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Awarding Damages for Non-Pecuniary Losses: from Full to Personalized Compensation. A Quest towards Neurocognitive Research

Abstract: This paper illustrates a shift from full to personalized compensation in non-pecuniary damage. It moves from the multiform language used to describe these losses in various legal systems to analyse how the awarding criteria they use can serve the principle of making the victim whole as well as reshape this principle. As a final outcome, the paper closes with a return back to the actual nature and role of the notion of »making the victim whole« suggesting an innovative path for research based on neurocognitive science insights.

I. Making the victim whole: a principle, a fundamental right or an illusory promise?

Jurists often use seemingly vague notions and adjectives to qualify for compensation for non-pecuniary damage such as »full« compensation (or making the victim whole), »fair« or »just« compensation.¹ Although referring to age old,

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¹ The language is clearly included in *J. S. Rakoff* and *J. S. Siffert*, *Modern Federal Jury Instructions Civil* (LexisNexis Book, 2015) 4-77 § 77-3:

»The purpose of the law of damages is to award, as far as possible, just and fair compensation for the loss... you must award the plaintiff sufficient damages to compensate him or her for any injury proximately caused by the defendant's conduct. These are known as »compensatory damages.« Compensatory damages seek to make the plaintiff whole that is,

much debated legal concepts, those expressions lend themselves to criticisms and to conflicting arguments.²

It is not our goal here to recall all the related literature or to question the actual presence of those notions in legal systems. Here, we want simply to investigate the role that the notion of full and fair compensation can serve and how it relates with the assessment criteria actually used to award non-pecuniary compensation in some representative countries.³

We move from the multiform language used to describe non-pecuniary damages in various legal systems to continue our analysis on how the main awarding criteria used in Europe can serve the principle and actually help reshape it. As a further final outcome, the paper closes suggesting a new path of research based on neurocognitive science insights, aiming to sustain the conventional nature of both the principle of full compensation and of the notion of non-pecuniary losses and to investigate the gist of these concepts.

Accordingly, fair treatment of players⁴ involved in the compensation game might still categorise as »full« a compensation that departs from some given standards. The reasons and justifications for such a departure can be very different from each other (e.g. deterrence vs. compensation,⁵ equity,⁶ predictability,⁷ regressive results⁸ ...). In any event they are all difficult to justify since it is difficult to find a commonly shared point of departure on the amount of non-pecuniary compensation necessary to make a victim whole.⁹

to compensate him or her for the damage suffered... The damages that you award must be fair and reasonable, neither inadequate nor excessive.«

2 See *R. A. Epstein*, *Torts* (Aspen Publishers, 1999); *J. Berryman*, »The Compensation Principle in Private Law« (2008) 42 *Loyola of Los Angeles Law Review* (Loy. L.A. L. Rev.) 91–129 and quoted literature on justice.

3 For a critical analysis see *M. Geistfeld*, »Placing a Price on Pain and Suffering: A Method for Helping Juries Determine Tort Damages for Nonmonetary Injuries« (1995) *W 83 California Law Review* (Cal. L. Rev.) 775–850, 777.

4 It is at least debatable which players should be taken into account.

5 *S. Shavell*, *Economic analysis of accident law* (Cambridge, Massachusetts, 2003).

6 *J. L. Coleman*, *Risk and Wrongs* (Oxford University Press, 1992).

7 *G. Comandé*, »Doing Away with Inequality in Loss of Enjoyment of Life«, in *J. Ward and R. Thornton* (eds.), *Personal Injury and Wrongful Death Damages Calculations: Transatlantic Dialogue* (Emerald Group Publishing, Vol. 91, 2009) 255–75. *Geistfeld* (fn. 3).

8 *G. L. Priest*, »The Current Insurance Crisis and Modern Tort Law« (1987) 96 *Yale Law Journal* (Yale L.J.) 1521–88, but see *J. D. Hanson* and *K. D. Logue*, »First-Party Insurance Externality: An Economic Justification for Enterprise Liability« (1990) 76 *Cornell Law Review* (Cornell L. Rev.) 129–96, 154.

9 Some authors question full compensation for non-economic damage. See, for instance, *H. Zavos*, »Monetary Damages for Nonmonetary Losses: An Integrated Answer to the Problem of the Meaning, Function, and Calculation of Noneconomic Damages« (2009) 43 *Loy. L.A. L. Rev.* 193–272, 198, claiming »can only compensate the plaintiff through a symbolic sum that offsets the loss.«

In literal terms, talking about »full compensation« implies that, under certain circumstances, compensation can sometimes be less than »full«, without being unfair as well. On the contrary, »truly full« compensation can be unfair to other individuals or conflict with other purposes served by the given compensation mechanism used for the assessment exercise.¹⁰ Sometimes these differences are described with distinctive words, using compensation (implying full compensation) and redress/restoration meaning a damages award that is less than full, for instance in work-related compensation plans or in automobile no-fault plans.

Certainly, there have always been methods to offer measures and solve pragmatically the commensurability problem of non-pecuniary losses,¹¹ but none of them is immune from the self-intuitive arguments of being as arbitrary as any other method or as serving goals other than making-the-victim-whole itself. Take, for instance, the case of scheduling damages based on previous awards to serve horizontal and vertical justice purposes,¹² or to serve the solidarity principle embedded in a Constitution or to cap damages for the sake of insurance premium's containment. This all seems to serve one goal fairly well and less other ones.

What results from these preliminary considerations is that we can actually have in the same legal system different meanings even for the concept of »making the victim whole«. Indeed, the concept itself can be assessed under subjective and objective criteria,¹³ it can be related to endowment biases¹⁴ or cultural/social biases.¹⁵

All the above turns the principle into a policy directive that operates as an »illusory promise« more than as an actual binding legal principle. Indeed, it remains more socially acceptable to give a price to the incommensurables and operate accordingly if the social pact relates the goal of »making the victim whole« to intangible losses as well.¹⁶ Yet, we should be aware of the multiform possible roads to full compensation and assess the tools used against the proper understanding of full compensation adopted.

10 E.g. for compensation with deterrence purposes see *Shavell* (fn 5).

11 *Margaret Jane Radin* gives a different reading in »Compensation and Commensurability« (1993) 43 *Duke Law Journal* 56–86, 70.

12 On this notion, please refer to *Comandé* (fn. 7) 255–75.

13 All methods are exposed to this dual approach (objective and subjective). Think for example of the willingness to pay approach to measuring damages.

14 See *R. H. Thaler*, *Quasi Rational Economics* (Russell Sage Foundation, 1991) 8; *R. Korobkin*, »The Endowment Effect and Legal Analysis« (2003) 97 *Northwestern University Law Review* (Nw. U. L. Rev.) 1227–91, 1228.

15 See the criticisms on hedonic damages calculations in literature.

16 *Radin* (fn. 11) 69 who wrote: »Compensation can symbolize public respect for rights and public recognition of the transgressor's fault by requiring something important to be given up on one side and received on the other, even if there is no equivalence of value possible.«

»Full compensation« reveals itself as a multifaceted principle and more as a policy driver than a monolithic operational rule. Thus, we must accurately discern its possible interplays with constitutional principles such as equality, access to justice, fair trial. In doing so, it becomes clearer that various degrees of full compensation can be sustained by the same constitutional principles without falling into contradiction. Moreover, the notion of full compensation must always be qualified for one or more purposes¹⁷ and it might even need to be qualified according to the social perceptions related to it.¹⁸

A useful example of the implications of this result has been offered by a recent decision of the Italian Constitutional Court¹⁹ called to decide on the constitutionality of art. 139, paragraph 3d, of the Insurance Code that limits judicial leeway to personalize awards for non-pecuniary losses – in case of minor personal injuries caused by an automobile accident – to a maximum of 1/5 of the scheduled damages. The Court correlated the making whole principle to the constitutional principle of solidarity and measured reasonableness (and fairness) of full compensation in the given mechanism, in conflict with the general aims of the statute encompassing that scheduling mechanism.

The Court stated: »in a system such as that in force, civil liability for automobile traffic compulsorily insured – in which the insurance companies, contributing under law to the Guarantee Fund for the victims of traffic accidents, also pursue solidarity purposes, and in which the interest in compensation of the individual victim must still be balanced with that, general and social, of policyholders to have an acceptable and sustainable level of insurance premiums – the rules in question [limiting personalization of damages], which propose the reconciliation of these conflicting interests, certainly passes the scrutiny of reasonableness.«²⁰

In other words, the constitutional principle of solidarity itself requires making the victim whole²¹ but the principle of full compensation should be measured against other constitutionally protected interests, making reasonable (and thus fair) different levels of »full compensation« in various given contexts.

In addition, it is the very same constitutional principle of solidarity that is served by the awarding mechanism that leads to a reasonable (hence fair)

17 Law and economic literature have extensively discussed this polyvalence of the notion.

18 See examples in *G. Comandé*, »Discrimination and reasonable accommodation: ›insights‹ for a (non) zero sum game« (2010) *Opinio Juris in Comparatione* (Op. J.) Vol. 2, Paper No. 2, 1–39, 37.

19 Corte Costituzionale, 16 October 2014, n. 235 [2014] in *Corriere Giuridico*, 1483.

20 See *G. Comandé*, »Un'autentica estensione di tutela che cancella solo ›diritti immaginari‹« (2008) *Guida al Diritto*, 47.

21 Cass., SS.UU., 11 November 2008 n. 26972-26973-26974-26975, in *Guida al diritto*, 47, 2008.

statutory qualification of full compensation for non-pecuniary losses, which is *different and less*, for instance, than the one awarded on *average* in medical malpractice cases (mostly dealt with under contract law rules). In other words, since the scheduling mechanism serves the same principle of solidarity that calls for full compensation it qualifies a »different« notion of full compensation, which is reasonable (fair) and does not violate the equality principle. As paradoxical as it might sound, the fact that two potentially identical non-pecuniary losses – both caused wrongfully – are awarded different amounts of money in compensation would not violate the equality principle though relying on the same principle of making the victim whole. We emphasize the word *average* because it signals that the comparison between two classes of wrongful behaviour is performed across the board and from a legal point of view, leaving aside the fact that the individual who is getting more might subjectively even perceive she is undercompensated and the one getting the smaller amount might feel overcompensated for her loss. That is, leaving aside for the moment the distinction between actual objective needs and cognition of them.

This, perhaps oversimplified, reconstruction of the Italian Constitutional Court reasoning illustrates very well the social conventional character of the notion of full compensation and its legal flexibility and legal anchors. Such a conventional nature can be understood in many ways.²² For instance, cognitive literature²³ would explain several subjective perceptions of it. Justice theorists²⁴ would argue that it is related either to distribution or to corrective notions of justice, while law and economics experts would relate it to various methods, more or less rationality driven, to set values on everything.²⁵ Of course the explanations offered for such conventional nature do not always account for the legal flexibility such entails once, for instance, a smaller amount is justified for compensation purposes while deterrence would demand a higher one, or in the Italian Constitutional Court decision above.

To counter these caveats, however, the Italian Constitutional Court offers some insights on »What is meant by compensation that is fair and yet not full?«²⁶ It suggests a possible interplay between full and fair compensation as-

22 See *Geistfeld* (fn. 3) 841.

23 See *H. M. Kritzer, G. Liu, N. Vidmar*, »An Exploration of »Noneconomic« Damages in Civil Jury Awards« (2014) 55 *William & Mary Law Review*, 971–1028 and literature quoted at fn. 35 and 45. *Coleman* (fn. 6).

24 See *Kritzer, Liu, Vidmar* (fn. 23).

25 The question asked by *Lord Patrick Arthur Devlin* discussing damages for mental suffering in *H. West & Son Ltd. v. Shephard*, [1964] *Appellate Court (A.C.)* 326, 356–57 was answered by him as follows:

»... It will not be a sum to plumb the depths of his contrition but one that will enable him to say that he has done whatever money can do. ... What more should he do so that he can

suming that a given sum of non-pecuniary damages can offset for the plaintiff's loss while enabling the wrongdoer to perceive herself – and be perceived – as doing a fair thing²⁷ (in the case under the Constitutional Court's revision: being compulsorily insured, transferring the risk to the insurer and eliminating the insolvency problem for the victim even in case of hit and run accidents or uninsured motor-vehicles).

It also shows that since non-pecuniary losses are deemed theoretically incommensurable, yet compensable, any attempt to revise them on their merits can be embarrassing at best when it comes to precise calculations.²⁸

The age old search for a variety of contents and meanings of the concept of full and fair compensation along the different heads of damage is clearly testified to by the different language used in the various jurisdictions over time.²⁹ It is worthwhile having an illustrative look at them to better qualify our arguments and explore which notion of full compensation the awarding methods (can) serve.

II. Different languages, converging notions and blurred principles

The western legal tradition in general has for a long time affirmed non-pecuniary losses as a proper title of damages for personal injury.³⁰ Several legal systems have embarked on a shrill debate in trying to decipher a definition of their

hold up his head among his neighbours and say with their approval that he has done the fair thing?»

27 See under German law *B. S. Markesinis*, *A Comparative Introduction to the German Law of Torts* (Clarendon Press, 1994) 949.

28 See *D. B. Dobbs*, *Law of Remedies: Damages, Equity, Restitution* (West Publishing Company, 1993) § 8.1(4), 382, 383.

29 See *H. McGregor*, »Personal injury and death«, in K.R. Simmonds, *International Encyclopedia of Comparative Law* (Tubingen, 1972) ch. 9, Vol. XI, 20 ff.

30 In this sense, see *G. Comandé*, *Risarcimento del Danno alla Persona e Alternative Istituzionali* (Giappichelli, 1999) 3–45; *F. J. Holding* and *P. Kaye* (eds.), *Damages for Personal Injuries: A European Perspective* (Chichester: Chancery Law Publishing, 1993); *V. E. Schwartz* and *L. Lorber* (2002) »Twisting the Purpose of Pain and Suffering Awards: Turning Compensation into ›Punishment‹«, 54 *University of South Carolina South Carolina Law Review* (S.C. L. Rev.) 47–74, 64. But see *Geistfeld* (fn. 3).

concrete notions of non-pecuniary damages³¹ and of their awarding methods³² especially in the uneasy attempt to bring all intangible losses under a unified theory of compensation. These attempts have often led to revision of or at least discussion of the general classifications, the terminology used and the concepts they reflect along the line of opposing verbal expressions: e.g. patrimonial v. non patrimonial; economic v. non-economic; pecuniary v. non-pecuniary; material v. immaterial damage; tangible v. intangible losses...

On another occasion we have drawn attention to two tendencies bringing together several jurisdictions. The first distinguishes between non-pecuniary losses where it is possible to find an objective anchoring to prove and eventually assess them (such as a medically proven illness) and those more subjective in their description and as regards evidence required to show their existence and extent.³³ A second tendency reveals the expanding scope of these »subjective«, non easy to prove and anchor, non-pecuniary damages in covering intangible losses affecting fundamental rights (such as privacy, personality, freedom, discrimination, ...).³⁴

Limiting us to the first tendency, the Anglo-American expression »pain and suffering« often subsumes all damages for non-pecuniary loss,³⁵ while it is used extensively with reference to non-physical subjective intangible losses (e.g. privacy infringements or defamation). Loss of amenity of life (enjoyment of life in the American language) could be defined as a material modification of the

31 For a much more detailed clarification, see *Comandé* (fn. 30) 3ff. See also *N. K. Komisar*, »Toward a General Theory of Personal Injury Loss« (1974) 3 *Journal of Legal Studies* (J. Legal Stud.) 457–486, 459. See *B. Chapman*, »Wrongdoing, Welfare, and Damages: Recovery for Non-Pecuniary Loss in Corrective Justice«, in *D. G. Owen* (ed.), *Philosophical Foundations of Tort Law* (Oxford Un. Press, 1996) 409.

32 For a wider and critical account of the state of the art and of the debate see *S. D. Sugarman*, »A Comparative Law Look at Pain and Suffering Awards« (2006) 55 *DePaul Law Review* (DePaul L. Rev.) 399–431; *G. Comandé*, »Towards a Global Model for Adjudicating Personal Injury Damages: Bridging Europe and the United States« (2005) 19 *Temple International and Comparative Law Journal* (Temple Int. Comp L. J.) n. 2, 241–345; *P. V. Niemeyer*, »Awards For Pain And Suffering: The Irrational Centerpiece of Our Tort System« (2004) 90 *Virginia Law Review* (Va. L. Rev.) 1401–20.

33 See *Comandé* (fn. 32).

34 See for instance *C. R. Sunstein*, *D. Kahneman*, *D. Schkade* and *I. Ritov*, »Predictably Incoherent Judgments« (2002) 54 *Stanford Law Review* (Stan. L. Rev.) 1153–225; *N. Vidmar*, »Experimental Simulations and Tort Reform: Avoidance, Error and Overreaching«, in *C. R. Sunstein* and others, »Punitive Damages« (2004) 53 *Emory Law Journal* (Emory L. J.) 1359–1403.

35 *Dobbs* (fn. 28) § 8.1; *Restatement (Second) of Torts* § 924 (1977). See among the many *P. A. Bell*, *J. O'Connell*, *R. J. Simon*, »Payment for Pain & Suffering: Who Wants What, When & Why?« (1972) *University of Illinois Law Forum* (U. Ill. Legal F.) 1–83; *M. A. Somerville*, »Pain and Suffering at Interfaces of Medicine and Law« (1986) 36 *University of Toronto Law Journal* (U. Toronto L.J.) 286–317; *W. Zelermyer*, »Damages for Pain and Suffering« (1954) 6 *Syracuse Law Review* (Syr. L. Rev.) 27–44, 31.

capacity to enjoy life as distinguished both from the loss of earning capacity (often conceived as an economic loss), as well as from pain and suffering (sometimes restricted to so-called moral suffering).³⁶

Meaningful and simple definitions have been both employed and suggested to allocate recoverable non-pecuniary losses in one or the other category.³⁷ These attempts at pinpointing the role of non-economic damages have resulted in a distinction within the domain of traditional non-pecuniary losses, that is, between loss of enjoyment of life³⁸ and pain and suffering that has proved extremely helpful in searching for guiding criteria for awarding non-pecuniary compensation involving an actual psychophysical impairment.³⁹ Hereafter we will use pain and suffering for entirely subjective non-economic damage and loss of enjoyment of life for those relying upon an »objective«⁴⁰ basis for evaluation: the existence of an ascertainable medical condition or in defamation cases the actual spread of the defaming statements.⁴¹

In several jurisdictions this distinction as outlined above echoes a constitutional choice to protect health and psychophysical integrity as such⁴² as a reaffirmed social value (e.g. in Italy or Germany) that deserves compensation in order to achieve a minimum level of protection,⁴³ while it leaves room for distinctive notions of full compensation.⁴⁴

As we shall see, this internal variance among the legal systems is mirrored in the search for a cognitively significant notion of non-economic damages and in possible normative and ethical implications of using various framing mech-

36 See *Boan v. Blackwell* [2001] 541 S.E.2d 242, 244.

37 See *Zavos* (fn. 9) 196.

38 See, among others, *R. Cramer*, Comment, »Loss of Enjoyment of Life as a Separate Element of Damages« (1981) 12 *Pacific Law Journal* (Pac. L.J.) 965–86, 972; *E. L. Kriftcher*, »Establishing Recovery for Loss of Enjoyment of Life Apart From Conscious Pain and Suffering: *McDougal v. Garber*« (1989) 62 *St. John's Law Review* 332–45.

39 Such a distinction in the American tort system has already been acknowledged. See, e.g., *Annotation*, Loss of Enjoyment of Life as a Distinct Element or Factor in Awarding Damages for Bodily Injury (1984) 34 *American Law Reports* (A.L.R.) 4th 293; *Cramer* (fn. 38) 972.

40 As already distinguished, »objective« means »existing independently of perception or an individual's conceptions« as opposed to »distorted by emotion or personal bias.« Some statutes adopt the distinction between subjective and objective but often apply it to distinguish economic and non-economic losses. See among several Cal. Civ. Code § 1431.2(b) (West 2007).

41 As per *Lord Justice O'Connor* in *Housecroft v. Burnett* [1986] 1 *All England Reports* (All E.R.) 332, 337, »The human condition is so infinitely variable that it is impossible to set a tariff, but some injuries are more susceptible to some uniformity in compensation than others.«

42 *G. Comandé*, »Le non pecuniary losses in common law«, *Rivista di Diritto Civile*, 1993, I, 453–529.

43 See for instance Corte di Cassazione 11 may 2003, n. 8827 8828, in *Danno e responsabilità*, 2003, 816.

44 The distinction is more clear in European jurisdictions. See *Comandé* (fn. 32).

anisms for the decision makers called upon to award them.⁴⁵ However, here we must confine ourselves to a better understanding of the content described by the traditional formulas used for non-pecuniary damages in relation to the making whole principle.

Even a quick survey of the damages awarded and the concept used over time even within just the common law legal family reveals recurrent debates and problems as well as different reasons for awarding these damages. Thus, for instance, in England the basic distinction between pecuniary and non-pecuniary losses is that money can *fully* compensate the former, meaning that these losses are related to the wealth or property of the claimant. The definition of non-pecuniary damages is more complex in that they are paid in respect of the non-monetary aspects of the harm. Non-pecuniary is anything that cannot be measured in monetary terms (at least in market terms).

The USA has similar definitions: pecuniary loss refers to financial loss whereas non-pecuniary damages compensate for intangible injuries sustained and, in particular, those lacking a market value.

The Scottish experience (a mixed jurisdiction) also varies in terminology when expressing similar concepts. Its terminology refers to patrimonial damage and *solatium*. The former concept derives from patrimony: i.e. it relates to a persons' estate or property e.g. loss of earnings. The latter indicates non-patrimonial damage to the victim, in other words not related to wealth or property: i.e. pain and suffering.

Ireland more commonly referred to pecuniary and non-pecuniary damages as special and general damages. The former comprises actual or anticipated financial losses, the latter encompasses the non-pecuniary elements such as pain and suffering, loss of amenity and reduction of life expectancy.

However, for specific statutory interventions, such as for bereavement in the UK, the implied assumption in compensating all the above-mentioned kinds of pecuniary and non-pecuniary losses is that the aim is to make the victim whole, although methods for awarding damages vary greatly.

Methods then are a key road to a meaningful operation of the full compensation principle and, as we shall see, to its finer definition.

45 *E. J. McCaffery* and others, *Framing the Jury: Cognitive Perspectives on Pain and Suffering Awards* (1995) 81 Va. L. Rev. 1341–1420, 1345.

III. Sample techniques for awarding non-pecuniary damages and their relations with the full compensation principle

Any study of non-pecuniary compensation unfolds an assortment of names and definitions of non-pecuniary damages. For instance, we find in Europe: *smart-engeld*, pain and suffering, *préjudice corporel*, *préjudice d'agrément*, *daño corporal*, *daño moral*, *danno alla salute*, *Schmerzensgeld*, *danno morale*.⁴⁶

In all jurisdictions we discover a quest to avoid unjustified variations within levels of injury seriousness, fulfilling the principle of horizontal justice.⁴⁷ Equally, a will to avert divergences in the amounts awarded for the duration of the injury can be discerned, effectuating the principles of vertical justice. The equality principle is therefore the point of convergence and goes hand in hand with the search for individual justice in the courtroom, the idea of making whole each (different) victim.

Several European countries distinguish – at least *de facto* – between damage to health and bodily integrity and mere psychological alterations resulting from a personal injury while referring to broader notions of non-pecuniary losses when damage to health is not involved. Here we focus on those specific non-pecuniary losses that relate to a reduction (either temporary or permanent) of individual psychophysical integrity, amounting to documented illness. Mere psychological alterations, amounting to transient sufferings such as anger or temporary stress are awarded damages under titles easily incorporated into the notion of pain and suffering as moral suffering although a global sum encompasses both losses.⁴⁸

Considering the above, all European awarding systems⁴⁹ depend on medical descriptions or evidence in evaluating objective non-economic damage.⁵⁰ Once obtained, the medical description is related to a monetary *barème* (that is, a system of standardization using scheduling), based upon age and con-

46 See generally *W. V. H. Rogers*, »Comparative Report«, in *W. V. H. Rogers* (ed.), *Damages for Non-Pecuniary Loss in a Comparative Perspective* (Springer, 2001) 245–96; *B. A. Koch, H. Koziol*, »Comparative Report«, in *B. A. Koch, H. Koziol* (eds.), *Compensation for Personal Injury in a Comparative Perspective* (Springer, 2003) 419–34; and *Comandé* (fn. 30) 17–45.

47 *F. D. Busnelli*, »Il danno alla salute; un'esperienza italiana; un modello per l' Europa?« (2000) *Responsabilità civile e previdenza*, 851–867.

48 See Cass., S.U. civ., 11 November 2008 n. 26972-26973-26974-26975 (fn. 21).

49 From now on we will be referring exclusively to methods of evaluating loss of enjoyment of life and damage to health as such as opposed to pain and suffering in the sense of *pretium doloris*.

50 See generally, *Rogers* (fn. 46) 268–75.

firmed permanent disability expressed either in percentage of permanent impairment (in France and Italy) or by descriptive tables (in the UK and Germany). These aids offer judges the basic parameters within which the equality principle should be adhered to. In doing so, they reduce only one prong of potential arbitrariness (the medical one) and distract from the more serious one, the transformation of these objective data into coherent monetary awards, which remains a crucial problem.

With this bedrock of commonalities laid out above, we can analyse how specific awarding methods contributed to a shift from full to personalized compensation varying the conventional nature of non-pecuniary losses.

A. The English way to intangible losses

A useful starting point for our comparative analysis is the English experience. It has changed since the Court of Appeal began the process of monitoring awards⁵¹ and setting standardized compensation amounts. These efforts have produced brackets of values to be utilized by the courts in computing damage. In practice, when assessing pain and suffering and loss of amenity of life, this approach permits trial judges and the Court of Appeal to consider the severity of the injury and to equate it with an amount within the brackets. These amounts are deduced from precedents on quantum and periodically published by the Judicial Studies Board.⁵² We could say they are taken as reflecting the social evaluation of what full compensation should be.

Amounts are updated in accordance with both inflation and new increasing/decreasing trends.⁵³ The latter possibilities imply that full compensation may require breaking the boundaries of the brackets, which is to set a different contingent notion of making the victim whole. It is more or less intuitive that standardization has ensued leading to reliable tables of values based on the relative seriousness of different injuries.⁵⁴ The guidelines, and the cases referred to in them, offer at least a starting point for any case.⁵⁵ Yet, these guide-

51 The background idea to this assessment of the evolution is clearly summarized in *Wright v. British Rys. Bd.* [1983] 2 A.C. 773, 784–85 House of Lords (H.L.) United Kingdom.

52 See »Judicial Studies Board«, <www.jsboard.co.uk>, 6 May 2015.

53 In The Law Comm'n, *Damages for Personal Injury: Non-pecuniary Loss* (1999) <www.law-com.gov.uk/docs/lc257.pdf>, 7. See also *Heil v. Rankin* [2000] 3 All E.R. 138 Court of Appeal (England); *R. Lewis* (2001) »Increasing the Price of Pain: Damages, the Law Commission and *Heil v Rankin*«, 64 *Modern Law Review* (Mod. L. Rev.) 100.

54 But see for a critique *J. Lind*, »The End of Trial on Damages? Intangible Losses and Comparability Review« (2003) 51 *Buffalo Law Review* (Buff. L. Rev.) 251–329, 270.

55 See *Rogers* (fn. 46) 246.

lines are not a fixed tariff nor are they binding even where injuries are comparatively uniform and physically very similar. Indeed, the courts remain formally required to apply the illusory promise of assessing damage with regard to the actual claimant, meaning that it considers *her* injury and its impact on *her* life according to *her* age (though decisions rarely mention age expressly) and the severity and permanence of *her* injury. In addition, personalization of the full compensation for the individual victim is *on average* done within clear and shared boundaries. The brackets exert a potential anchoring effect worthy of being studied further.⁵⁶

The key to the evolution of the system lies in the fact that an explanation as regards the actual amount awarded is required. Thus, only where insufficient reasoning is supplied can the Court of Appeal intervene. Again, it would be worthwhile investigating if the brackets lead to any biasing impact in the evaluations of the Court of Appeal or what appeals are brought for a change in the amounts, as happened in 2000.⁵⁷ Such a study could be performed on metadata and with the use of statistical tools as already performed with American databases.⁵⁸ Clearly enough, these observations will equally apply to all the methods investigated henceforth.

The system described,⁵⁹ in pulling together and sharing among the players this information, shapes the arena for establishing the conventional value of non-pecuniary losses for cases involving a permanent impairment to health. It also moulds the cultural environment for such a process. Yet it does not offer a clear answer on the appropriateness of the chosen monetary value: when enough is enough to make the victim whole and why? It indirectly ties the fairness of the actual award to the fairness of retaining, in principle, a flexible system able to personalize the award for each given victim.

B. German tables and descriptions

Germany, being a civil law country, has developed a system, comparable to the British one, to assist in awarding damages for loss of enjoyment of life accompanying damage to health and psychophysical integrity. German jurists can refer to private compilations reciting cases and amounts awarded for non-economic damage (so-called *Schmerzensgeldtabellen*) to assess non-pecuniary damage

56 See *infra*.

57 See *Heil v. Rankin* (fn. 53).

58 *Kritzer, Liu, Vidmar* (fn. 23) 971–1028.

59 See *Rogers* (fn. 46) 276.

in personal injury cases. As in the UK, trial courts' discretionary decisions on compensation are reviewed on appeal for their reasonableness according to the relevant circumstances of the case.⁶⁰ The individual circumstances of each case remain decisive but they are pigeonholed into uniform patterns emerging from practice. The *Schmerzensgeldtabellen*⁶¹ describe the injury suffered by the victim and the amounts awarded according to the claimant's request in an ever-growing set of actual cases decided by courts.

Overall, the German model⁶² presents a number of *Schmerzensgeldtabellen* which offer collections indexed in different ways (e.g. according to the kind of impairment suffered or to the global sum awarded) and offering both a description of the case and the specific arguments used by the parties and the judges.

Here again, the building of a shared notion of non-pecuniary losses in cases of permanent psychophysical impairment revolves around the medical ascertainment of the injury, its ranking in specific grids and its structured translation into a sum of money attempting to respect principles of horizontal and vertical justice. Full compensation remains in the background and, but for following historical patterns of precedent awards, the amount of money awarded shows up without it being fully explained why it should be »full compensation« or respond to one specific notion of it. Again, the system could be studied from a cognitive point of view attempting to define the cognitive determinants of the historical patterns of awarding damages, but the implied key to its fairness to the actual victim is its nature as a personalized award respecting horizontal and vertical justice.

C. A Franco-Italian approach to scheduling

The use of »objective« factors in the evaluation of loss of enjoyment of life is common also to other jurisdictions. In our final example, the Franco-Italian approach, courts use medical *barèmes* in conjunction with monetary schedules. Often both monetary scheduling and models are elaborated on by courts or by scholars but always with some form of reliance upon previous decisions.⁶³

60 See, e.g., *U. Magnus*, »Schadensersatz für Körperverletzung in Deutschland«, in Koch, Koziol (fn. 46) 148–76.

61 See, e.g., *L. Jaeger* and *J. Luckey*, *Schmerzensgeld* (Hermann Luchterhand Verlag, 2013).

62 See *S. Wünsch*, »Il modello tedesco delle Schmerzensgeldtabellen«, in G. Comandé, R. Domenici (eds.), *La Valutazione delle Macropermanenti: Profili Pratici e di Comparazione* (ETS, Pisa, 2005) 85.

63 Note that in several European jurisdictions courts usually appoint their own impartial experts.

The French equivalent⁶⁴ of loss of enjoyment of life is named *préjudice physiologique (ou déficit physiologique ou déficit fonctionnel)*. Damages for *préjudice physiologique* compensate the victim for the permanent reduction of physical, psychological or intellectual functions. The medical expert describes and subsequently expresses, in percentage points, the loss suffered by the victim. The percentage is decided by reference to authoritative disability scorings.⁶⁵ As do some German *Schmerzensgeldtabellen*, the disability scorings group decisions by disabilities. None of the medical scoring tables have official character,⁶⁶ though they are, so to speak, »appreciated« by the French Supreme Court.⁶⁷ As in Italy, the parties to a case and the court itself appoint their own medical expert and the judges then assign a percentage value to the plaintiff's disability according to the evaluation provided by the medical experts.

Courts, by multiplying the victim's disability rate expressed in percentage points by the corresponding monetary value arrive at the monetary damages award based in some way on previous similar cases.⁶⁸ Courts create their own tables of monetary values, which decrease according to age and increase according to the disability rate. Further, they adapt monetary values to reflect both inflation and different perceptions of the non-pecuniary loss complained of.⁶⁹

In France as well, objective criteria for assessing non-pecuniary losses have made them less questionable and the awards more consistent. Yet, the criteria used do not tell us very much about the concept of full compensation they employ – nevertheless, they do set out horizontal and vertical equality as guiding principles. Lastly, individualized awards echo the idea of personalized full compensation.

D. The problematic Italian search for a synthesis

The only Italian norm referring to non-pecuniary compensation in the Civil Code (art. 2059) was originally read as having a predominantly »punitive« aim because it limits compensation for non-pecuniary damage awarding it only

64 See C. Radé, L. Bloch, »La Réparation du Dommage Corporel en France«, in Koch, Koziol (fn. 46) 101–04.

65 See S. Galand-Carval, »France«, in Rogers (fn. 46) 90.

66 But see the Italian traffic accidents statutory medical scoring.

67 In all examined countries, medical scorings tables have gained their authoritative role in the judicial arena by their scientific reputation.

68 Uniform descriptions of health impairments developed by medical scientists.

69 See Galand-Carval (fn. 65) 101.

when expressly provided for by the law. Non-pecuniary compensation is not expressly mentioned under contractual liability and its availability has been open to question for a long time.

The system experienced a fundamental revolution through the judicial introduction of damage to health (*danno alla salute*).⁷⁰ Judges followed a constitutional approach to awarding personal injury damages. They started from the assertion that everyone is entitled to the protection of health, a fundamental right protected by art. 32 Constitution. As the reasoning went, violation of the fundamental right to health triggers compensation to the victim from the wrongdoer. Thus, if the legal system does not provide for the requirement of compensation, its rules are contrary to the Constitution if not interpreted in a way compatible with the protection guaranteed to this fundamental right: acknowledging compensation for damage to health as such. A distinction between damage to health (*danno alla salute*, always fully recoverable) and subjective *pretium doloris* (recoverable within the limits of art. 2059 c.c.) resulted. It was confirmed by Constitutional Court decisions,⁷¹ while the Supreme Court expanded the scope of non-pecuniary losses in 2003.⁷²

A subsequent quartet of decisions by the Italian Supreme Court finally linked non-pecuniary damages to the idea of full compensation and to constitutional protection of fundamental rights,⁷³ confirming their recoverability also in the case of breach of contract. These decisions opted for a more open category of non-patrimonial damage, the very idea of which lends it to further scholarly debate and judicial experimentation and this remains the most problematic feature of the Italian approach.

The Supreme Court concluded that there is not an open list of labels for non-pecuniary losses but only one category (*danno non patrimoniale*). They: a) are compensable when provided for by the law and b) should be proved according to the characteristics they assume on a case-by-case basis. For instance, when such damage assumes the form of damage to health, it is the psychophysical impairment that must be medically ascertainable and demonstrated to obtain actual compensation. When another fundamental personal interest protected by the Constitution is infringed, there will be different elements to be proven in court.

70 *Danno biologico* or *danno alla salute*: literally »biological damage« or »damage to health«, nowadays the two expressions are used as synonyms although technically they are not.

71 Corte Cost. 14 July 1986 n. 184, in *Foro italiano* (FI) 1986, I, 2053; Corte Cost. 27 October 1994, n. 372, in *Giustizia Civile* (Giust. Civ.) [1994], I, 3035.

72 Cass. 31 May 2003 nn. 8827 and 8828, in *Danno e Responsabilità* (Danno e resp.) 2003, 816.

73 Cass., S.U. civ., 11 November 2008 n. 26972-26973-26974-26975 (fn. 21).

Following the 2008 joint chamber Supreme Court decisions, »Non-pecuniary loss [is] understood in its broadest sense of damage caused by the infringement of interests inherent in the person not characterized by economic importance« that must be demonstrated in their actual existence and seriousness. All items of non-pecuniary losses that have emerged so far (including *danno alla salute*) have a merely descriptive function of a particular understanding of non-pecuniary losses. Accordingly, the legislature is sovereign in rendering losses compensable or not, for example by admitting to compensation the vague sense of boredom of the reader of these pages while making non-compensable the injury of victims of crimes of danger. What the legislature can not do, by omission (not legislating) or action (legislating), is to rule out compensation for non-pecuniary prejudices that arise from the infringement of inviolable rights »given that the recognition in the Constitution of the inviolable rights inherent to the person not having an economic nature, implicitly, but necessarily, require their protection, and thus constitutes a particular case [as required by art. 2059 Ital. c.c.] set by the law... of compensation for non-pecuniary damages«.

Any compensation for non-pecuniary loss is subject, both as regards *an* and *quantum*, to the criterion of tolerance (some degree of tolerance is required in living in relation with others) appreciated according to the social conscience of the historical moment. The criterion of tolerance so understood acts as an elastic valve for admitting or excluding compensation for non-pecuniary damage. Damages for *danno alla salute* are compensatory in nature albeit it is undeniable that a lost limb cannot literally be fully restored by any amount of money,⁷⁴ and health »cannot suffer limits to the compensation for damage done to it.«⁷⁵ Yet, as anticipated, this principle clearly appealing to full compensation has not precluded the Constitutional Court from esteeming awards to be fair and full though departing from the values expressed in litigation and despite the recent attempts of the Supreme Court (*Corte di Cassazione*) to establish one of the judicially produced schedulings as the basic values serving full compensation and equality in the absence of specific statutory interventions.⁷⁶

Social perception visualizes the award of damages as capable of making the victim whole⁷⁷ or at least this is the way the system is described in relation to its

74 See Cass., 6 June 1981, n. 3675, in *M. Bargagna and F. D. Busnelli* (eds.), *La Valutazione del Danno Alla Salute* (Giuffr , 1995) 398.

75 Corte Cost., 14 July 1986, n. 184 (fn. 71).

76 Cass. 7 June 2011, n. 12408 in *Nuova Giurisprudenza Civile Commentata* (NGCC) 2011, I, 1058.

77 *Wright v. British Rys. Bd.* (fn. 51) at 777: »Any figure at which the assessor of damages arrives cannot be other than artificial and, if the aim is that justice meted out to all litigants should be even-handed instead of depending on idiosyncrasies of the assessor... the figure must

correspondence to a severity percentage and with medical evidence being the leading guide for it.⁷⁸

Needless to say, the Courts' discretion, if coherent reasoning is offered, remains absolute when it comes to defining the final monetary value of each element according to previous awards and adapted to the pending case. Once again, individual, just compensation appears synonymous with full compensation.

The Italian model *de facto* tries to bring together the best features of the other models examined. The percentage point is obtained using medical descriptions applying the general schema to the individual case while the monetary translation using the indicative tables further particularize the attempt to make any given victim whole respecting general principles of horizontal and vertical justice. Nevertheless, even the Italian model only makes relative comparisons among various cases while apparently not solving the general question of when enough is enough to trigger full compensation and how the notion takes into account cultural and cognitive variations.

E. Awarding methods and full compensation: a summary

In summary, courts in the examined countries developed local tables of monetary values from their previous case evaluations and now use them together with scientific medical scorings to award objective non-pecuniary damages (*danno alla salute, préjudice physiologique*, loss of enjoyment of life).

Seen from an internal perspective, national tables enable a reflection in actual monetary awards of the »local« (in each legal system) social perception of the amount of money required to consider the victim whole. Thus, it might not even sound strange that these amounts may vary, and indeed vary significantly, from one court to another, nor among countries.⁷⁹ The attempts to reduce this variability by the legislator or by the higher courts have not reached a clear result yet. They visibly serve different purposes and theoretically run against the principle of full compensation that is by definition made to a specific victim.

The awarding methods we have briefly described have improved vertical justice (among lesser and greater injuries) and horizontal justice (among similar

be ›basically a conventional figure derived from experience and from awards in comparable cases.« (per *Lord Diplock*).

78 As often stressed by the Italian Constitutional Court. See Corte Cost., 14 July 1986, n. 184 (fn. 71).

79 *Rogers* (fn. 46).

personal injuries). Moreover, these awarding systems have not transformed the personal injury victim into a faceless number but instead have permitted, along with a widely uniform base of monetary parameters in each country, the delivery of better horizontal justice. Although a lost limb cannot be fully restored by any amount of money, the indicative nature of the monetary values enables equitable adjustments according to the specific case before the court. Is this the notion of making the victim whole that we are left with?

These awarding methods allow different injuries to be treated in different ways and similar injuries to be treated alike, always taking into consideration their individual and distinctive aspects. These results are mainly achieved by legal systems on a jurisdictional level. A vision of achievement of the same on a national level would indeed be ideal, but to date it can be said it is reached only on average across the board. Conversely, more national uniformity means reduced scope for fine-tuned awards and, possibly, a smaller role for personalized full compensation.

This, somewhat awkward, variability illustrates the European scheduling mechanisms as a means to improve and govern the awarding of damages for non-pecuniary losses. They facilitate the sharing and distribution of information among all the stakeholders in personal injury cases and create a common playing field for all players to contribute to the construction of a shared set of (monetary) values to refer to in making the victim whole. Yet, while they can serve different degrees of individual assessment, they cannot explain the gist of the monetary values themselves.

Where tables of monetary values have been developed, evidence of the personalization of awards is clear and the making whole principle seems to turn extensively on the issue of personalizing the assessment of intangible losses and tends to identify personalized and full compensation, contrasting it with inflexible tariffs and indemnification (less than full compensation). The method relying on objective criteria produces a first avenue of personalization by the combination of age and disability parameters in the schedule. A second one allows for the adaption of these results depending on the facts of the case. It is apparent then that full compensation is paralleled with personalized compensation (albeit within clear guidelines that restrict flexibility).⁸⁰

The equitable power of each judge is safeguarded. She can adjust the objective measurement to the peculiarities of the case and the creation/selection of the scheduling and scoring tables for the objective evaluation is her choice. Such a result allows the court to maintain the conceptual difference between

80 *Geistfeld* (fn. 3) 829.

compensation of non-pecuniary losses in an administrative system (e.g. an automobile no-fault or a worker compensation mechanism) and in tort or contract. Even in cases of more stringent statutory boundaries (such as in the Italian Constitutional Court decision quoted above) a certain level of flexibility can be considered sufficient to provide personalized (hence full) compensation. Here, however, the notion of full compensation fades away in that of fair and socially accepted compensation.

If for intangible losses that can somehow find an objective anchorage, as in the case of non-pecuniary losses linked to medically ascertainable illnesses, it is possible to develop notions of full compensation that functionally serve a notion of making the victim whole in terms of non-arbitrary personalized justice, we might ask ourselves what would eventually permit generalizing this result and, beforehand, whether such a reading of the making whole principle offers some answers to the question of what is its gist.

Assuming the shift we have demonstrated from full to personalized compensation is acceptable, any attempt to extend it from the experiences awarding compensation for non-pecuniary losses linked to medically ascertainable illnesses to any other instance demands a more comprehensive and less vague notion of non-pecuniary losses and a stronger anchorage of the idea of making the victim whole. Moreover, any attempt to answer the second question would require delineation of at least a method for deciding when »enough is enough« to make a victim whole in a given context.

In the following, final part we turn to explore the basis for neurocognitive experiments useful to explore when »enough is enough« to declare the victim has been made whole.

IV. *Est modus in rebus?* Neurocognitive patterns to understand full compensation

The Italian experience offered us a unified notion of non-pecuniary damages essentially as an attempt to offer compensation for »limitations on the person's life created by the injury«⁸¹ when they relate to a personal injury⁸² or to atone for intangible losses esteemed worth of compensation by the legal system in a

81 *McDougald v. Garber* [1989] 536 N.E.2d 372, 379 New York (N.Y.) (*Titone, J.*, dissenting) (citing *Thompson v. Nat'l R.R. Passenger Corp.* [1980] 621 F.2d 814, 824, 6th Cir.).

82 *Comandé* (fn. 32).

society where values that are not easily converted into cash in the market play an increasingly central role.

It also proposes a path for defining a general notion of non-pecuniary losses and the corresponding idea of making each and every victim whole in relation to the given goals of the compensation system and in line with the need to tolerate a certain degree of interference even with the most sacred individual rights.

In other words, »enough is enough« for compensating non-pecuniary losses – within specific legal boundaries – according to both individual needs and social goals for compensation, in line with the constitutional principles sustaining the given mechanism adopted to award damages. Full compensation reveals itself as a »relational« notion connected to the objectives of the mechanism implementing it. However, it implies that individuals are able to process and differentiate the concept of full compensation accordingly; to distinguish between fault-based and no-fault legal settings and individual behaviours, for instance; to appreciate tolerable interferences and their non-compensability. All these implications would require further scientific testing within and beyond the boundaries of legal science.

Our comparative analysis of the methods to award compensation for non-pecuniary damage, consequent to permanent impairments, has unveiled the historical characteristics of their underlying notion. Nevertheless, while referring, constantly and in principle, to »making the victim whole« similar non-pecuniary losses are treated differently both among countries and among different redress mechanisms.⁸³ In addition, similar awarding methods clearly reach dissimilar monetary results for similarly situated losses (e.g. the same permanent impairment) both within legal systems and in different ones. Moreover, the above examples, especially the Italian Constitutional Court on the Insurance Code, have illustrated that the same constitutional principle can sustain these differences while equally appealing to the idea of full compensation.

These results call for further examination and suggest the need to attempt a measure of what, and under which conditions, is enough for compensating non-pecuniary losses in general.

Full compensation for non-pecuniary losses is perceived as a social, substantial and yet symbolic atonement, whose conventional and sensitive to legal contexts nature is defined by a variety of determinants (cultural, social, constitutional, historical, economic, technological...). For these reasons it is possible to wonder if there can be any way to ascertain at least when the notion of completeness is satisfied under certain conditions, assuming such a satisfaction might

83 *Rogers* (fn. 46).

correspond subjectively to what in legal terms is defined as full compensation. Also, we wonder if it is possible to further isolate some of these conditions.

There is already extensive literature on assessing compensation for non-pecuniary losses, analysing eventual biases of the loss adjuster (mostly judges and juries and mostly referring to the USA).⁸⁴ There are studies claiming that experienced professionals like judges perform better than non-experts like jurors in assessing damages⁸⁵ and studies of how five common cognitive illusions (anchoring, framing, hindsight bias, the representativeness heuristic, and ego-centric biases) would influence the decision-making processes of experienced judges.⁸⁶

However, to the best of our knowledge, no attempt has been made to evaluate it neither in relation to actual victims nor with the evidence of neurocognitive science.

Such a need for further research could also follow the path of determining the systemic impact of the anchoring effects of the awarding mechanisms examined above. Studies suggest⁸⁷ that different framing mechanisms can be applied to different contexts in which to add content to the »making whole concept«. For instance, literature reviewed shows that even framing *ex ante* or *ex post* (so-called making whole or selling price approach) respectively leads to very different results (up to more than double if the framing uses the selling price perspective).⁸⁸

Since in the literature it is rather easy to find evidence that judges are susceptible to heuristics,⁸⁹ it would seem natural to build on these studies. One departure point would be that end-states are not at the core of decision-making

84 Of course there are studies also on anchoring (e.g. *B. English, T. Mussweiler, F. Strack*, »Playing Dice With Criminal Sentences: The Influence of Irrelevant Anchors on Experts' Judicial Decision Making« (2006) *Personality and Social Psychology Bulletin* (Pers. Soc. Psychol. Bull.) Vol. 32 No. 2, 188–200) and on heuristics (e.g. *U. Simonsohn and F. Gino*, »Daily Horizons: Evidence of Narrow Bracketing in Judgment From 10 Years of M.B.A. Admissions Interviews« (2013) *Psychological Science*, 24: 219–24) in other countries but mostly on criminal cases, not in civil matters.

85 *J. Hersch and W. Kip Viscusi*, »Punitive Damages. How Judges and Juries Perform« (2004) 33 *J. Legal Stud.* 1–36; *C. R. Sustein* and others, *Punitive Damages: How Juries Decide* (University of Chicago Press, 2002).

86 *C. Guthrie, J. J. Rachlinski, A. Wistrich*, »Inside the Judicial Mind« (2000–2001) 86 *Cornell L. Rev.* 1–6.

87 *McCaffery* (fn. 45) 1345.

88 *McCaffery* (fn. 45) 1388.

89 See *A. J. Wistrich, C. Guthrie and J. J. Rachlinski*, »Can Judges Ignore Inadmissible Information?: The Difficulty of Deliberately Disregarding« (2005) 153 *University of Pennsylvania Law Review* (U. Pa. L. Rev.) 1251–346; *C. Guthrie, J. J. Rachlinski and A. J. Wistrich* (fn. 86) 21. See also the seminal work of *A. Tversky and D. Kahneman*, »Judgment Under Uncertainty: Heuristics and Biases« (1974) 185 *Science (Sci)*. 1124–31.

in the assessment of compensation for non-pecuniary losses either. Indeed, it has already been illustrated that framing is relevant; whether the question is if the glass is half full or half empty does matter a lot. During an assessment procedure, we can ask how much is lost (from the original good health status) or how much is needed to attempt to »make the injured whole«, moving from the impaired status as a baseline. Cognitive literature applied to our problem shows that the final outcomes are dramatically different. These studies suggest that an *ex post* approach is preferable from a social point of view because it discounts from cognitive biases; it takes into account that individuals are far more adaptable to injuries than they think beforehand,⁹⁰ and perhaps rightly so.⁹¹

It has been suggested, though that the *ex ante* approach could be used and be fair when there is an instance of signalling to the wrongdoer that she has not only injured someone else's right but also her free will in relation to it: this might explain higher payoffs when informed consent is taken into account in the adjustment of compensation for non-pecuniary losses.⁹²

Our comparative survey has shown that the awarding models illustrated follow an *ex post* approach. Yet, an important question to ask is whether the *ex post* approach (from a cognitive standpoint leading to lower amounts than an *ex ante* selling approach) is correctly applied since it is healthy third party individuals assessing the values (judges, loss adjusters and perhaps juries). For instance, we could think of the scheduling produced by courts as a tool for applying the »principle of least effort« (decisions based on automatic retrieval of previous schemas to process incoming information).⁹³ Nevertheless, although reliance on cognitive heuristics⁹⁴ can in some circumstances lead to more accurate decisions and judgments than reliance on more rational models⁹⁵ they can also lead to mistakes.⁹⁶ In addition, the ease for processing information has an impact on its (perceived) validity.⁹⁷

90 *D. Kahneman*, »New Challenges to the Rationality Assumption« (1997) *Legal Theory* 3, 105–124.

91 *A. K. Sen*, »Rational Fools: A Critique of the Behavioral Foundations of Economic Theory« (1977) *Philosophy & Public Affairs*, Vol. 6, No. 4, 317–344.

92 *McCaffery* (fn. 45) 1396 ff.

93 See *G. A. Klein*, »A Recognition-Primed Decision (RPD) Model of Rapid Decision Making«, in *G. A. Klein and others* (eds.), *Decision Making in action: models and methods* (Ablex Publishing, 1993) 138.

94 See, for instance, *Englich, Mussweiler, and Strack* (fn. 84) 188–200; *Simonsohn and Gino* (fn. 84). See also the pioneering work of *Tversky and Kahneman* (fn. 89) 1124.

95 *G. Gigerenzer and W. Gaissmaier*, »Heuristic Decision Making« (2011) 62 *Annual Review of Psychology* (Ann. Rev. Psychol.) 451–82.

96 *D. Kahneman*, *Thinking, fast and slow* (Ferrar Strauss and Giroux, 2011).

97 *N. Pennington and R. Hastie* »Explaining the Evidence: Tests of the Story Model for Juror Decision Making« (1992) 62 *Journal of Personality and Social Psychology* (J. Pers. Soc. Psychol.) 189–206, 202.

On a different account, the role of emotions in decision-making⁹⁸ and emotional spill-overs in legal judgment have been demonstrated already,⁹⁹ while evidence in non-pecuniary assessment is not so widespread.

Building upon this background, we can devise an evolving, neurocognitive based, experimental pattern to shed light on these questions and to demonstrate the hypothesis of brain activity naturally triggering the legally relevant notion of completeness/satisfaction and its adaptation to given legal contexts of personalized compensation.

In an optimal approach, the experimental path would encompass tests of general validity, independent from the specific awarding mechanisms, and able to either neutralize or isolate cultural biases. It would be important to distinguish cognitive biases and knowledge biases (based on experience and information and ability to use them) clearly to ascertain the possible role of social-cultural determinants in compensation besides the role of any heuristics already evidenced by scientists.

However, since mapping of the human brain identifying different areas associated with both *reflexive* (automatic, rapid and unconscious) and *reflective* (deliberative and conscious) reasoning has been developed already,¹⁰⁰ it is our assumption we can try to map more accurately the neurocognitive perception of completeness/satisfactory to measure somehow when enough is enough and under what conditions in relation to individuals' full compensation.

Indeed, extensive literature has attempted to evaluate different behavioural attitudes in awarding damages among groups with different backgrounds,

- 98 *N. Pennington and R. Hastie*, »Reasoning in Explanation Based Decision Making« (1993) 49 *Cognition*, 123–63; *G. F. Loewenstein, J. S. Lerner*, »The Role of Affect in Decision Making«, in R. Davidson and others (eds.), *Handbook of Affective Sciences* (Oxford Un. Press, 2001) 177; *N. Feigenson*, *Legal Blame: How Jurors Think and Talk about Accidents* (American Psychological Association, 2000).
- 99 *J. S. Lerner, J. H. Goldberg and P. E. Tetlock*, »Sober second thought: The effects of accountability, anger, and authoritarianism on attributions of responsibility« (1998) *Pers. Soc. Psychol. Bull.* 24, 563–74. For an application to civil law matters see *Id.* at 567; *B. H. Bornstein*, »From Compassion to Compensation: The Effect of Injury Severity on Mock Jurors' Liability Judgments« (1998) *Journal of Applied Psychology* (*J. Appl. Psychol.*) 28:16, 1477–1502; *N. Feigenson, J. Park, P. Salovey*, »The Role of Emotions in Comparative Negligence Judgments« (2001) *J. of Applied Social Psychology*, 31: 576–603; *V. P. Hans, V. F. Reyna*, »To Dollars from Sense: Qualitative to Quantitative Translation in Jury Damage Awards« (2011) 8 *Journal of Empirical Legal Studies* (*JELS*) (Special Issue) 120–47.
- 100 *M. D. Lieberman*, »Reflective and Reflexive Judgment Processes: A Social Cognitive Neuroscience Approach«, in J. P. Forgas, K. D. Williams, and W. Von Hippel (eds.), *Social Judgments: implicit and explicit processes* (Psychology Press, 2003) 44. *J. St. B. T. Evans*, »Dual-Processing Accounts of Reasoning, Judgment, and Social Cognition« (2008) 255 *Annual Law Review of Psychology* (*Ann. Rev. Psychol.*) 255–78. Such an approach seems more clearly explicative than system 1 and system 2 from *Kahneman* (fn. 96).

knowledge and expertise. This literature aimed at finding out whether jurors were biased and pro-plaintiff oriented or alternatively whether judges and jury did not show different decision-making patterns when it comes to assessing damages. Yet no attempt has been made to ascertain (1) the actual perception of fair and full compensation, and (2) if the legal patterns for offering the relevant information have an impact on the decision of the loss adjuster: various countries do not offer clear guidance to individuals called to make awards for pain and suffering (e.g. for the wrongful death of a loved one), while others use extensive mechanisms with rather high anchoring potentials.

A research agenda aimed at filling these gaps would require a number of connected experiments, firstly in order to identify the brain areas that control the notion of »completeness« both by relying upon existing studies and recording direct evidence using brain-monitoring techniques (e.g. fMRI). Secondly, it would require investigation as to whether the same patterns of »completeness feeling« interact with – or even ground – relevant legal concepts and test the result on the various awarding mechanisms illustrated above.

Although assuming that legal notions are not ontologically intrinsic in human beings and that legal expertise is not irrelevant, the use of experienced/inexperienced individuals and actual victims would test the hypothesis that some general notions are somehow imbued in individual perception, and are only fine tuned by the acquired specific technical knowledge of jurists. Moreover, using both lay and expert individuals along with actual victims would help clarify the ability of third parties to elaborate and assess others' individual, non-pecuniary losses.

Finally, a more detailed agenda would preliminarily run tests online asking individuals a) to read a simple case pattern of an accident asking them to determine only the amount of compensation for non-pecuniary losses (all other legal issues such as liability and economic losses being already decided); and b) to stop increasing money awards when they think the amount is enough to compensate the victim in the case pattern. This preliminary step would ensure the fine-tuning of the case patterns and establish the role different frameworks (faulty behaviour, a no-fault setting...), emotions and the other framing mechanisms have in filling the virtual glass of compensation.

We are aware that this is a long and hard research path to be followed but the legal and social role of the idea of making the victim whole suggests it is worthwhile initiating the journey.