Relational Justice: Mediation and ODR through the World Wide Web

[Pre-publication]

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ABSTRACT: ODR means "Online Dispute Resolution". Dialogue, negotiation and mediation are coming back as sources of contemporary law. We introduce in this paper two concepts and two related projects. We define the concepts of "relational law" and "relational justice". And, at the same time, we describe how to put them in place from a social and technological point of view. Therefore, we introduce two concrete applications: (i) the Catalan White Book on Mediation, a large project to assemble the required social and legal knowledge to draft a general statute on mediation (Catalan Government); (ii) the Ontomedia Project, a semantically-driven platform allowing end-users to negotiate and mediate their conflicts in several domains (family, commerce, environment, health care, administration…). The paper describes the state of the art of ODR services, and proposes some strategies for legal electronic institutions. A middle-out theoretical approach and a mediation core-ontology are briefly described. We situate these two projects within the next generation of Semantic Web services, and the so-called Web 2.0 and Web 3.0 developments.[*]

1. Relational Justice, ODR and the "Metropolis model" [†]

We live in an overruled and changing legal world, where the "legal information flood" increases exponentially.[1] However, some of the new trends rely heavily on the ancient

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[†] The table and analysis of the existing ODR services offered in this paper have been extended and updated in the chapter 16 of the Catalan White Book on Mediation (2010).The interested reader is invited to consult and download freely its final results (*Llibre Blanc de la Mediació a Catalunya*; *Libro Blanco de la Mediación en Cataluña,* Generalitat de Catalunya, Barcelona, 2010, 1189 pp. Catalan version; 1204 pp., Spanish version) at http://www.llibreblancmediacio.com

forms of dialogue —the subject-matter of dialectical systems.[2] Mediation and negotiation are becoming legal functionalities that have been incorporated in the daily routine both of large firms or soloist lawyers.[3]

Technology both fosters and participates actively in this process. Legal drafting, contracting, sentencing and administrative management have been enlarged with all the Online Dispute Resolution (ODR) initiatives and new forms of self-regulation and access to justice.[4] Besides, the web fosters *personalization*.[5] Citizens require a greater participation and faster and more effective ways of facing their legal activities. We will refer to these legal forms as *relational justice*.

In a broad sense, *relational justice* (RJ) may be defined first as the justice produced through cooperative behavior, agreement, negotiation, or dialogue among natural or artificial actors. The RJ field includes Alternative Dispute Resolution (ADR) and ODR, all forms of mediation (in commerce, labor, family, juvenile and adults' crimes, victim-offender mediation …), restorative justice, transitional justice, community justice, family conferencing, and peace processes.[6]

From a technological point of view, RJ may be defined as well as the substantive and formal structure that allows end users, in the most broader sense (as citizens, consumers, customers, clients, managers, officials…), to participate in the making of their own regulation and legal outcomes through all the mixed and plural strategies of what is known as *the Semantic Web*.[7] This implies the coexistence of legal and social norms, rights and duties to be shared by subjects (artificial or natural agents) in a flexible and dynamic structured environment.[8]

From a theoretical point of view, we assume broadly that relational justice intersects with *relational law* (RL).[9] This concept goes back to the American scholarship tradition. It was coined by Roscoe Pound, and reused by many Law & Society scholars on empirical grounds. It refers to the concrete social and economic bonds among the parties in business, companies, corporations or other organizations.[10] Thinking in this way the link between the two concepts (RJ, RL) goes not without problems. But we will not consider them in this paper.

We think that user-centered strategies of the next Semantic Web generation fit into a legal approach in which there are rights to be protected and duties to be put in place. These rights and duties occur in a technological environment. They imply new regulatory forms and belong to a new regulatory framework as well, because the networked information environment has definitively transformed the marketplace. The Internet is evolving towards a network of things (contents), and not only of linked websites. It seems that cooperation, multiple use of mobile phones, *crowdsourcing*[11] and services orientation constitute the next step for the World Wide Web.

This has been recently referred as to the *Metropolis model*: "businesses are shifting from a 'goods-dominant' view, in which tangible output and discrete transactions are central, to a service dominant view, in which intangibility, exchange processes, and

relationships are central".[12] In the Metropolis model, service-dominant logic views customers not as passive but as proactive agents, *prosumers*, "as co-creators of value".[13]

This new landscape is the social environment of the relational justice field, where scenarios and contexts are shaped from a hybrid use of different technologies by a multitude of different users (citizens, customers, officers, agents or MAS, Multi-Agent Systems). However, we contend too that, at the local level, this kind of technological developments must be strongly grounded in a wide social knowledge on the nature of conflicts and disputes to be managed. Not all conflicts can be solved; and not all disputes fit into the requirements of an ODR management framework.

In the following sections, we will situate the Ontomedia Project among ODR developments. First, in the next section, we will address the issue of how ODR fits into Web 2.0. Section 3 outlines the Catalan White Book on Mediation (CWBM) and the architecture, functionalities and ontology of Ontomedia. Finally, to end up this article, it will follow in section 4 a discussion of some implications for the theory of justice and some assumptions on rationality.

2. ODR and Web 2.0

For some years now, ODR has gained a solid reputation in a number of online and offline domains. The ICANN Uniform Domain-Name Dispute-Resolution Policy has, since 2000, managed the resolution of over 20,000 domain name disputes.[14] Representatives at eBay claim to be handling over 40 million disputes annually.[15] In Israel, the online arbitration service Benoam is dealing with the vast majority of subrogation claims over property disputes, then "becoming the authority charged with addressing lacunae through the generation of new norms".[16] These are only well known examples of how ODR is the most preferred forum to deal with specific types of disputes, both at the global and at the local level.

Generally, the current platforms that populate the ODR market have in common some basic features: proprietary software, stable versions, PC-based, and predetermined roles (i.e. the services provider, the mediator, the parties, etc.). Beyond these common traits, ODR services differ in scope (either addressed to specific domains or open to any type of dispute), techniques offered (assisted negotiation, mediation, conciliation, recommendation, arbitration, etc.), degree of sophistication (from facilitating online forms and procedures to case management, assignment of online mediators, or professional training), communication channels (synchronic, asynchronic, or both) and business models. Recently, some fifteen ODR service providers have been reviewed by the CEN in order to facilitate interoperability schemes (CEN 2009) Table 1 below summarizes basic features of twenty ODR providers from our own research.[17]

Table 1. Basic features of ODR service providers

Producto	AdDResS	BBB	Cyber Settle	eBay	Der Internet Ombudsmann	DisputeManager	ECODIR	Electronic Corthouse	iQua-Confianza Online	Juripax	MARS	Mediateur du net	Mediation Room	National Arbitration Forum	Net Neutrals	ODRWorld	PayPal	Risolvi Online	Smart Settle	Square Trade
Owner	WebAssured	Council of Better Business Bureaux	CyberSettle	eBay	Der Internet Ombudsmann	Singapore Mediation Center	European Commission	Electronic Corthouse	AECEM, AUTOCONTROL, Consejos Audiovisuales, Red.es	Juripax	MARS	Le Forum des droits sur l'internet	Mediation Room	National Arbitration Forum	DeMars & Ass.	ODRWorld	PayPal	Milano Chamber Commerce	iCan Systems	Square Trade
Country	USA	USA, Can	USA	USA	Austria	Singapur	Europe	USA	Spain, Andorre	Holland	USA	France	UK	USA	USA	UK, India	US	Italy	USA	USA
Domain	e-T	e-T	G	e-T	e-T	e-T, dn	e-T	G	e-T, dn, Iar	G	e-T	e-T, dn, Iar	G	G	T	G	e-T	e-T	G	Gel
Negotiation			X	X		X	X				X				X	X	X		X	
Mediation	X	X	X			X	X	X	X	X		X	X	X	X	X		X		
Arbitration		X	X			X		X			X			X	X	X	X		X	
Complaints	X	X	X		X	X			X					X	X			X		
Conciliation		X													X					X
Recommendation	X					X	X	X	X					X	X					
Mediators' roast	X											X	X	X	X	X		X	X	X
Trustmark	X	X			X				X		X									
Training						X					X		X	X	X				X	
Other services	X	1				X				2			3	4						
Control of flows	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Registry of cases	X		X					X	X	X	X	X			X					
Structured forms		X	X	X			X	X	X	X					X	X	X	X	X	
Messages to parties	X	X						X	X	X			X	X	X	X		X	X	
Asynchronous communication	X	X	X		X	X	X	X	X			X	X	X	X	X	X	X	X	X
Synchronic communication (chat, videoconference)			X							X	X		X	X	X	X			X	
Confidential registries			X				X	X	X	X			X	X	X			X		
Optimization algorithm																			X	
Cross-offers algorithm			X			X				X									X	
Web provider		X		X		X			X			X					X	X		
ODR simplified	X		X			X					X				X					X
Sofisticated ODR								X					X	X		X				
Licenses selling									X					X	X				X	

G generic domains   **e-T** electronic Transactions (B2C, B2B, C2C)   **dn.** Domain names   Iar Internet related rights (privacy, access, copyright)   **T** eBay specific transactions   **Gel** Electric appliances guarantees

Other services   1. Standards   2. Premediation   3. Psychometric profiling   4. Express mediation and arbitration

Source: CWBM, Poblet, Noriega and López (2009)

Interestingly enough, ODR services do not only provide the framework, the tools, and the procedures to deal with disputes, but also create their own "soft law", precedents, and even enforcement mechanisms: in eBay, buyers and sellers may submit their dispute to the Paypal Resolution Center, which will be able to block the money transfers until a consensual decision is reached or the Center delivers a final decision; in the Wikipedia, where mediation is normally used for disputes about article content and arbitration mostly applies to disputes about user conduct, editors can temporarily or indefinitely blocked depending on the seriousness of the case.[18]

The Wikipedia dispute resolution system is perhaps one of the few hallmarks of ODR 2.0: processes are highly flexible, interactive, and collaborative. But, how may other ODR initiatives benefit from both the trends and opportunities of Web 2.0? Colin Rule predicted in 2006 that "ODR will be one of the biggest beneficiaries of these new technologies, because they are squarely aimed at ODR's core functionality areas: communication, collaboration, and interactivity".[19] However, he also warned that "too many ODR providers rely on outdated platforms and technology because they are reluctant to make the investments in time and resources needed to bring their platforms up to Web 2.0 standards".[20] Sanjanah Hattotuwa went a step further anticipating unwanted consequences of ODR lagging behind the curve of Web 2.0,

> [T]he most obvious being that ODR itself may cease to exist. With the ubiquity of broadband wired and wireless connectivity, the ability to roll-out dispute resolution service online is possibly going to be seen as a normal service provision of Alternative Dispute Resolution (ADR) service providers, just like automated online tech support is now part and parcel of customer support mechanisms of many large software companies.[21]

The Ontomedia project is an attempt to incorporate state-of-the-art Web technologies to offer, use, and organize IT supported mediation services online. The main aim of Ontomedia is to provide a domain independent platform for both mediation services and users flexible enough to adapt to multiple mediation sub-domains, procedures, and cases. With Ontomedia we expect to comply with the Web 2.0 gold rule that "it gets better the more people uses it". This Project is linked to a broader one, the Catalan White Book on Mediation (CWBM).

3. The Catalan White Book on Mediation and Ontomedia: connective and collective intelligence

The CWBM[22] is a large research project aiming at the implementation of mediation as defined by the EU Directive 52/2008.[23] There are good reasons for this. One of the preliminary findings is that a range between 16% and 18% of the population in Catalonia (over 8 million people) has pending cases in the Courtrooms. Heavy caseloads and chronic shortage of judges and magistrates, on the one side, and increasing

social problems on the other (especially large immigration rates and the emergence of all kind of violence in families, schools, hospitals and institutions) have fostered the need to draw a map of dispute resolution techniques in the country, before drafting a general statute.[24] The main idea is conceiving mediation not only as an Alternative Dispute Resolution (ADR) device, but as a set of tools operating near the communities, Courts and Administrations, and well adapted to the nature of conflicts arising within the different environments.

How to apply technology to the different settings is one of the issues. A twofold strategy leading to two separate models is being followed: (i) building up mediation as a Legal Electronic Institution (LEI)[25]; and (ii) building up a general platform for citizens, administrations, institutions and professionals. The first strategy (LEI) models the performative structure of procedural rules. The second one (Ontomedia) allows users and professional mediators to meet in a community-driven Web portal (in which contents are provided by users and annotated by the ODR web platform).[26]

The sections of Ontomedia are tailored on the domains previously identified within the CWBM: commercial and business disputes, consumer complaints, labor conflicts, family, restorative justice (adult and juvenile mediation in criminal issues), community problems, local administration, health care, environmental management, and education (See Fig.1).
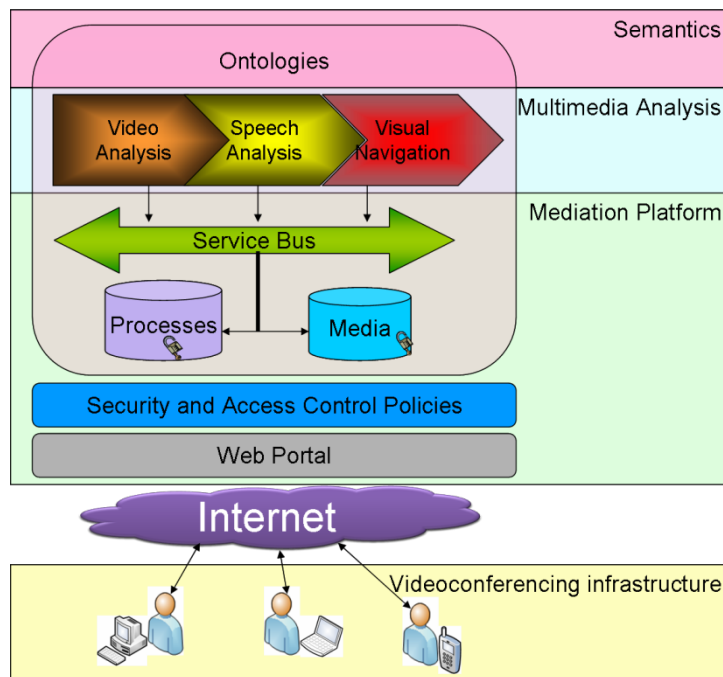

Figure 1. Layered Diagram of Ontomedia Mediation Platform

Let's go into it. The Ontomedia project combines multiple technologies.   One of them, as we said before, is the Semantic Web. According to Spivack, "there is in fact a natural and very beneficial fit between the technologies of the Semantic Web and what Tim O'Reilly defines Web 2.0 to be about (essentially collective intelligence)".[27] From these cross-roads between Web 2.0 and the Semantic Web emerges what is being known as Web 3.0. Web 3.0 is about bringing the *connective intelligence* against the already established *collective intelligence* brought by the Web 2.0.[28] So, Web 3.0 is, in words of Spivack "about connecting data, concepts, applications and ultimately people".[29] The use of semantic technologies is what allows that connectivity through devices, multimedia elements, text and any other Web resource by means of the *hyperdata*.[30]

From the Ontomedia standpoint, we believe that Web 3.0 can make significant advances into the ODR field, helping professionals in gathering valuable resources that are relevant to the mediation services they are providing, and helping users as well to share and contribute to harness the connective intelligence about ODR that can be found on the Web.

As Web 2.0 implied the massive contribution of content from people, in Web 3.0 people will still be contributing with content, but this content will be automatically annotated to its further use by software agents, connecting one resource to another as the expression of a relationship described in a formal model, known as *ontology*.[31]

We have described elsewhere the functionalities of Ontomedia (information, repository, training, communication, management)[32] and its core-ontology.[33] Fig. 2 shows a fragment of it (phases of mediation):
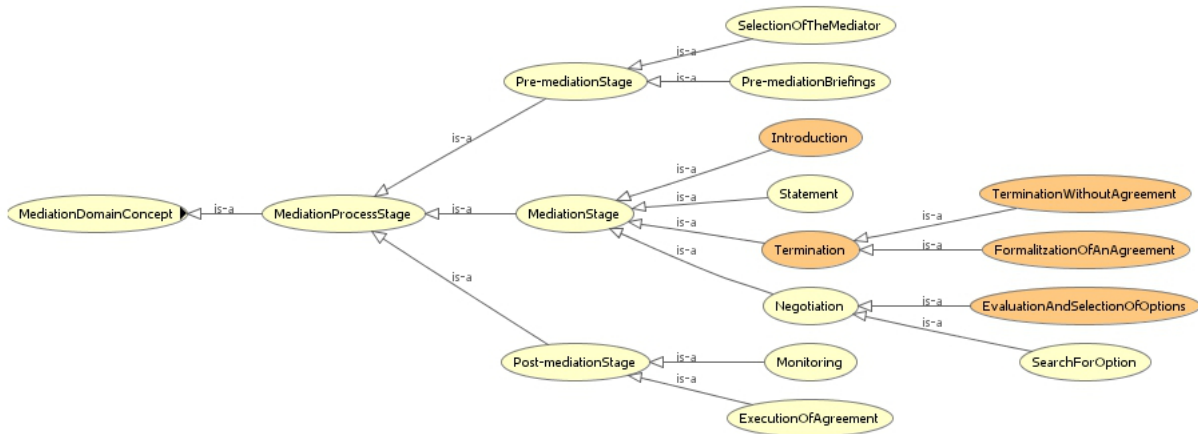

Figure 2, Fragment of the ontology: successive stages.

There are other interesting features:

(a) *Access to justice*

Ontomedia facilitates a faster and cheaper citizens' access to justice. Any kind of devices may be used to access the portal (computers, mobiles), and in any format suitable for their purposes (text, speech, video, pictures).

(b) *Metadata*

All types of metadata will be automatically extracted, secured, and stored to be further used within the mediation process.

(d) *Social communities*

Ontomedia encourages users to exploit the advantages of sharing information and experiences with others. In this way, users will be able to tag and store content that are useful or interesting to them, and to find similar cases. In doing so, they will be able to create social communities of people with common interests.

(iv) Multimedia analysis

The multimedia analysis is devoted to enhancing the information a mediator possesses during a mediation session, capturing mood changes of the parties and any other psychological information that can be useful for mediators, just as if they were in a room with the users of the mediation service.

4. Discussion and further work: enhancing relational justice

We have been describing so far some changes in the WWW environment, and the structure and features of ODR tools. However, stemming from legal philosophy, perhaps several of the most interesting issues rely on the theoretical assumptions on rationality and argumentation underlying relational justice.

Relational justice focuses on the interaction and emerging properties that comes out from human behavior. This is the reason why procedural rules alone are not enough to regulate the whole legal process through the Web. Pragmatics, flexibility of heuristics, and visual computing are also required. The architecture of the platform and the according processing devices must reflect and fulfill these requirements. One side effect of this user-centered approach is the discussion of the current argumentation theories, because we could use models able to take into account the pragmatic content of the interaction.

Toulmin's model of the structure of the argumentation and Alexy's procedural approach are the two preferred strategies in AI and Law to model argumentation and

dialogue.[34] Walton's perspective on "argumentation schemes"[35] and Lodder's modelization of dialogue[36] follow the same way of focusing on the rationale of the argumentation process. Dialogic properties of a rational interchange are set out as required conditions to achieve an outcome, and to evaluate it according with standard procedures (avoiding fallacies).[37]

This rational trend has been enriched in the field of multi-agents systems (MAS), where progress is being achieved by incorporating human capabilities to the interactive behavior of agents.[38]

LEIs[39], as an ODR device, model an iterative cycle —negotiation, conciliation, mediation, arbitration— that fits into the procedural rule-bound patterns of the interaction, helping users through the dispute resolution process. Lodder & Zeleznikow describe a three-step ODR model as well, matching dialogical tools with the structuring of the information disputants may have at hand.[40]

All these strategies are negotiation or *mediatee-centered*, taking into account the interests of the parties, giving them some tools to reach a rational end, or setting up a structured environment. To do so, they need to mirror human behavior. In contrast, Ontomedia offers a complementary view: it is a *mediator-centered* platform as well, setting up a safe meeting space where mediators may conduct the mediation process online and on real time bases. Instead of rationality or reasoning —acknowledging their value— we work out the social interactive process.

Managing mediation is far from easy. Empathy, emotions, culture and professional practice matter. It has been much discussed recently whether computer-mediated communication alters face-to-face interactions.[41] We think that, cognitively, it situates and intensifies the strength and the content of the communicative flow.

A virtual space of agreement is a space of disagreement as well, and it is important to know "how to disagree", following Paul Graham's suggestion of a disagreement pyramid.[42] This is not new. A pragmatic reconstruction of a disagreement space had already been explicitly proposed by Sally Jackson, Scott Jacobs and Mark Aakhus, focusing both on the everyday practices of mediators and on the "collaborative design" of the mediated dialogue.[43] Tools for the pragmatic web are welcomed.[44]

What we are building up in Ontomedia, then, are some devices to visualize emotions through facial reading, and some ways to reconstruct the visual abduction of narratives.[45] In this way, the mediator may have some additional non-intuitive information about the distance of the agreement and the feelings of the participants.

Still, empowering professional mediators' skills is not an easy task, and we have no evidence yet about whether or not these tools will be useful and used. Moreover, this attempt is not free of ethical issues and concerns about privacy, neutrality and impartiality.

However, even in this exploratory stage, we think that this is the kind of knowledge that is needed to enhance relational justice through the web.

Acknowledgements

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[1] Breuker J, Casanovas P, Klein MCA, Francesconi E , 'Introduction: 'The Flood, the Channels and the Dykes: Managing Legal Information in a Globalized and Digital World', in Breuker et al. *Law, Ontologies and the Semantic Web. Channelling the legal information flood*, IOS Press, Amsterdam, 2009

[2] On the taxonomy of dialogues: see Walton D, 'The Place of Dialogue in Logic, Computer Science, and Communication Studies', *Synthese* (2000) 12 327–346, slightly modified by Sartor G, 'A Teleological Approach to Legal Dialogue', EUI Working Paper LAW 28 (2006). A dialectical system is a dynamic structure in which inferences may change according to the new information added to the system. Thus, arguments may be treated following a non-monotonic logic. See Hage J. 'Dialectical models in artificial intelligence and law' *AI & Law* 8 (2000), 137-172.

[3] BATNA (Best Alternative to a Negotiated Agreement) is perhaps the most well-known model among lawyers. On the Harvard model of mediation, see Fisher R and Ury W, *Getting to Yes. Negotiating Agreement Without Giving in*. Penguin Books, New York, 1981; Fisher R and Shapiro D, Random House Books, New York, 2006. BATNA is defined as the result that it can be obtained without negotiating.

[4] See Peruginelli G, Ragona M Eds.) *Law via the Internet. Free Access, Quality of Information, Effectiveness of Rights*, European Publishing Academic Press, Florence 2008

[5] D'Aquin M., Motta E., Sabou M, Angeletou S, Gridinoc L, Lopez V, Guidi D, 'Toward a new Generation of Semantic Web Applications', IEEE *Intelligent Systems* (2008), May/June 20-28

[6] See Casanovas, P and Poblet, M 'Concepts and Fields of Relational Justice', in Casanovas P, Sartor G, Casellas N, Rubino R (Eds.) *Computable Models of the Law: Languages, Dialogue, Games, Ontologies*, LNAI 4884, Springer Verlag, Berlin, Heidelberg, 323-342.

[7] The Semantic Web is an evolving development of the WWW, in which data, information and knowledge can be exchanged and shared between humans and machines. It is conceived as a stack of building languages (XML, XML-schema, RDF, RDF-schema, OWL). A preliminary vision may be found in Berners-Lee T, Hendler J, and Lassila O, 'The Semantic Web', *Scientific American* (2001) May 284, 34-43. The best technical tutorial is contained in Antonius G and van Harmelen F, *A Semantic Web Primer*, The MIT Press, Cambridge MA. 2004, 2nd ed. 2009. From this perspective, a great bulk of work has been already done within the legal field in some EU F6 and F7 Projects. See Sartor G, Casanovas P, Casellas N, Rubino R, 'Computable Models of the Law and ICT: State of the Art and Trends in European Research', in Casanovas P et al. (Eds.) above n. 5, 1-20. See as well Casanovas P and Noriega P, 'Introduction: Legal Knowledge, Electronic Agents, and the Semantic Web', in Casanovas P, Noriega P, Bourcier D, Galindo M (Eds.), *Trends in Legal Knowledge, the Semantic Web and the Regulation of Electronic Social Systems.*

Papers from the B-4 Workshop on Artificial Intelligence and Law. May 25th-27th 2005. XXII World Congress of Philosophy of Law and Social Philosophy. *IVR 05',* Granada, May 24th-29th 2005, European Press Academic Publishing, Florence, 2007, 15-40. A first outline was carried out in Benjamins V R, Casanovas P, Breuker J, Gangemi A (Eds.), *Law and the Semantic Web. Legal Ontologies, Methodologies, Legal Information Retrieval, and Applications,* Springer Verlag, LNAI 3369, Amsterdam, Berlin, 2005.

[8] We furnish a wider explanation in 'The Future of Law: Relational Law and Next Generation of Web Services' , Fernández-Barrera M, de Filippi P, Nuno Andrade N., Viola de Azevedo Cunha M, Sartor G, Casanovas P (Eds.) *The Future of Law and Technology: Looking into the Future.Selected Essays.,* European Press Academic Publishing, Legal Information and Communication Technologies Series, vol 7, Florence, 2009, 137-156. The term has been used recently in the Restorative Justice movement as well, referred to the social implications of crimes. See Schluter M, 'What is Relational Justice?'*,* in Burnside J and Baker N (Eds.) *Relational Justice: Repairing the Breach*, Waterside Press, Winchester, 1994, 17-27, reprinted in Johnstone G (Ed.) *A Restorative Justice reader. Texts, sources, context.* Willan Publishing*,* Cullompton, Devon, 2003, 301-311.

[9] Ibid. section 5. We assumed in there that relational justice is a subset of relational law. However, this would imply that all forms of RJ are legal, or an extension of law to all regulatory forms. This kind of implications should be avoided.

[10] See Pound R, *The Spirit of the Common Law*, Marshall Jones, Francestown, NH, 1921; Macauley S **'**Non-contractual relations in business: a preliminary study', *American Sociological Review* (1963) 28, 55-67; MacNeil I R, 'Relational Contract: What We Do and Do Not Know' *Wisconsin Law Review* (1985) 3, 483-525; Blumberg P I 'The Transformation of Modern Corporation Law: The Law of Corporate Groups', *Connecticut Law Review* (1995)37, 605-615.

[11] Crowdsourcing: "Technological advances in everything from product design software to digital video cameras are breaking down the cost barriers that once separated amateurs from professionals. Hobbyists, part-timers, and dabblers suddenly have a market for their efforts, as smart companies in industries as disparate as pharmaceuticals and television discover ways to tap the latent talent of the crowd. The labor isn't always free, but it costs a lot less than paying traditional employees. It's not outsourcing; it's crowdsourcing." Jeff Howe, 'The Rise of Crowdsourcing', *Wired* (2006) 14 http://www.wired.com/wired/archive/14.06/crowds.html . See also: http://www.crowdsourcing.com/ (accessed January 15th 2010).

[12] Kazman, R. And Chen, Hong-Mei , 'The Metropolis Model. A New Logic for Development of Crowsourced Systems', *Communications of the ACM* (2009) July, 52, 7, 76

[13] Ibid. 77

[14] ICANN (2010). Search Index of Proceedings Under the Uniform Domain-Name Dispute-Resolution Policy, available at http://www.icann.org/cgi-bin/udrp/udrp.cgi

[15] Rule C, 'Making Peace on eBay: Resolving Disputes in the World's Largest Marketplace', The PON Dispute Resolution Forum, October 19, 2008, available at http://www.pon.harvard.edu/events/making-peace-on-ebay-resolving-disputes-in-the-worlds-largest-marketplace/ (accessed 18 May 2009).

[16] Rabinovich, O. 'Reflecting on ODR: The Israeli Example". In Poblet M. (ed.) *Expanding the Horizons of ODR: Proceedings of the 5th International Workshop on Online Dispute Resolution* (ODR Workshop'08), CEUR Workshop Proceedings Series, 2008, Vol. 430: 13-22. Available at http://ftp1.de.freebsd.org/Publications/CEUR-WS/Vol-430/, IDT Series 1, available also at http://www.huygens.es/site/service4.html

[17] Poblet M, Noriega P, López del Toro C, 'ODR y Mediación en línea: estado del arte y escenarios de uso', in Casanovas P, Magre J, Poblet M, *Materiales del Libro Blanco de la Mediación en Cataluña*, Generalitat de Catalunya, Departament de Justícia, Centre d'Estudis i Formació Especialitzada, Barcelona, 159-169.

[18] The process goes as follows: (i) negotiation (request for comment, third opinion, 'Wikiquette' alerts), (ii) first step: informal mediation (volunteer Wikipedians providing unoffical, informal mediation), (iii) second step: formal mediation (Mediation Committee), (iv) third step: arbitration (Arbitration Committee). An advocate may be requested at any time, although according to the Wikipedia policies, is better to consider this option in the later stages of the dispute resolution. There is a group of advocates-users (the Association of Members Advocates, AMA) who have offered to solve disputes.

[19] Rule C, 'ODR and Web 2.0', available at http://www.odr.info/colin/smu/odr%20and%20web%202.doc (accessed 11 May 2009)

[20] Ibid.

[21] Hattotuwa S, 'The Future of Online Dispute Resolution (ODR): Technologies to Keep an Eye On' , Crystal Ball Session at the *2008 Online Dispute Resolution Forum*, June 22, 2008, available at http://ict4peace.wordpress.com/2008/06/ (accessed 13 May 2009).

[22] See http://idt.uab.es/llibreblanc/index.php?lang=english

[23] Art. 3.a. '*Mediation* means a structured process, however named or referred to, hereby two or more parties to a dispute attempt by themselves, on a voluntary basis, to reach an agreement on the settlement of their dispute with the assistance of a mediator' ; art. 3.b. '*Mediator* means any third person who is asked to conduct a mediation in an effective, impartial and competent way, regardless of the denomination or profession of that third person in the Member State concerned and of the way in which the third person has been appointed or requested to conduct the mediation." It is worth to mention R. (9): 'This Directive should not is in any way prevent the use of modern communication technologies in the mediation process.'

[24] Casanovas P et al, above n 17

[25] Electronic Institutions (EIs) organize interactions by establishing a restricted environment where all interactions take place (e.g. e.commerce, e-learning, or ODR). They create a virtual environment where interactions among agents in the real world correspond with illocutions exchanged by agents within this restricted environment. When an EI is entitled to perform legal acts, or at the end of successive steps may produce a result with legal value, or an agreement that can be alleged in Court or before other appropriate ruling institutions, we face a Legal Electronic Institution (LEI). See Noriega O, 'Regulating Virtual Interactions', in Casanovas P, Noriega P et al. above n. 6. See also http://e-institutions.iiia.csic.es .

[26] See for a more detailed analysis, Noriega P and López C, 'Toward a platform for Online Mediation'. In: Poblet M, Shield U, Zeleznikow J (Eds.) *Proceedings of the Workshop on Legal and Negotiation Support Systems 2009, in conjunction with the 12th International Conference on Artificial Intelligence and Law (ICAIL 2009)*, Barcelona , June 12th (2009), IDT Series 5, 67-75 http://www.huygens.es/site/service4.html; for a comparison of the grounds of LEI and Ontomedia, Casanovas P, 'Legal Electronic Institutions and ONTOMEDIA: Dialogue, Inventio, and Relational Justice Scenarios', in Casanovas P, Pagallo U, Sartor G, Ajani G (Eds.) , *AI Approaches to the Complexity of Legal Systems (AICOL I-II) The Semantic Web, multilingual ontologies, multiagent systems, distributed networks*, LNAI, Springer Verlag, 2010 (forthcoming).

[27] Spivack, N, The Semantic Web, Collective Intelligence and Hyperdata' (2007) available at http://novaspivack.typepad.com/nova_spivacks_weblog/2007/09/hyperdata.html (accesed 13 May 2009). http://thenextweb.com/2008/06/03/video-nova-spivack-making-sense-of-the-semantic-web/

[28] O'Reilly, T, "Web 2.0 Compact Definition: Trying Again", available at http://radar.oreilly.com/archives/2006/12/web-20-compact.html (accessed 12 May 2009)

[29] Spivack N, 2007 above n. 27

[30] *Hyperdata* is about data that links to other data, as opposed to hypertext which is text linking to other text. *Metadata* are data referring to other object-data.

[31] An ontology is a shared, machine-readable and reusable formal specification of a conceptualization: 'a 4-tuple (C,R,I,A), where C is a set of concepts, R a set of relations, I a set of instances, and A a set of

axioms' (Staab and Studer, 2004), Warren P, Studer R, Davies J, *Semantic Web Technologies. Trends and Research in Ontology-based Systems*, John Wiley & Sons, Chichester, 2006.

[32] Poblet M, Casanovas P, López-Cobo M, Cabrerizo, A, Prieto J A, 'Mediation, ODR, and the Web 2.0: A Case for Relational Justice', in Casanovas et al. (Eds.) above n. 26 (forthcoming)

[33] Poblet, M., Casellas, N., Torralba, S., Casanovas, P. (2009) "Modeling Expert Knowledge in the Mediation Domain: A Mediation Core Ontology", in N. Casellas et al. (Eds.) *LOAIT-2009. 3rd Workshop on Legal Ontologies and Artificial Intelligence Techniques joint with 2nd Workshop on Semantic Processing of Legal Texts*. Barcelona, IDT Series n. 2. available at http://www.huygens.es/site/service4.html

[34] See *Argumentation* (2005) 19, 3, Special Issue: The Toulmin Model Today; Reed C and Norman T, *Argumentation Machines. New Frontiers in Argument and Computation*, Kluwer Academic Press, Dordrecht, 2004; on the use of Alexy's approach, see Gordon T F, *The Pleadings Game. An Artificial Intelligence Model of Procedural Justice*, Kluwer Academic Publishers, Dordrecht, 1995.

[35] See above n 2

[36] A R Lodder, *DiaLaw. On Legal Justification and Dialogical Models of Argumentation*, Kluwer Academic Publishers, Dordrecht, 1999.

[37] Walton and Lodder propose the use of a Rational Rule (RR) to act as a sort of cooperative conversational maxim between opponents. See Walton D, Lodder A , 'What Role can Rational Argument Play in ADR and Online Dispute Resolution', in Zeleznikow J and Lodder A (Eds.) Second International ODR Workshop, Wolf Legal Publishers, Tilburg, 2005.

[38] An attentive vision on microfoundations is offered in Castelfranchi C, Giardini F amd Marzo F, 'Relationships between rational decisions, human motives, and emotions', *Mind & Society* (2006) 5 173-197.

[39] See above n. 25

[40] The process goes at follows: (i) 'the calculation of a BATNA (see above n 3) to inform the parties about their chances in an eventual court proceeding'; (ii) 'the attempted resolution of disputes through use of a dialogue tool' (iii) 'further attempts at dispute resolution through the employment of compensation strategies and trade-offs constructed by a negotiation support system'. Lodder A R and Zeleznikow J, 'Developing an Online Dispute Resolution Enironment: Dialogue Tools and Negotiation Support Systems in a Three-Step Model', *Harvard Negotiation Law Review* (2005) 10 237-288.

[41] For a review of recent literature, see Poblet M, Casanovas P, 'Emotions in ODR', *International Review of Law, Computers & Technology* (2007) 21, 2 145-155.

[42] Graham identifies seven layers of disagreement in computer mediated communicaton before reaching the core of it: (i) name-calling ('you are a …'), (ii) *ad hominem* arguments (attacking the writer), (iii) responding to tone (criticisms to the tone of the writing), (iv), (iv) contradiction (stating of the opposing case, with little or no supporting evidence), (v) counterargument (contradiction and backing with supporting evidence), (vi) refutation (explanation of a mistake, using quotes), (vii) refuting the central point. See http://www.paulgraham.com/disagree.html (march 2008).

[43] Jackson S, 'Disputation by Design', *Argumentation* (1998) 12 83-198, Jacobs S. 'Maintaining neutrality in dispute mediation: managing disagreement while managing not to disagree', *Journal of Pragmatics* (2002) 34 1403-1426, Aakhus M, 'Neither Naïve nor Critical Reconstruction: Dispute Mediators, Impasse, and the Design of Argumentation', *Argumentation* (2003) 17 265-290 (2003)

[44] De Moor A, Aakhus M, 'Argumentation support: from technologies to tools', *Communications of the ACM* (2006) , 49, 3 93-98

[45] Gracia C and Binefa X, 'Emotional Speech Analysis in the Mediation and Court Environments', in Casanovas et al., above n 2