balanced conclusions with regard to normative consequences of these limits. Many of the ideas of behavioural law and economics were hence already implicit in Calabresi's writings.

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1 Introduction

It is a great privilege to write an essay in honour of Guido Calabresi, one of the founding fathers of the economic analysis of tort law. Calabresi was undoubtedly the first scholar to apply insights from economic theories in his seminal publication ‘Some Thoughts on Risk Distribution and the Law of Torts’,¹ which was a milestone in the development of the theory that later became known as the new law and economics. In this and many other publications, the best known probably being *Costs of Accidents*,² Calabresi developed an alternative framework for dealing with accidents through tort and alternative instruments, more particularly the idea that wrongdoers should be exposed to the social costs of their actions. Subsequently, others expanded Calabresi’s pioneering work by developing the economic analysis of tort law in more formal models as well.³ An extensive literature has developed over a period of more than forty years, demonstrating how tort rules can contribute to Calabresi’s central question: how to achieve an optimal reduction of accident costs.

A basic assumption within this neoclassic model of tort law is that injurers and victims (the participants in an accident setting) are rational individuals who will respond to applicable tort rules, striving to maximise their utility and to satisfy their own self-interest. Moreover, traditional models assume that well-informed judges will apply the tort rules in an effective manner.

However, starting with the original work of Kahneman and Tversky in 1982, a different strand of literature has emerged, showing that many individuals use a variety of cognitive heuristics and biases. The result is that decision-making may take place in a different way than is assumed by traditional economic models.⁴ Meanwhile, there is also convincing empirical

¹ G. Calabresi, ‘Some Thoughts on Risk Distribution and the Law of Torts’ (1961) 70 *Yale Law Journal* 499-553.

² G. Calabresi, *The Costs of Accidents. A Legal and Economic Analysis* (New Haven: Yale University Press 1970).

³ See for example R. Posner, ‘A Theory of Negligence’ (1972) 1 *Journal of Legal Studies* 29; J.P. Brown, ‘Toward an Economic Theory of Liability’ (1973) 2 *Journal of Legal Studies* 323 and S. Shavell, ‘Strict Liability versus Negligence’ (1980) 9 *Journal of Legal Studies* 1.

⁴ D. Kahneman, P. Slovic and A. Tversky, *Judgement under Uncertainty: Heuristics and Biases* (Cambridge: Cambridge University Press 1982).

evidence that supports the existence of these heuristics and biases, both in experiments as well as in real-life situations.

Nevertheless, even though some attention is paid to this behavioural literature, the consequences for existing models of accident law are not yet entirely clear. It is of interest to examine this question more closely, since the behavioural literature may contain important implications for the traditional model of tort law. For instance, when there is indeed a systematic error by individuals as far as both the estimation of probabilities and expected damage is concerned, the questions arises as to the consequence of these misperceptions for the economic model of tort law and more particularly for the choice of an efficient liability rule. One needs to look at whether these misperceptions have a more important effect on the negligence rule than on strict liability or whether they arise under strict liability as well. In addition, the psychological literature indicates that in handling tort cases there can be misperceptions by judges as well, leading for instance to a wrong assumption about a high accident probability, simply based on recent incidents (availability heuristic). The result may be an inefficiently high level of care required from defendants.

I have chosen this topic to honour Guido Calabresi because essentially he suggested it to me himself. In March 2007, we both participated in an international workshop organised by the University of Messina Law School,⁵ where I held a presentation on 'Behavioural Law and Economics: The Consequences for Economic Models of Liability and Insurance'. Calabresi was deeply interested in the significance of the behavioural literature, and held that in his early writings he had already indicated that the different psychological ability of parties to evaluate and deal with risks should be an important criterion in deciding to whom to allocate liability. He was thereby suggesting that the Calabresi framework of tort based on *The Costs of Accidents* and other papers would be better able to incorporate some of the findings of behavioural theories than would other more formal mathematical models that were developed subsequently. This is precisely the question I would like to address. On the one hand, it will enable me to sketch the importance of certain behavioural literature for the economics of accident law; on the other hand, it will allow me to summarise Calabresi's rich thoughts in this regard and to relate them to this new literature. Given the limited scope of this paper, however, I will deal only with part of the behavioural literature and the consequences for tort law. Moreover, I will focus solely on liability rules and will briefly discuss safety regulation.

⁵ International Workshop, *Searching for New Models in the Economic Analysis of Law* (Messina-Taormina, March 2007).

Following this introduction, the paper is structured as follows: (1) the assumptions of the traditional models of liability are briefly summarised; (2) several of the most important findings of behavioural law and economics (insofar as they are relevant for liability rules) are addressed; (3) the consequences of that literature for the economic model of torts are discussed in section 4, whereas section 5 relates this literature to the work of Guido Calabresi. The paper concludes in section 6.

2 Assumptions of the traditional economic model of tort Law

The classic economic analysis of law starts from the assumption that by exposing the costs of their actions via liability rules, parties will be appropriately motivated to take optimal care to prevent accidents. The result would be a reduction in the total social costs of accidents, since it is at the level of care that the costs of prevention and expected damage are minimised.⁶ The desired incentive effects assume that all parties have information about the applicable tort law regime, about the probability that their behaviour may create a certain accident risk, about the magnitude of the damage that may occur in the case of an accident, and about the optimal preventive measures that could efficiently reduce the accident risk. Further, traditional models of tort law assume that the parties involved not only have access to this information but are also able to process it: in other words, to make objective and correct assessments of each of these elements. It is on this basis that parties will adapt their behaviour and thus contribute in an efficient manner to reducing accident risks.

Nevertheless, the economic literature also recognises that incentives to reduce the speed of a vehicle do not come only from exposure to tort law: the injurer may fear that in the event of an accident he/she could be hurt as well, or he/she may simply be uncomfortable with the notion of causing bodily harm to another person. In the literature, these are considered additional but not sufficient motives. In the absence of law – and in situations where private bargaining is not possible – economics assumes that the injurer will not reduce his/her driving speed optimally and so an internalisation of the externality does not take place.

Of course, this traditional model of tort law has been widely criticised in the legal literature. From the beginning of the economic analysis of law, traditional tort lawyers have launched several attacks on the law and

⁶ This optimal care is hence to be found where marginal prevention costs equal the marginal benefits in a further reduction of the expected damage. See generally Shavell, above n. 3, as well as S. Shavell, *Economic Analysis of Accident Law* (Cambridge: Harvard University Press 1987), and S. Shavell, *Foundations of Economic Analysis of Law* (Cambridge: Harvard University Press 2004) at 175-288.

economics movements. Some of these addressed in particular the assumption that potential injurers in an accident setting would alter their behaviour on the basis of exposure to liability. In this traditional legal perspective, tort law would have no deterrent effect at all, but would have as its main goal the compensation of accident victims. Critics also claimed that there was no empirical evidence whatsoever that people would modify their behaviour. Law and economics scholars were forced to admit that the latter point remained a significant weakness of the economics of tort law; notwithstanding some modest successes in specific areas, it remained generally difficult to find strong empirical backing for the notion of behavioural change.⁷

3 Behavioural law and economics: a few findings

3.1 General

Since the early writings of Kahneman and Tversky, a comprehensive behavioural literature has emerged that challenges the assumptions of neo-classic economics. To some extent, the limits of the traditional assumptions (rationality along with the availability of information and the capacity to process it) were well known to law and economics scholars. For example, concepts such as bounded rationality, pointing at the limits of individuals to make rational choices, were well known and were earlier documented in the law and economics literature. However, psychological experiments, both in the laboratory and in real life, have also increasingly challenged a number of the assumptions underlying the economic analysis of accident law, central in this paper. However, since it is neither possible nor meaningful to review the entire related body of literature,⁸ within the scope of this contribution, the focus will remain on the consequences of this literature for accident law.

⁷ Not only is this difficult to measure because injurers are often insured (in which case one can only measure the extent to which insurers can control moral hazard) but also because many activities are subjected to extensive safety regulation (whereby it is difficult to distinguish the preventive effects of regulation from the deterrent effect of tort law). Moreover, the empirical evidence available seems to indicate that the deterrent effect depends upon the domain concerned and the actors involved. For a general overview see D. Dewees, D. Duff and M. Trebilcock, *Exploring the Domain of Accident Law. Taking the Facts Seriously* (Oxford: Oxford University Press 1996).

⁸ For recent summaries see for example the contributions to P. Slovic (ed.), *The Perception of Risk* (London: Earthscan Publications 2000) and to C.R. Sunstein (ed.), *Behavioural Law and Economics* (Cambridge: Cambridge University Press 2000), as well as a useful summary provided by A.I. Ogus, 'Regulatory Paternalism:

An overview of all these objections to the rational actor model and the consequences for law and economics is provided by Jolls, Sunstein, and Thaler.⁹ I will now provide a brief summary of this literature insofar as it is relevant.

3.2 Bounds to human behaviour

In contrast to the standard economic theory, which assumes that people will maximise their utility, behavioural economics argues that people's behaviour often violates such an assumption. Behavioural economics tries to explore actual human behaviour, by stressing the importance of 'bounds'.¹⁰ The notion 'bounded rationality' is not new to behavioural law and economics, but was introduced by Herbert Simon to show that actors often take shortcuts in making decisions that frequently result in choices that fail to satisfy the utility maximisation prediction.¹¹ In addition to bounded rationality, Jolls, Sunstein, and Thaler also identify bounded willpower and bounded self-interest.

According to Jolls *et al.*, bounded willpower is often evident when people make decisions that they know to be in conflict with their long-term interests. However, the authors state that bounded self-interest is at play when people are willing to be treated fairly, and so will treat others fairly as long as it is reciprocal. As a result, in some situations, people are thoughtful towards others, even strangers, or at least behave as if they are.¹² In the literature, two main reasons are indicated for a decision-making that does not maximise expected utility: namely, complexity and ambiguity. In certain complex situations, the limits of human cognitive abilities make it impossible to follow a utility maximising strategy. This is the process that Simon refers to as 'satisficing': namely, people do not choose the option that

When is it Justified?' in K.J. Hopt and others (eds.), *Corporate Governance in Context. Corporations, States and Markets in Europe, Japan and the US* (Oxford: Oxford University Press 2005) 303-320 and A.I. Ogus, *Costs and Cautionary Tales. Economic Insights for the Law* (Oxford: Hart Publishing 2006) 219-252 as well as M.R.A.G. Wibisana, *Law and Economic Analysis of the Precautionary Principle* (Maastricht: Universitaire Pers Maastricht 2008).

⁹ Chr. Jolls, C.R. Sunstein and R. Thaler, 'A Behavioural Approach to Law and Economics' (1998) 50 *Stanford Law Review* 1471.

¹⁰ See further Wibisana, above n. 8 at 229-230.

¹¹ See R.B. Korobkin and T.S. Ulen, 'Law and Behavioural Science: Removing the Rationality Assumption from Law and Economics' (2000) 88 *California Law Review* 1075.

¹² Jolls, Sunstein and Thaler, above n. 9 at 1479.

maximises their utility but rather the one that satisfies their aspiration.¹³ In addition to complexity, ambiguity can also lead to suboptimal decision-making. This ambiguity problem plays a particular role when decisions concern the estimation of various likelihoods: for example, that one's house will be damaged as the result of an earthquake.¹⁴

3.3 Probability neglect

Another deviation from the standard model identified in behavioural studies refers to the fact that people tend to pay more attention to the absolute outcomes than to the probability that an adverse event may occur. The impact of the probability on people's feeling depends strongly on the characteristic of the particular outcome. As a result, small probabilities can be hugely overestimated as a result of strong fears of a negative outcome or of hopes for a positive one. People tend therefore to focus more on absolute outcomes rather than on the probability that an adverse event may occur.¹⁵

In a broader example, the probability neglect is also indicated by societal concerns about hazards, such as nuclear power and exposure to extremely small amounts of toxic chemicals. These concerns still fail to recede even after people are provided with information that shows the probabilities of such hazards occurring are very small.

3.4 Availability heuristic

People in general do not use statistics to judge the likelihood of a future event. Instead, they evaluate it on the basis of how often an accident has occurred in the past. The more readily the memory of an accident comes to mind, the more likely it will be considered to occur. This phenomenon is referred to as the 'availability heuristic'. It is a mental shortcut on the basis of which individuals assume that events are memorable precisely because they are common or have recently occurred. However, these estimates based on 'availability' can be biased and largely unrelated to the objective statistical probability of certain events occurring.¹⁶

The availability heuristic is not only affected by the temporal distance of past events but also by the imaginability of future occurrences.

¹³ H.A. Simon, 'Rational Decision Making in Business Organisations' (1979) 69 *The American Economic Review* 502-503; see also Wibisana, above n. 8 at 230.

¹⁴ Korobkin and Ulen, above n. 11 at 1083.

¹⁵ Wibisana, above n. 8 at 241-242.

¹⁶ See Korobkin and Ulen, above n. 11 at 1087-1090 and T. Kuran and C.R. Sunstein, 'Availability Cascades and Risk Regulation' (1999) 51 *Stanford Law Review* 683.

Moreover, several studies have shown that risks of dramatic or sensational causes of death tend to be greatly overestimated.¹⁷ Slovic and others argue that the availability heuristic could explain why judged frequencies of highly publicised causes of death (e.g. accidents, homicides, fires, tornadoes, and cancer) are relatively overestimated and underpublicised causes (e.g. diabetes, stroke, asthma, and tuberculosis) are underestimated.¹⁸ Thus, if the media has given prominence coverage to a particular event, individuals may attribute a greater probability to the event recurring than is objectively justified.¹⁹

One factor contributing to the formation of the availability heuristic is the social amplification risk. Kasperson *et al.* write: ‘Social amplification of risk denotes the phenomenon by which information process, institutional structures, social-group behaviour and individual responses shape the social experience of risk, thereby contributing to risk consequences’.²⁰ Thus, the experience of risk is not only related to physical harm but is also a product of a social process by which groups or individuals learn to create the interpretations of risk.²¹ This phenomenon is referred to as a ‘ripple’ effect because of its analogy of dropping a stone into a pond. The ripple effect can illustrate how a risk event can first affect the directly concerned victims and then spread outward to other levels and potentially even future generations.²²

3.5 Status quo bias

Related to the ‘endowment effect’, the status quo bias has to do with the fact that individuals often place a higher monetary value on items they own than on those they do not yet possess. Many experiments have provided evidence of this phenomenon, which is also described as ‘loss aversion’.²³ In addition, experiments show that, all things being equal, individuals prefer a status quo outcome. This for example explains continued risky behaviour, such as

¹⁷ P. Slovic, ‘Informing and Educating the Public about Risk’ in P. Slovic, above n. 8 at 184.

¹⁸ P. Slovic and others, ‘Risk as Analysis and Risk as Feelings: Some Thoughts about Affect, Reason, Risk, and Rationality’, paper presented at the National Cancer Institute Workshop on Conceptualizing and Measuring Risk Perceptions (Washington D.C. 2003) at 4.

¹⁹ See Ogus, above n. 8 at 236 and Wibisana, above n. 8 at 224.

²⁰ R.E. Kasperson and others, ‘The Social Amplification of Risk: A Conceptual Framework’ in P. Slovic, above n. 8 at 237.

²¹ R.E. Kasperson and others, ‘The Social Amplification of Risk: Assessing Fifteen Years of Research and Theory’ in N. Pidgeon, R.E. Kasperson and P. Slovic (eds.), *The Social Amplification of Risk* (Cambridge: Cambridge University Press 2003) at 15.

²² *Id.*

²³ For a summary of the literature see Korobkin and Ulen, above n. 11 at 1107-1112.

smoking, in which individuals have engaged for a number of years apparently without significant adverse effects.²⁴ As a result of the status quo bias, individuals may disregard objective information (e.g. on the riskiness of their behaviour) but may also not be willing to explore alternatives to familiar choices.²⁵

3.6 Selective optimism and overconfidence

Numerous experiments also provide evidence of people's selective optimism: they tend to generalise information based on highly selective examples that best suit them.²⁶ Jolls reports that nearly two hundred studies have shown that individuals believe good things are more likely than average to happen to them, while bad things are more likely than average to happen to others.²⁷ Countless studies have provided evidence of this selective optimism.²⁸ It seems to be stronger when the individual has a degree of control over the event, as in the case of a car driver: one study showed that 90% of drivers thought they drove more safely than the average driver.²⁹ This selective optimism has also been shown to be as evident with experts as with laypersons. For example, experiments have revealed a strong self-serving bias on the part of lawyers in their assessment of the chances of winning a lawsuit. As a result, lawyers systematically anticipate their trial prospects as being better than they objectively are.³⁰ Slovic, Fischhoff, and

²⁴ Ogus, above n. 8 at 235.

²⁵ This explains for example that default rules in contract law are more difficult to contract around than rational choice theory has suggested. The status quo bias leads individuals to prefer the default rules to alternatives; R. Korobkin, 'The Status Quo Bias and Contract Default Rules' (1998) 83 *Cornell Law Review* 608 and R. Korobkin, 'Inertia and Preference in Contract Negotiation: The Psychological Power of Default Rules and Form Terms' (1998) 51 *Vanderbilt Law Review* 1583.

²⁶ Ogus, above n. 8 at 237.

²⁷ Chr. Jolls, 'Behavioural Economics Analysis of Redistributive Legal Rules' (1998) 51 *Vanderbilt Law Review* 1653 at 1659.

²⁸ A good example is provided in a study concerning Virginia residents who applied for a marriage licence: even though the respondents knew that almost half of all marriages ended in divorce, when they had to predict the likelihood that their marriage would end in divorce the model response was zero (L.A. Baker and R.E. Emery, 'When Every Relationship is Above Average: Perceptions and Expectations of Divorce at the Time of Marriage' (1993) 17 *Law and Human Behaviour* 439. For a discussion of this and other studies see Korobkin and Ulen above n. 11 at 1091-1093).

²⁹ See the study by Svenson quoted by Ogus, above n. 8 at 237-238.

³⁰ Korobkin and Ulen above n. 11 at 1093-1094. This is one explanation for the fact that many more cases than one would be likely to go to trial instead of being settled.

Lichtenstein also discuss many examples of overconfidence on the part of experts. They refer for instance to studies showing that a reactor safety study had greatly overestimated the precision with which the probability of a core meltdown could be assessed. Another case discusses the unwarranted confidence of engineers who were certain they had solved many serious problems during the construction of the Teton dam, which eventually collapsed in 1976.³¹ In another paper, the same authors summarise several other studies that identify a number of common ways in which experts may overlook pathways to disaster.³²

Numerous other studies show ‘calibration errors’, or mistakes in estimating probabilities. These occur especially when experts need to assess risks in the absence of precise data. Moreover, the errors do not seem to diminish once the experts have become familiar with the problem. The ‘learn ability’ of risk assessment therefore seems to be low.³³

A particular type of judgement error in probabilistic assessment (also of experts) is the ‘hindsight bias’. This is the simple tendency of individuals to overestimate the *ex ante* prediction of an event on the basis of the knowledge that the event has actually occurred. The hindsight bias plays a role with physicians as well as with judges, and more particularly in tort cases. Experiments showed that the knowledge that an accident actually occurred has a dramatic influence on the appraisal of whether – on the basis of the Learned Hand formula – the accident could have been prevented had additional precautionary measures been taken.³⁴

3.7 Critics

This brief introduction to a few cognitive problems that have been identified in the behavioural literature shows that individuals may behave differently from what is assumed on the basis of the utility maximisation hypothesis. However, one problem is that the findings do not always point clearly in one direction with regard to the deviation from the objective standard of cost-benefit analysis. Some elements of the behavioural literature may point in one direction (systematic underestimation of risks), whereas others may point in the opposite direction (overestimation of risks). For example, due to

³¹ P. Slovic, B. Fischhoff and S. Lichtenstein, ‘Rating the Risks’, in P. Slovic, above n. 8 at 109-110.

³² P. Slovic, B. Fischhoff and S. Lichtenstein, ‘Facts versus Fears: Understanding Perceived Risk’, in D. Kahneman, P. Slovic and A. Tversky (eds.), *Judgement under Uncertainty: Heuristics and Biases* (Cambridge: Cambridge University Press 2001) 477.

³³ For a summary of these studies see Wibisana, above n. 8 at 264-268.

³⁴ See the study by Kamin and Rachlinsky discussed by Korobkin and Ulen, above n. 11 at 1095-1096.

people's bounded rationality and limited capacity to process information, some risks may be systematically underestimated (probability of being the victim of a hurricane or earthquake), whereas, for example, other research shows that because of high publicity concerning the same risks, the availability heuristic could point to an overestimation of the same risks due to 'social amplification'. In addition, probability neglect and the availability heuristic may lead to overpessimism and thus overprecaution, whereas selective optimism and overconfidence could lead to overoptimism and thus underprecaution. In other words, it is not always clear whether the behavioural literature indicates a systematic over- or underestimation of risks.

A second problem is that many studies in social psychology reveal that individuals may act differently than is assumed in traditional economic models, and no alternative integrated theory is available to replace traditional law and economics. Korobkin and Ulen therefore rightly hold that since 'law and behavioural science' still lack a single, coherent theory of behaviour, there is no reason to replace the rational choice theory with an alternative paradigm.³⁵ This literature therefore does not deny the findings of behavioural economics but is critical of the implication that regulation would be necessary to correct for these human errors. This raises the question of what the implications of the behavioural literature discussed in this section could be for the traditional economic analysis of tort law presented in section 2.

4 Implications for tort law

4.1 General

The overview of behavioural law and economics literature presented in section 3 showed that individuals in an accident setting as well as judges having to examine *ex post* an accident situation may potentially be exposed to a variety of heuristics and biases that may affect the assumptions underlying the traditional economic model of tort law. One concern is how these findings affect a crucial assumption, being that injurers will respond with efficient care to effective standards set by judges (under negligence) or will find by themselves the efficient level of care on the basis of weighing up the costs of prevention and the benefits of reducing the accident risk.³⁶ The

³⁵ Korobkin and Ulen, above n. 11 at 1057.

³⁶ In this paper we disregard situations where victims can also affect the accident risk (bilateral accident) and thus focus merely on unilateral accidents. It may be

question therefore is how may human errors by potential injurers and judges affect the economics of tort law. One might ask what can go wrong, in the sense of what the deviations are from the standard model and what the implications may be.

Although it seems worthwhile to examine whether and how the traditional model changes under the influence of the behavioural findings, a few warnings should be formulated. First, one might ask whether behavioural studies influence the positive economic analysis of tort law. Hence, one can first examine whether these studies allow one better to explain or to predict the behaviour of potential parties in an accident setting. This still has to be distinguished from potential normative implications. Second, Ogus rightly pointed out that one should be careful with paternalistic interventions based on cognitive biases, since, biases notwithstanding, there may still be welfare maximisation and hence no need for regulatory intervention. Moreover, if such an intervention takes place, the question still arises as to whether the benefits outweigh the costs.³⁷ Third, Korobkin and Ulen rightly indicated that in some cases more empirical research is needed for policy-makers to be able to make effective use of the insights provided by behavioural literature,³⁸ and that in other cases the legal implications of a particular behavioural phenomenon may not be distinct.³⁹ With these limitations in mind, I will simply examine how relaxing the behavioural assumptions of rational choice based on the behavioural literature may affect the traditional economic model of tort law. We can refer here to a large body of literature in which these consequences have also been examined.⁴⁰

clear, however, that victims may also suffer from similar cognitive limitations. Hence, the results would not crucially change in a bilateral setting.

³⁷ Ogus, above n. 8, 250-252.

³⁸ For instance, concerning the overconfidence bias (Korobkin and Ulen, above n. 11 at 1092).

³⁹ More particularly of the hindsight bias (Korobkin and Ulen, above n. 11 at 1097).

⁴⁰ Again, given the limited space, I will only address a few consequences. Readers interested in further details can be referred for example to J.S. Johnston, 'Bayesian Fact-Finding and Efficiency: Towards an Economic Theory of Liability under Uncertainty' (1987) 61 *Southern California Law Review* 137; Korobkin and Ulen above n. 11; H.B. Schäfer and F. Müller-Lange, 'Strict Liability versus Negligence' in M. Faure (ed.), *Encyclopedia of Tort Law and Economics* (Cheltenham: Edward Elgar forthcoming) no. 23 and J.S. Teitelbaum, 'A Unilateral Accident Model under Ambiguity' (2007) 37 *Journal of Legal Studies* 431. See also E. Posner, 'Probability Errors: Some Positive and Normative Implications for Tort and Contract Law' (2004) 11 *Supreme Court Economic Review* 125.

4.2 Efficient care on the part of injurers

Many of the cognitive limitations described in section 3 can influence the care taken by injurers. It is remarkable that some of these limitations suggest that injurers take greater care (overprecaution), whereas others indicate injurers take less care (underdeterrence). Starting with the latter, some have pointed to bounded rationality leading to systematic misperception of individuals with regard to the probability of accidents. One reason is the well-known affect heuristic: if an individual considers a certain activity to be useful and pleasant, the likelihood that he/she will realise that the consequences of the activity are damaging will be lower than if he/she dislikes or disapproves of the activity.⁴¹ The presentation of the facts and social acceptance may also influence the estimation that the activity will lead to damage.⁴² Jolls, Sunstein, and Thaler also point to overoptimism as a source of miscalculations of the probability of a negative outcome of certain events. Such overoptimism will lead to an underdeterrence of potential tortfeasors.⁴³ Especially with respect to automobile accidents, there is overwhelming evidence of the optimism bias whereby drivers underestimate their absolute as well as their relative (to other individuals) probability of being involved in a car crash.⁴⁴

Other or even identical cognitive limitations may lead to injurers taking greater care than would be efficient (overdeterrence). A typical problem leading to potential overdeterrence is the probability neglect: overweighing small probabilities because of a fear of negative outcomes.⁴⁵ In focusing more on the outcome than on the probability of such an outcome,

⁴¹ See for example with respect to smoking P. Slovic (ed.), *Smoking – Risk, Perception and Policy* (CA, Sage: Thousand Oaks 2001).

⁴² A summary of this literature is also provided in the inauguration address of W.H. Van Boom, *Structurele fouten in het aansprakelijkheidsrecht* (inauguration address University of Tilburg, 14 March 2003) (The Hague: Boom Juridische Uitgevers 2003) at 9-11.

⁴³ Jolls, Sunstein and Thaler, above n. 9 at 1524-1525. They, however, equally indicate that the role of overoptimism can vary significantly with context, since there is equally a tendency to overestimate the likelihood of being sanctioned (for example concerning superfund litigation).

⁴⁴ See also an empirical study showing evidence of this self-favouring bias with drivers by A. Guppy, 'Subjective Probability of Accident and Apprehension in Relation to Self-other Bias, Age, and Reported Behaviour' (1993) 25 *Accident Analysis & Prevention* 375.

⁴⁵ Wibisana, above n. 8 at 241-242.

potential injurers may take excessive care with regard to low-probability, high-damage events.

The same danger exists with the availability heuristic. When a danger has materialised and thus is 'available', the probability of that negative outcome may be overestimated. This availability heuristic can be strengthened by negative publicity concerning particular types of accidents.⁴⁶ Excessive care can thus be the result.

Moreover, bounded willpower can also explain why in some situations people are – or appear to be – taking precautions with regard to others, even strangers. The importance of this bounded willpower for accident law is clear, and may explain why potential tortfeasors may simply wish to avoid inflicting harm.

Thus far, a problem with the consequences of this literature for injurer behaviour is that the results are multidirectional: problems like overoptimism may lead to underdeterrence, whereas others such as the availability heuristic may have precisely the opposite result.

4.3 Errors of the judiciary

Given that injurer errors can go in both directions, the question is whether similar problems emerge when the judge has to fix the standard of due care in the context of the determination of negligence. There seems to be no evidence that judges systematically do better than laypersons. For one thing, it is not clear whether judges are really 'experts' in setting a standard of care in a negligence case. They deal with a large number of different cases, and compared especially to corporate defendants it is easy to argue that judges are more likely to misinterpret the efficient care standard than are defendants. There is also convincing evidence that judges are subject to cognitive limitations that influence their judgement. Biases that played a role in the assessment of probabilities and risks for laypersons can play an equal role when similar assessments are undertaken by judges. Hence, the judges may also overweigh small probabilities and fix too high a standard of care for activities that, if they result in an accident, cause considerable damage. The availability heuristic can also influence the judiciary: highly publicised causes of death (through particular accidents) could thus lead to higher estimations concerning the danger of those activities. As a consequence, the due care level set through case-law could be higher than the efficient one and overdeterrence could result.

As discussed above, a well-documented problem, which may play a role in the case of decision-making by the judiciary, is hindsight bias:

⁴⁶ In the words of Ogus: 'If media coverage has given prominence to a given contingency, say an accident, individuals will attribute a greater probability to the contingency recurring than is objectively justified' (Ogus, above n. 8 at 308).

namely, the tendency of decision-makers to attach an excessively high probability to an event simply because it eventually occurred.⁴⁷ It is related to the fact that judges will *ex post* always base their decision on the basis of the information that the accident happened and that therefore the particular activity was apparently risky. The result of this hindsight bias is that the decision on whether the defendant took appropriate care to avoid the accident will always be biased against the defendant. The fact that the accident occurred apparently shows that the injurer did not take sufficient care, while the objective question of whether from an *ex ante* perspective the defendant took efficient care is no longer asked: ‘hindsight bias will lead juries making negligence determinations to find defendants liable more frequently than if cost-benefit analysis were done correctly – that is, on an *ex ante* basis. Thus, plaintiffs win cases they deserve to lose’.⁴⁸

4.4 Strict liability vs. negligence

Having established that according to the literature human errors may affect the judgement of potential injurers and judges in a tort case, the next question is what might the consequences be both for the economic model of tort law and, more particularly, for the optimal liability rule. To answer this, one could examine whether cognitive problems are more serious with potential injurers than with judges. If that were the case, it would be an argument in favour of a negligence rule and against strict liability. Indeed, strict liability assumes that injurers weigh costs and benefits and thus apply efficient care, whereas negligence assumes that the judge determines the due care standard. However, a number of problems with this reasoning exist: first, the behavioural evidence showed that there are problems with both potential injurers and with judges, which can lead to misperceptions and thus to inefficient care standards. There is no *a priori* reason to argue that judges would do better than injurers. Second, even if one were to move to a negligence rule judging that the judiciary is better able to set a due care standard, problems can still arise under negligence, since potential injurers may still have various misperceptions concerning either the actual care they should take or concerning the due care required by the judiciary; these can lead to inefficiencies. Third, it may be dangerous to move to a negligence rule simply on the basis of behavioural arguments (even though it is not clear in which direction they go), thereby disregarding that an overwhelming body

⁴⁷ Jolls, Sunstein and Thaler, above n. 9 at 15-23 ff; W.H. Van Boom, above n. 42 at 14-15; Korobkin and Ulen, above n. 11, at 1095-1100 and W.K. Viscusi and R.J. Zeckhauser, ‘The Denominator Blindness Effect: Accident Frequencies and the Misjudgement of Recklessness’ (2004) 6 *American Law and Economics Review* 72.

⁴⁸ Jolls, Sunstein and Thaler, above n. 9 at 1524.

of economic literature has pointed to other advantages of strict liability with respect to internalisation of risks.

Difficulties of course arise in the determination of negligence as well. Consequences can be varied and depend upon whether only the judiciary errs or the potential injurer as well. However, these negligence-standard imperfections are well known in the traditional doctrine and have been described in detail by Shavell. In that respect, the finding of Jason Scott Johnston is also compelling: namely, behavioural problems do not have a clear direction and both under- or overdeterrence relative to the correct application of the cost-benefit standard is possible.⁴⁹

A recent paper by Teitelbaum analyses the unilateral accident model under ambiguity, and refers explicitly to the behavioural literature.⁵⁰ He argues that neither strict liability nor negligence is generally efficient in the presence of ambiguity, and that the injurer's level of care decreases with ambiguity when he/she is optimistic and increases when he/she is pessimistic. Teitelbaum argues that in the case of optimism, negligence leads to better results than does strict liability in some cases, and that in the case of pessimism, negligence leads to better results than does strict liability in all cases. On the basis of this, it could therefore be concluded that in the case of ambiguity the negligence role should be preferred. However, Teitelbaum merely focuses on ambiguity on the side of the injurer and therefore assumes that the judge is able to set an efficient level of care (essential for the efficiency of the negligence rule). The result may differ when biases on the side of the judiciary are also taken into account, such as the above-mentioned hindsight bias. Korobkin and Ulen argue that the hindsight bias casts doubt on the ability of juries and judges to reach a proper determination of negligence, because they are likely to believe that precautions that could have been taken would have been more cost-effective than they actually appeared *ex ante*. Since this bias does not occur under a strict liability regime, the authors argue that the hindsight bias points towards favouring strict liability.⁵¹

Looking briefly at how the results of behavioural studies have been incorporated into the literature on tort law and economics, the least one can say is that it has certainly not become easier to identify an efficient liability rule. Johnston indicates that – depending upon the type of bias (leading to optimism or pessimism) – there may be both under- or overdeterrence and hence no clear direction can be provided; Teitelbaum likewise argues that

⁴⁹ Johnston, above n. 40 at 154-164. Johnston does not deal explicitly with implications of the behavioural literature, but the findings of his paper (from 1987), which deal with optimal liability rules under ambiguity, uncertainty and possibilities of error, also apply to the cognitive biases identified in the behavioural literature.

⁵⁰ J.S. Teitelbaum, above n. 40 at 432.

⁵¹ Korobkin and Ulen, above n. 11 at 1098-1099.

ambiguity leads to the result that neither strict liability nor negligence is generally efficient, but shows, focusing on precautions taken by injurers, a slight preference for the negligence rule. When, however, one takes the hindsight bias into account as well, as Korobkin and Ulen do, a strict liability rule seems to be preferred. If one were therefore to consider the result of this literature in the economic models of tort law, it would lead to a highly elaborated and differentiated system whereby the efficient liability rule would depend upon the nature of the biases (pessimism or optimism) with regard to either the injurer or the judiciary. As Korobkin and Ulen indicated, one can justifiably wonder whether sufficient empirical evidence is already available to provide clear guidance with regard to the choice of an efficient liability rule. Current available studies point towards a highly differentiated system, in which the administrative costs may substantially outweigh the benefits in differentiation.⁵²

4.5 A case for regulation?

A general finding in the behavioural literature is that potential tortfeasors may respond less appropriately to incentives given by the tort system than is expected by the economic model. In addition, judges may not always be able to set the standards correctly. These errors raise the question of whether – within Shavell's criteria for safety regulation – they constitute arguments for a stronger reliance on regulation than on liability rules.

In such a case, Ogus argued that a paternalist goal of increasing social welfare can justify regulation on the basis that the regulator assumes what would have been the preferences of individuals had they responded rationally to full information.⁵³ Ogus provides the following criteria to evaluate paternalistic regulation:

- Do plausible traditional justifications (externalities, information failure, inadequate competition) for the measure operate independently of paternalism?
- If not, and taking into account the insights of social psychology, is the regulated activity one in which a significant proportion of the agents make decisions that are unlikely to reflect their real preferences?
- If so, are the likely costs of the regulatory measure proportionate to the likely benefits and/or could the same be reached at a lower cost by an alternative instrument?⁵⁴

⁵² Confirming Ogus's concern that an intervention based on behavioural studies should only take place when the benefits exceed the costs (Ogus, above n. 8 at 250-252).

⁵³ *Id.*

⁵⁴ Ogus, above n. 8 at 312.

Many scholars argue that certain behavioural biases can be considered arguments in favour of regulation. For example, Korobkin and Ulen contend that the judiciary's hindsight problem can be an argument in favour of broader *ex ante* regulation of safety by administrative agencies.⁵⁵ The authors also defend the mandatory use of seat belts or the installation of airbags in cars as a rational decision by the government to remove safety decisions from individual actors, given cognitive biases.⁵⁶ Camerer *et al.* defend regulation as 'asymmetric paternalism', since, on the one hand, a device that would disable a car in the event the driver had too high an alcohol level would regulate the behaviour of those whose driving and decision-making is assumed to be undermined; on the other hand, it would be completely unobtrusive for those who do not need it: namely, the drivers who are not drunk.⁵⁷

However, many may question whether standards set by the government are necessarily a superior response to the tort system, even under bounded rationality. Public and private errors are equally realistic problems,⁵⁸ and public choice scholars have demonstrated unequivocally that public regulation always runs the risk of inefficiencies caused by private interests. 'Paternalism has been abused by governments responding to special interests or seeking to aggrandize their own authority'.⁵⁹ To counter *inter alia* this risk, economists have proposed the use of cost-benefit analysis for risk regulation, precisely since regulation also runs a serious risk of simply providing a response to irrational social fears.⁶⁰

In summary, safety regulation can be advanced if there are reasons to believe that the regulator would be better able to make an adequate risk assessment and hence to set standards closer to the efficient care levels than would private parties (under strict liability) or the judiciary (under negligence). Cost-benefit analysis can be used to guarantee that regulators will not be subject to the same cognitive problems as individuals.⁶¹

⁵⁵ Korobkin and Ulen, above n. 11 at 1099.

⁵⁶ *Id.* at 1107.

⁵⁷ C. Camerer and others, 'Regulation for Conservatives: Behavioural Economics and the Case for "Asymmetric Paternalism"' (2003) 151 *University of Pennsylvania Law Review* 1211.

⁵⁸ E.L. Glaeser, 'Paternalism and Psychology' (2006) 73 *University of Chicago Law Review* 133 at 134.

⁵⁹ *Id.* at 135.

⁶⁰ See the eight propositions suggested as remedies by C.R. Sunstein, 'Cognition and Cost-Benefit Analysis' (2000) 29 *Journal of Legal Studies* 1065.

⁶¹ See Ogus, above n. 8 at 250-252 and Sunstein, above n. 60 at 1065-1073.

5 Calabresi on accidents

The starting point for this contribution to honour Guido Calabresi was his own important work on accident law. We showed in section 3 that the fundamental assumptions of the economic models of tort law that have emerged following Calabresi's work have been criticised on the basis of studies in social psychology. In section 4, we indicated that this may to some extent lead to an adaptation of the traditional economic models with respect to tort law, for example as far as the choice between strict liability and negligence is concerned, even though the consequences in the behavioural literature are not entirely clear. I will now examine to what extent Calabresi's views on accident law can be reconciled with certain findings in the behavioural literature. To a degree, this is unavoidably an artificial exercise, since much of the literature discussed in section 3 only emerged years after Calabresi wrote his famous works in the 1960s and 1970s. However, as I will demonstrate below, it is possible to examine whether any general issues resulting from the behavioural literature can be traced back to Calabresi's work, such as the importance of information and the influence of error with regard to the parties and the judiciary.

I will first briefly summarise the main premises in Calabresi's *Costs of Accidents* (5.1). Next I will demonstrate, mostly on the basis of other papers (some of which have been incorporated into *Costs*), to what extent Calabresi can be considered a behaviouralist 'avant la lettre' (5.2).

5.1 The costs of accidents

In his groundbreaking work, the *Costs of Accidents*, Calabresi clearly chooses a normative approach towards the accident problem: first, it must be just or fair; second, it must reduce the costs of accidents.⁶² This second goal stresses the preventive function of liability rules and is formulated as the reduction of accident costs in order to increase social welfare.

Calabresi divided accident costs into three categories: primary, secondary, and tertiary. The first relates to the number and severity of accidents. The second concentrates on reducing the societal costs resulting from accidents.⁶³ The third focuses on reducing the costs of administration

⁶² Calabresi, above n. 2 at 24.

⁶³ To some extent, this can be equalised to the compensation of victims, although Calabresi rightly mentions that it is somewhat misleading (*Id.* at 27).

related to treatment of accidents,⁶⁴ and is thus aimed at lowering primary and secondary costs. For liability law to be efficient, total accident costs (primary, secondary, and tertiary) should be minimised.

Calabresi indicates that primary cost reduction can be achieved through either general or specific deterrence. Within a general deterrence approach, the government can rely on the market to deter potential wrongdoers. When (as a result of liability) an enterprise is held to compensate the costs its activity generates, dangerous activities will become more expensive and the enterprise will, as a result of market forces, have an incentive to increase safety.

General deterrence can therefore reduce primary accident costs in two ways: if an individual has to pay all costs (including accident related) in the event that a dangerous activity is performed, this will in principle lead to a behavioural change whereby a safer activity will be chosen; the second and perhaps more important way is that general deterrence encourages us to make activities safer.⁶⁵ Calabresi notes that this assumes the person creating the risk also has information on the costs and benefits of preventive measures. General deterrence, Calabresi argues, thus creates a market for developing cost-saving substitutes and leads to a minimisation of accident costs, thanks to market forces.⁶⁶

Calabresi argues that primary accident costs can also be reduced through specific deterrence. At its extreme, specific deterrence suggests that all accident costs-related decisions should be made collectively, through a political process. In that case, it is society that decides collectively the extent to which each activity should be allowed and the way in which it should be carried out.⁶⁷ Calabresi advances many arguments as to why in some cases specific deterrence may be preferred to general deterrence. One could be that individuals do not know what is best for themselves; another might be that accidents could involve non-monetisable costs or that moral judgements are involved. Moreover, general deterrence through the market cannot effectively reach certain categories of activities. For all of these reasons relating to the limits of the market mechanism (through general deterrence), specific deterrence may intervene with prohibitions and restrictions, limitations on specific activities, and penalties in the case of non-compliance.⁶⁸

Calabresi indicates that in the general deterrence point of view the question is which part of accident costs have to be allocated to an activity that caused the harm; in a specific deterrence approach, the question is which

⁶⁴ *Id.* at 28.

⁶⁵ *Id.* at 73.

⁶⁶ *Id.* at 74-75.

⁶⁷ *Id.* at 95.

⁶⁸ *Id.* at 95-129.

regulation is indicated to deter a specific dangerous activity. In practice, however, there is a combination of specific deterrence and a market control of accidents through general deterrence.⁶⁹

The crucial question of how accident costs have finally to be allocated is analysed on the basis of the concept of the 'cheapest cost avoider'. Within the market mechanism (general deterrence), an initial 'rough guess' has to be made: for instance, ruling out as potential loss bearers those activities that could reduce the costs being allocated only at what would obviously be too great an expense.⁷⁰ Next, the second guideline is to seek the maximum degree of internalisation of costs: for example, due to insufficient sub-categorisation, as a result of transfer or inadequate knowledge. This means that in general Calabresi holds that an externalisation of costs from pedestrians or drivers to taxpayers in general should be avoided unless it can take place at relatively lower administrative costs.⁷¹

Calabresi provides a few further guidelines in the search for the 'cheapest cost avoider'. One is obviously that if finding or allocating cost to the cheapest cost avoider is more expensive administratively, the cost saving achieved by the seemingly better allocation may not be worth the administrative costs borne to find it, since total costs have to be minimised.⁷² Another guideline is that costs should also be allocated so that the likelihood of errors in allocation will be corrected in the market. This criterion assumes that despite transaction costs a tendency exists for the market to find the cheapest cost avoider and to influence him/her by bribes. Hence, if there is uncertainty about who is the cheapest cost avoider, accident costs should be charged to the person who can enter into transactions more cheaply: what Calabresi refers to as 'the best briber'.⁷³

Moreover, Calabresi indicates that the market mechanism under general deterrence has the advantage that the decision can be made empirically by trial and error. The individuals who decide most accurately will benefit most in the market. The great advantage of the general deterrence of the market is, in Calabresi's words, that it is 'a highly effective trial and error device'.⁷⁴ Here Calabresi indicates a substantial disadvantage of specific deterrence under the collective decision-making process. The trial and error method is not possible in the same way, as the market can do so under general deterrence and, moreover, errors in the case of specific

⁶⁹ *Id.* at 113.

⁷⁰ *Id.* at 140.

⁷¹ *Id.* at 144-150.

⁷² *Id.* at 143-144.

⁷³ *Id.* at 150-152.

⁷⁴ *Id.* at 186-188.

deterrence (for example in creating inaccurate subcategories) can result in a remaining wrong allocation that cannot be corrected through the market. Once a wrong decision has been made under specific deterrence (regulation), a new decision will be possible to correct the earlier one.⁷⁵

Costs of Accidents is devoted extensively to the optimal way in which, using the notion of the cheapest cost avoider, society can minimise the total sum of accident costs, either through general or specific deterrence.

5.2 Calabresi as behaviouralist ‘avant la lettre’?

It may appear odd to look for traces of a behavioural approach in Calabresi’s work, given that he wrote most of his well-known articles and the *Costs of Accidents* long before behavioural law and economics had developed. Nevertheless, it seems possible to link various elements in Calabresi’s work to notions of behavioural law and economics. A few points may illustrate this. Already in his first publication in 1961 Calabresi developed the idea of the use of the market to obtain an optimal allocation of resources: the use of price theory would drive unsafe products and activities out of the market. However, Calabresi is relativistic about this argument and holds ‘that people themselves do not understand how much they should spend, “for their own good”, on housing and medical care as against such goods as television sets. To this extent of course, the basis of the allocation – of – resources justification is weakened’.⁷⁶ Here one recognises an implicit reference to cognitive biases or at least to bounded rationality. He continues: ‘Perhaps, the postulate that people know better than anyone else what is best for themselves ought to be abandoned’.⁷⁷ However, recognising the limits of the price system, Calabresi maintains that it still functions remarkably better than an alternative whereby a central agency would control the production of services and goods.

In his subsequent publication (in 1965), he again implicitly recognises the limits of the utility maximisation hypothesis by arguing that ‘in a growing area we are becoming convinced, whether rightly or wrongly, that individuals do *not know what is best for themselves*’.⁷⁸ This quote is followed by a footnote (45):

The importance of this trend can easily be exaggerated by looking at those areas of the economy where advertising plays its most significant role. There it is easy, though certainly not always correct, to assume that the choices made by individuals

⁷⁵ *Id.* at 181-186.

⁷⁶ Calabresi, above n. 1 at 531.

⁷⁷ *Id.* at 531-532.

⁷⁸ G. Calabresi, ‘The Decision for Accident: An Approach to Nonfault Allocation of Costs’ (1965) 78 *Harvard Law Review* 743.

are irrational and, more important, that the individuals will all too soon regret having made them. But the area of final consumer choices, even if it were as irrational as we sometimes think, is only a small part of the picture. If we consider all the decisions at the production level which are made by individuals operating through the market mechanism, it is much easier to conclude that individual choosers can still do better for themselves than anyone else.

Here one clearly recognises that Calabresi is aware of the limits of individual decision-making but is at the same time cautious in realising that alternatives such as government regulation may not necessarily do much better.

In this and subsequent publications, Calabresi devotes considerable attention to the optimal liability rule as developed in further detail in his *Costs of Accidents*. In his 1965 *Harvard Law Review* article, he examines inter alia why bargaining between parties may in some cases not provide an optimal allocation and how in that specific case liability should then be allocated. Taking the example of industrial accidents, he argues that employers are in many cases better informed than employees, which, on the one hand, may inhibit a bargain from occurring and, on the other hand, can provide an argument to place the liability on the better informed party.⁷⁹

The notion of looking at a variety of practical elements in order to determine the 'cheapest cost avoider' in real-case scenarios was developed in detail in the *Costs of Accidents*, discussed above, but can also be found in Calabresi's *Yale Law Journal* paper on a test for strict liability in torts from 1972 (written together with Jon Hirschoff). They argue that the choice between different liability regimes should 'depend not on their *theoretical* ability to optimize accident costs given certain assumptions, but on the degree to which the particular assumptions required by each device actually do obtain'.⁸⁰ This quote is followed by an interesting footnote (17) that holds inter alia

these assumptions relate, inter alia, to the cost of information to each party, the absence of psychological or other impediments to acting on the basis of available information, the administrative costs of shifting losses, and the extent to which parties actually bear the costs which the particular tests impose upon them.

Here one notices an explicit reference to psychological impediments that may be decisive in the search for the cheapest cost avoider. Elsewhere in the paper it is argued that the question of who should bear the liability should be answered on the basis of 'who can best make a cost benefit analysis and act

⁷⁹ *Id.* at 727-729.

⁸⁰ G. Calabresi and J.T. Hirschoff, 'Towards a Test for Strict Liability in Torts' (1972) 81 *Yale Law Journal* 1059.

on it, viewed in realistic terms'⁸¹ and 'who is better able to choose to avoid that risk by altering behaviour should the risk appear too great'.⁸²

Calabresi's model for allocating liability thus allows taking into account the cognitive abilities of all parties involved in the accident setting in a differentiated manner, which precisely results from the behavioural literature as well. Thus Calabresi even holds that account should be taken of 'the likelihood of foolish behaviour by the victim or the unusual sensitivity of some victims',⁸³ even though he also sees the clear disadvantage of such a detailed differentiation, being that 'the administrative costs of making such individualized judgements would presumably be too great'.⁸⁴

The relevance of errors with either the regulator (in a fault regime) or the injurer (in a strict liability regime) was subsequently also used as an important determinant to choose between both liability regimes in his 1975 paper 'On Optimal Deterrence and Accidents'.⁸⁵ The relevant question in this respect is, so Calabresi holds, not so much what the correct decision is but rather 'who is best suited to make the cost-benefit analysis between accidents costs and accident avoidance costs? In other words, it would ask who would bear the incentive *to decide correctly*'.⁸⁶ Again giving considerable scope for incorporating results from social psychology, he adds that this decision 'is a matter of empirical judgements, not theory'.⁸⁷

We argued above that behavioural studies as well as neoclassic theory provide arguments for regulation when both injurers and the judiciary may lack the necessary information for an appropriate cost-benefit analysis in an accident setting. These arguments can clearly be found in Calabresi's work as well, and are referred to as the need for specific deterrence rather than general deterrence, as was previously explained in the discussion on costs of accidents. In his 1968 paper on the Coase Theorem, Calabresi already argued that if, for example, we were to be sure

that rubber bumpers are always the cheapest way of minimising the sum of car-pedestrian accident costs and the costs of avoiding such accidents, it seems likely that the cheapest way of getting rubber bumpers is by a law that requires them, rather than by liability rules.⁸⁸

⁸¹ *Id.* at 1064.

⁸² *Id.* at 1066.

⁸³ *Id.* at 1067.

⁸⁴ *Id.* at 1068.

⁸⁵ See more particularly G. Calabresi, 'Optimal Deterrence and Accidents' (1975) 84 *Yale Law Journal* 660 at 660-662.

⁸⁶ *Id.* at 666.

⁸⁷ *Id.* at 667.

⁸⁸ G. Calabresi, 'Transaction Costs, Resource Allocation and Liability Rules – A Comment' (1968) 11 *Journal of Law and Economics* 67-73.

Even though, as indicated above, in his *Costs of Accidents* various arguments are provided for where specific deterrence (regulation) may be preferred to general deterrence (liability rules), at the same time he recognises the potential weaknesses of regulation and more particularly the possibility of regulatory error. This is seen by Calabresi as a strong argument in favour of strict liability. Where regulatory error (e.g. overestimating prevention costs) could lead to a failure not to impose liability on the injurer under the fault system ‘in strict liability systems, unlike the fault system and its “mirror image”, regulator error affects accidents in an unbiased way’.⁸⁹

In summary, it may be clear that the balanced approach to the accident problem proposed in the *Cost of Accidents* and Calabresi’s many other publications do indeed provide the scope to incorporate the consequences of human errors – now referred to as cognitive biases – in the decision on the allocation of the accident risk. In that respect, the flexible approach inherent in Calabresi’s model where the decision on liability is not fixed *ex ante* but depends upon many elements (also of empirical nature), including the capacity of individuals and judges to process the information necessary for an efficient cost-benefit analysis in an accident setting, may well be appropriate to take the new insights resulting from social psychology into account in accident law.

6 Concluding remarks

Conclusions about what attention has been paid to the implications of behavioural law and economics for the economics of tort law and to the relevance of Calabresi’s work in that respect are unavoidably ambiguous in various ways. First, the results seen in the behavioural literature for the economic models of tort law are not self-evident. At first glance, the findings in the behavioural literature suggest important changes to traditional models. Indeed, the assumptions underlying the economics of tort law assume that potential injurers as rational decision makers have the ability to process information concerning probability of an accident and expected damage in relation to the costs of preventing the accident. Behavioural literature suggests that much can go wrong in the way potential injurers process this information, being subject to a variety of heuristics and biases.

However, a problem with this strand of the behavioural literature is that the direction of the biases is not always clear. Some biases pointed in the direction of injurers being overcautious (and thus being inefficiently overdeterred), whereas others point to injurers systematically neglecting specific risks and thus taking too few precautions (leading to

⁸⁹ Calabresi, above n. 85 at 669.

underdeterrence). I showed above that, for example, as far as the choice between strict liability and negligence is concerned, some authors (more particularly Teitelbaum) seem to favour the negligence rule (on the basis of an analysis of certain biases), whereas others (Korobkin and Ulen) seem to favour the strict liability rule, more particularly to counter the hindsight bias on the part of the judiciary. The result therefore is that findings in the behavioural literature present an extremely nuanced and differentiated picture, whereby the liability rule would depend upon the type of biases and whether they occur with regard to the parties in the accident setting (injurer or victim) or with the judge. Even if one already assumes that behavioural literature findings are sufficiently clear cut to warrant an adaptation of traditional models, it is not obvious in which direction that adaptation goes. Hence, if a number of different nuances are taken into account, the behavioural literature is only to a given extent able to provide a better explanation of the behaviour of potential parties in an accident setting than are traditional economic models.

Interestingly, Calabresi's view on accident law might fit well here. But this presents me with a second ambiguity: the question of whether Calabresi's ideas fit into the behavioural literature (as he suggested to me in Sicily) is relevant only to the extent that one accepts that traditional models need to be adapted to these findings, which is, as I have just argued, not so self-evident. Critics have criticised Calabresi's approach as being vague and providing little guidance to the policy-maker by using broad concepts such as 'the least cost avoider'. Admittedly, Calabresi's approach is more differentiated and flexible than some of the formal models of tort law that were subsequently developed by hardcore economists in the 1980s. However, with a display of goodwill toward our *Doctor honoris causa*, one can argue, as I have done in section 5.2, that Calabresi's flexible approach has precisely the advantage that it allows one to take into account all kinds of cognitive limitations, errors, and information problems, as did Calabresi himself explicitly in many of his publications in the 1960s and 1970s. A review of these publications has shown that he was well aware of cognitive limits: for instance, concerning the ability of parties to assess how much they should spend 'for their own good'. At the same time, he also comes to a balanced conclusion with regard to the normative consequences of these limits, and argues, for example, that these problems are no reason to abandon the price system.

Of course, it would be unfair to other scholars in tort law and economics to argue as if Calabresi were the only one to have pointed to possible cognitive problems. For example, shortcomings of the negligence standard (errors in factual or efficient care on the side of the potential injurers or judges) had been identified and discussed in detail by Shavell, and were incorporated into the economic analysis of tort law. Moreover, mainstream economists had also generally acknowledged the problem of

‘bounded rationality’, although mainly as an indicator of the parameters beyond which traditional analysis could not go.⁹⁰

One could hold that the implications of the behavioural literature for the traditional economic analysis of accident law are therefore modest: the suggestions formulated by Shavell to deal with uncertainties in the application of the negligence rule can equally be used to handle human errors of the type suggested in the behavioural literature. Moreover, the literature is divided on the findings of behavioural studies with relation to the traditional test as regards negligence and strict liability. Perhaps, as was also suggested by Korobkin and Ulen, further empirical research is necessary before one can decide to adapt traditional models. Moreover, in that case there is no need to abandon the economic analysis of tort law (based on the rational choice model) completely, but rather to refine the models on the basis of findings in social psychology.

As mentioned in the introduction, Guido Calabresi himself suggested to me the topic for this contribution, by maintaining that many of the ideas of behavioural law and economics were already implicit in his writings in the 1960s and 1970s. I have demonstrated that this claim is to a certain extent correct. However, when rereading Calabresi’s publications prior to writing this paper, I noticed again that – and this is probably far more important than stressing that behavioural insights were already present in Calabresi’s early work – his ideas radically changed the way lawyers and policy-makers subsequently thought about accident law. Just to refresh our memories:

- He showed that ‘our society is not committed to preserving life at any cost’.⁹¹ He thus reminded us of the simple economic wisdom that ‘we use relatively safe equipment rather than the safest imaginable because – and it is not a bad reason – the safest cost too much’.⁹² This remains an important lesson even today, for example, for those who argue that the environment should be protected at the highest level possible;
- He taught that achieving deterrence in order to prevent accidents is a different goal from compensation or spreading loss;⁹³
- He taught many lawyers the important lesson that tort law is an overly expensive and badly suited instrument to achieve the compensation of victims: ‘if compensation were the only goal, then by far the most effective and efficient method of accomplishing it

⁹⁰ Ogus, above n. 8 at 233.

⁹¹ Calabresi, above n. 2 at 17.

⁹² *Id.* at 18

⁹³ Already in his risk distribution and the law of torts, above n. 1 at 529, but again recently in G. Calabresi, ‘Towards a Unified Theory of Torts’ (2007) 1 *Journal of Tort Law* 1 at 8.

would be through a system of general social insurance, which would externalize the costs of accidents from any market decisions'.⁹⁴

Again, this is still an important lesson today for the many lawyers who claim that the central goal of tort law would be victim compensation.

The theories of Guido Calabresi, a pioneer in the domain of accident law, have not only constituted the basis for the economic analysis of tort law but have also dramatically changed the way in which many think about the accident problem. His ideas are still clearly of considerable significance for many of today's scholars and policy-makers.

⁹⁴ Calabresi, above n. 78 at 744, but also Calabresi, above n. 1 at 534.