



Introduction. A colloquium at the intersection of law, society, and cognition: integrating sociological and philosophical paradigms with the cognitive sciences

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Abstract

This article introduces the works presented at the Colloquium on the intersections of law, society, and cognition, which brought into dialogue socio-legal studies, legal realism, legal philosophy, cognitive science, and neuroscience. The contributions collected in this issue challenge the idea that legal norms, reasoning, and decision-making can be understood as autonomous from the cognitive, emotional, and social conditions in which they emerge and operate. Across topics such as heuristics and biases, intuition, normativity, responsibility, artificial intelligence, and legal education, the special issue shows how cognition shapes both the application of law and the formation of legal judgment. Taken together, these essays argue for an interdisciplinary and socio-cognitive approach to law, capable of integrating empirical research with theoretical reflection in order to better understand legal practice and its institutional implications.

Key words

Law and cognition; socio-legal studies; legal realism; decision-making; legal philosophy; normativity

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Resumen

Este artículo presenta los trabajos expuestos en el Coloquio sobre las intersecciones entre el derecho, la sociedad y la cognición, que propició un diálogo entre los estudios sociojurídicos, el realismo jurídico, la filosofía del derecho, la ciencia cognitiva y la neurociencia. Las contribuciones recogidas en este número cuestionan la idea de que las normas jurídicas, el razonamiento y la toma de decisiones puedan entenderse como algo autónomo respecto a las condiciones cognitivas, emocionales y sociales en las que surgen y operan. A través de temas como la heurística y los sesgos, la intuición, la normatividad, la responsabilidad, la inteligencia artificial y la educación jurídica, este número especial muestra cómo la cognición da forma tanto a la aplicación del derecho como a la formación del juicio jurídico. En conjunto, estos ensayos abogan por un enfoque interdisciplinario y sociocognitivo del derecho, capaz de integrar la investigación empírica con la reflexión teórica para comprender mejor la práctica jurídica y sus implicaciones institucionales.

Palabras clave

Derecho y cognición; estudios sociojurídicos; realismo jurídico; toma de decisiones; filosofía jurídica; normatividad

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Introduction

The *Colloquium* held at the Oñati International Institute for the Sociology of Law in June 2024 explored the intersections between law, society and cognition by bringing into dialogue sociology of law, legal realism, legal philosophy, cognitive science and neuroscience. Its central intuition was that legal norms, reasoning and decision-making cannot be adequately understood if treated as autonomous from the cognitive, emotional and social backgrounds within which they emerge and are applied. Building on empirical research in the cognitive sciences, the workshop took seriously the idea that emotions, biases and heuristics systematically shaped human reasoning and that these mechanisms also pervade judicial and administrative decisions, with important consequences for justice.

Legal realism provided one of the workshop's key reference points, thanks to its focus on how law actually works in practice rather than how it is ideally described in doctrine. This tradition offered conceptual tools to analyse how cognitive shortcuts and background assumptions operated in everyday legal work, and how they might be made visible and, at least in part, corrected. At the same time, socio-legal research highlighted how legal systems and outcomes were structured by social and cultural factors such as dominant values, race, gender and class, and how legal norms were generated through interactions between groups, not merely imposed from above. The workshop aimed to connect these sociological insights with empirical findings from the cognitive sciences on perception, categorisation, memory and decision-making.

A further axis of reflection concerned language, meaning and legal philosophy. The workshop proposed a tentative "geography of the cognitive" that ranged from semantic networks and shared uses of language to intrapsychic dispositions and processes, revisiting authors such as Wittgenstein, Hart and Kelsen, who in different ways had treated law as embedded in common sense and ordinary practices. This mapping served to question the widespread assumption—especially in some analytic traditions—that the normative and the cognitive belonged to strictly separate categories, and to insist instead on their deep entanglement. Within this framework, the psychological sphere needs but re-evaluated as a legitimate and necessary dimension of legal analysis.

In the section on *Law, Society and Cognition*, Catellani and Piastra's article examines cognitive biases in human and artificial intelligence, focusing on how mental shortcuts speed up decisions but produce systematic distortions, especially in judicial contexts. It distinguishes between heuristic processing (fast, intuitive, error-prone) and systematic processing (deeper), analyzing biases in causal reasoning—such as favoring human, controllable, and intentional causes—and responsibility attribution, influenced by psychophysiological factors (e.g., judges' hunger) or metacognitive limits. The authors propose certain debiasing strategies: metacognitive checks (e.g., "devil's advocate"), restructuring decision processes (e.g., bifurcation in judge panels), and aligning procedures with human cognitive capacities. When it comes to AI, they argue biases stem not from algorithmic "subjectivity" but from flawed data or formal methods, as in COMPAS (overestimating recidivism for Black individuals) or the Berkeley dataset (Simpson's paradox). Ultimately, debiasing enhances reasoning and decisions across domains, aligning with regulations like the EU AI Act for human oversight.

Fujita and Taniguchi's study examines how construal level theory (CLT)—abstract vs. concrete thinking tied to psychological distance—affects perceptions of social norm abstraction in evaluating violations. In a quasi-experiment with 118 students, higher-construal individuals favored abstract legal norms over concrete group norms, especially for unfamiliar actors; for kin (siblings), even abstract thinkers shifted to relational norms, converging with concrete thinkers. They propose a norm hierarchy: group norms (concrete, interpersonal), social norms (intermediate), legal norms (abstract, codified). Using BIF scores and severity-varying vignettes, results confirmed the hypothesis, with strongest effects for strangers. Interpreted evolutionarily—abstract norms for large-scale cooperation, concrete for in-group cohesion—the findings imply impacts on moral foundations and legal judgment.

Langford traces Teubner's theory of law and fundamental rights, bridging social and cognitive science via Luhmann's adoption of autopoiesis from neurobiology (Maturana/Varela). Law becomes a self-producing, closed-yet-open social subsystem where the legal person emerges as a "real fiction"—a communicative artifact enabling structural coupling with psychic systems. Teubner extends this to address law's expansive pathologies, reconceiving fundamental rights horizontally: as transnational "counter-rights" protecting individuals from communicative collisions across differentiated subsystems (economy, media). These operate trans-subjectively—communicatively, collectively, institutionally—rather than as individual protections, extending even to digital technology as non-human legal actors requiring differentiated liability.

Cominelli's essay advocates for interdisciplinarity in studying law and legal behavior through a socio-cognitive lens, arguing that excessive disciplinary fragmentation stifles innovation and prevents understanding law's biosocial nature. Scientific progress shows declining disruptiveness precisely because researchers rely on narrow literatures within their own fields; genuine interdisciplinarity requires bridging macro-areas and methodologies, especially between natural and social sciences. Law, positioned as a "super-meme"—a biosocial construct influenced by cultural, psychological, and biological factors—benefits from cognitive science approaches: bias research, experimental psychology, neuroscience, and evolutionary theory illuminate how emotions, heuristics, and neural processes shape legal reasoning, decision-making, and notions of responsibility. These insights challenge the traditional rational actor model and the mind-body dualism, revealing law's contingency on unconscious processes, somatic markers, and modular cognitive functions.

As regards the section on *Legal realism and cognition*, Ralli's contribution examines the concept of intuition as a skill: a good intuition repeatedly guides us to the correct path. Ralli distinguishes five varieties of intuition, including the intuition in the judicial decision-making as well as the idea of a locator skill proposed. According to Ralli the oldest three of the five varieties originate from Aristotle; the remaining two discussed are Poincaré's phases of discovery — which anticipated the most classic example of judicial intuition — and, finally, intuition as familiarity. In particular, the article calls into question that intuition is best understood as a locator, indicating the area in which we must work: this idea is appropriate to difficult questions, unlike the influential view of intuition as quick recognition of familiarity. In conclusion, Ralli contributes to the

historical comprehension of the ideas of intuition in jurisprudence and, more precisely, about the notion of good intuition (i.e., a locator skill, set apart from quick judgment).

On his part Fittipaldi proposes a cognitive-psychological reinterpretation of Weber's *Soziologische Grundbegriffe*: neither in the sense of a "Weberological" study nor in light of Weber's metaphysical presuppositions beyond the physical and psychological realms. Moving from an intentionally anti-Weberian reinterpretation of Weber, Fittipaldi deepens several key concepts through a more restrained metaphysical lens in order to deny the existence of neither-physical-nor-psychical realms: the concept of *Sinn* (i.e., "cognitive-and/or-emotional contents consciously or subconsciously underlying a specific individual's consciousness"), the notion of *Motiv*, subjected to a complex analysis, the idea of *soziale Handlung* (conceived in a purely solipsistic-psychological nature) and the category of *Evidenz*, whose role is significantly restricted.

The essay proposed by Di Lucia and Passerini focuses on the idea that norms are not material objects perceived through our senses directly connected with the physical world. From this point of view, some questions take shape: the existence of the norms, their mode of existence and their logical-ontological status (mental or real objects). The authors distinguish two levels for understanding norms as mental objects: norms as merely psychological phenomena (i.e., belonging to individuals' minds) and as ideal entities. In this way, norms are intentional/mental contents and can be the correlates of psychic experiences, whose reality is not reducible to such experiences. These perspectives concerning the norms as mental objects provide two complementary methodological approaches, that are both necessary for a comprehensive understanding of the complex reality of legal norms.

In his paper Serpe underlines the centrality of legislation within the Western legal theories, which might make one think that they are grounded on a sort of Kahneman's deliberative-slow System 2. At the same time, it is well known that Kahneman has outlined the relation between the System 2 and the heuristics-fast System 1 within decision-making. The inquiries on practical reasoning of the last decades have highlighted the field of moral psychology, in order to move from views of morality based on abstract rules to approaches related to the coexistence of additional factors. Reconsidered from a legal perspective, this conceptual framework has highlighted the complexity underlying judicial decision-making in light of the influence of heuristics and cognitive biases. Serpe emphasizes the relevance of the theories elaborated by Jerome Frank and Alf Ross about the psychological grounds of judicial reasoning, which could be reassessed in light of the contemporary cognitive science for showing the importance of a realist view in both theories of legal sources and judicial adjudication.

Bombelli explores the role played by the wide area of the "cognitive", especially understood as "common sense" and within the legal experience in order to remark some aspects of law as well as of the political-institutional sphere. In this way, the complexity of the semantic area widely related to the "cognitive" emerges with regard to the social knowledge, the concept of common sense, the presuppositional horizon, the notions of belief, the idea of trust and the psychological dimension. Moving from this methodological framework, the author focuses on the "law in action", that is to say on two levels underlying the conceptual circle composed by the cognitive horizon, by the legal experience and by the common sense: the structure of the legal order and the

political-institutional dimension. In this way, the analysis opens to the rethinking of the concept of law in order to build up an integrated model of law encompassing the outcomes provided by other theoretical approaches.

It may prove difficult to determine precisely how the cognitive dimension enters the processes through which law is implemented. Yet it is clear that the cognitive dimension is not external to such processes, but pervasively shapes them. Normativity thus appears neither autonomous from cognition nor reducible to it, but rather as something that emerges under conditions shaping both rule-making and rule-following. Within this framework, particular attention should be paid to those processes in which decisions aimed at the application of law arise from the assessment of conduct and result in the attribution (or denial) of responsibility. It is in these processes that the dependence of the assessment of conduct, the formation of decisions, and the attribution of responsibility on the background conditions that render them intelligible becomes particularly clear. The contributions gathered in this last section on *the cognitive dimension of law between conduct and decision* approach this set of interrelated problems from different angles, with implications also for legal education.

Velo Dalbrenta considers the attribution of criminal responsibility with particular attention to motive. If intention renders conduct teleologically intelligible, motives disclose its affective dimension and its embeddedness in personal history. The assessment of conduct cannot be confined to intentional structure alone, as evidenced by the notion of “moral luck” (which refers to the dependence of evaluation on factors beyond the agent’s control). In criminal law, this entails that the attribution of responsibility depends on the integration of doctrinal elaboration, rhetorical mediation, and criminological typification within shared frameworks of understanding. Juridical decision thus appears as the point at which the mental dimension of conduct comes most clearly into view, while remaining irreducibly opaque.

Balconi and Crivelli investigate decision-making from a neuroscientific perspective. By integrating behavioural and neurophysiological data, they reconsider the conditions under which deliberation takes place, with particular attention to the role of biases and affective dynamics in the formation of judgment. In doing so, they revisit – in a different register – the limits of rational decision-making highlighted in classic accounts of bounded rationality, according to which decision-making is shaped by constraints that preclude fully rational outcomes. Judgment thus emerges as inseparable from affective regulation and embodied processes that shape and constrain deliberation. Such acknowledgment does not dissolve normativity into biology; rather, it situates normative assessment within the conditions that make it possible.

Lettieri and Pica address the modelling of normative interaction through artificial societies. By examining how macro-level legal patterns may emerge from the interaction of cognitive agents, they focus on the relation between individual decision processes and the formation of normative structures. In this sense, modelling serves not as a reductive representation of legal phenomena, but as a way of exploring the conditions under which normativity arises from distributed interactions and stabilises at the collective level. It thereby provides a framework for understanding legal order as an emergent outcome of coordinated cognitive processes. Functionalist accounts of mind – especially

in their early formulation – may thus be seen as attempts to conceptualise such processes in formal terms, while leaving open the question of their normative significance.

Campo turns to legal education to examine the formative role of cognition in law. Normativity is not merely transmitted through doctrinal exposition, but develops through situated interaction, where experience and learning remain closely intertwined. Emotions, understood not as private impulses but as processes of coordination within shared contexts, contribute to the formation of practical judgment and to the development of a legal sensibility grounded in relational awareness and responsiveness to others. In this respect, legal education emerges as a privileged setting in which the cognitive role of emotion becomes visible in the assessment of conduct and in the shaping of juridical decision, as illustrated by the reworking of Fuller's *Speluncean Explorers* and by clinical legal experiences as testing grounds.

Ultimately, a common insight emerged across the contributions gathered in this section, albeit from different perspectives: the cognitive dimension proves inseparable from the assessment of conduct, the formation of decisions, and the attribution of responsibility in law, and bears, more obliquely, on the formation of the legal practitioner. Law thus appears not as a self-contained system of norms, nor as a sphere separable from the context in which it operates, but as a practice whose intelligibility depends on a horizon that both enables and constrains it.

The colloquium at the intersection of law, society, and cognition opened a space for dialogue in socio-legal studies. On the one hand, contributions on law and neuroscience examined how knowledge of brain function and cognition might inform criminal and civil justice without reducing responsibility to biology. On the other hand, the authors explicitly confronted the resistances that still hindered interdisciplinary work in law: disciplinary boundaries, simplified mental models, fears of subordination to more “prestigious” sciences, and the perceived threat to doctrinal identity. Situated in the Basque Country, with its unique language, rich legal-political history and strong centres for research on cognition, language and information, the workshop used this context as a particularly fertile ground to study how language, culture and technology shaped legal cognition and, through it, legal regulation and practice.

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