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The Fabric of Language and Law
— Towards an International Research Network for Computer Assisted Legal Linguistics (CAL²)

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Abstract
Law and language can be described as complex institutions with emergent properties, like intricate fabrics woven from single-colored fibers. This metaphor suggests to think of legal language in terms of "patterns": Recurrent motifs in the fabric that the individual language user may not (and in most cases cannot) be aware of, though they explain the development of language more coherently than any narrative based on *a priori* rules. This perspective corresponds with the recent trend towards computer linguistics using "text as data". To discuss how these approaches might impact research on the language of law, the Heidelberg Academy of Sciences and Humanities hosted the first international conference on "The Fabric of Language and Law" from the perspective of legal corpus linguistics. Selected papers presented at this meeting in March 2016 were subsequently peer-reviewed and published in an eponymous volume of the International Journal of Language & Law (JLL), edited by the present authors as convenors of the conference. This special issue introduction elaborates on the topic of this meeting, summarizes its contributions, and contextualises the publications that resulted from it. The authors hope that this exchange, which has meanwhile been continued across the Atlantic, may help to establish an international network for research on Computer Assisted Legal Linguistics (CAL²).

Keywords
corpus, computer linguistics, semantics, law and language, legal linguistics, big data, CAL²

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1. Legal Language as a Fabric

"What we call chaos is just patterns we haven't recognized.
What we call random is just patterns we can't decipher."
(Chuck Palahniuk, *Survivor* 1999, p. 118)

What do law and language have in common?

To the untrained eye, both may occasionally seem erratic or even chaotic. Think, on the one hand, of the supposed "unique lunacy of the English language" (Lederer, 1990) or, on the other, of ubiquitous collections of "famous wacky laws", which often turn out to be "not-so-wacky" at all (McClurg, 2011). There may be a deeper reason for language and law being likewise accused of feeblemindedness: Both can be described as "phenomena of the third kind" (Keller, 1990) – not growing entirely rank (as autonomous organisms would do), but not constructed to plan either (as artifacts would be). This was previously emphasized by Hamann (2017: 181) who argued that both law and language are emergent systems – emerging from theory-based rules not by way of arithmetic or logic, but by collective habits producing *patterns* of usage. Considering further that law can only be conceived of through and in language,[1] it even forms a second-order usage pattern: Law is one manifestation of how we use rules and norms stated in the form of language, itself being our way of using semantic symbols and signs. A fitting metaphor might be that of a cross-woven *fabric*.

The English word *fabric* – meaning a "thing made; a structure of any kind" – dates from the late 15th century, but came down to us all the way from a Proto-Indo-European word for "fitting together" or "fashioning", via its 1791 usage for "textile, woven or felted cloth" (etymonline.com, 27 Aug 2017). If we think about *legal language as a fabric* then, we don't just emphasize its human-made aspects, we also suggest more specific similarities between the way textiles are fashioned and the way legal language is. Think about a texture made by interweaving fibers: The woven cloth cannot exist without a self-stabilizing structure of single fibers. It is a skeleton: Fibers do not stick together; they keep hold of each other and equilibrate *as a part* of the fabric. The whole exists only as an interaction of its fibers.

Language, too, is a fabric: We do not use a word (or phrase, or text) in isolation, but always grounded in a specific communication setting (Barsalou, 2008; Clark & Brennan, 1993; Glaser, Strauss & Paul, 1967/2008): *who* (speaker alone or together with others), *when* (current day as well as historical period), *where* (formal versus familiar; cultural location), *to whom* (addressees and recipients), *through which medium* (face to face or via e-mail, chat, etc.), and so on. Besides, any expression of language is located in a stream of other expressions, connected with earlier and subsequent words, phrases, paragraphs, etc. Each expression can only exist and be "meaningful" in relation to the

[1] Not necessarily through and in *texts*, as Thilo Kuntz helpfully pointed out citing Sachs (forthcoming 2017).

given circumstances in time and space. In other words: The usage of a particular word is an intentional selection of alternatives, selected according to its co-text as well as its social context (see Gumperz, 1982; Wittgenstein, 2003 [1953]). A single word is like a single fiber, while the whole communication setting, the entire text including producer and audience, constitutes a fabric. On the second level, law also constitutes a hypertextual network of references between the world of legal norms, the world of everyday life and the world of texts (Vogel, Hamann & Gauer 2017: fig. 1). In other words: Law is text, law is intertextuality (Morlok, 2004; 2015).

For neither of the two layers of fabric does its weaver see the entire canvas, as German poet Heinrich Heine described so beautifully in the mid-19th century (see Hamann & Vogel, 2017: 87, referring to Heine 1851/1905: 18):

> "Years, revolving, come and vanish;
> To and fro the spool is humming
> In the loom, and never resting;
> What it weaves no weaver knows."

2. Legal Language as Big Data

If different communication settings produce different fabrics, does this mean that any fabric is unique?

Not entirely. Our cognitive capacities simply do not permit to parse every utterance bit by bit, word by word – we would never be able to communicate. We do, however, communicate successfully because our language is full of *patterns*: multi-word-units with idiomatic notions (Steyer, 2013), speech stereotypes (Feilke, 1989), speech sequences or procedures for turn-taking to manage discourses effectively (Goffman, 1983; Sacks, Schegloff & Jefferson, 1974). So once we behold our fabric at medium range, we can observe its regularly recurrent patterns. Yet these patterns are not properties of the fabric itself, but result from the patterns of our perception and cognition, such as frames and scripts (see Barsalou, 1992; Minsky, 1975; Schank & Abelson, 1977) or stereotypes and prejudices. Even in science, patterns (*prototypes, clusters, sort/kind of, genre* and so on) play an important role and are essentially the basis of any hypothesis. In the case of law and language, their re-cognizable patterning enables us to approach them systematically and, therefore, empirically.

These realizations coincide with a fundamental change in the context of language and law over the last twenty years: The digitalization of all areas of life changed the production of legal fabric as well as our practices of language patterning (see Vogel, 2015). Their fiber structure becomes more easily cognizable and even explorable: Intertextuality, references, etc. are now "clickable" through hypertext and hypermedia. More and more legal texts are saved in digital databases, available through search en-

gines, and judges use software to manage formulaic text modules for their decisions. This digital trend also proffers new potential for legal linguistics: It may turn to computer-assisted methods, as text has become data.[2]

Computer supported corpus linguistics has developed all over the world for the past 30 years (see McEnery & Wilson, 1997; Teubert, 2004; Lüdeling & Kytö, 2008). Corpus linguists use algorithms and software developed by computational linguistics and computer scientists to statistically discern language patterns at various levels. Epistemologically, two approaches may be used: *Corpus-based* approaches usually seek to test qualitative hypotheses, for example, using frequency analysis of an expression in selected text collections. In contrast, *corpus-driven* approaches try to let the corpus speak for itself (see Tognini-Bonelli, 2001), so researchers calculate various parameters and try to develop new hypotheses grounded in the corpus. Both approaches are extremes on a gradated spectrum, i.e., most corpus linguists use both corpus-based and corpus-driven methods (Fillmore, 1992; Stefanowitsch, 2008).

The decisive advantage of these computer supported methods is to control intuition. Though native speakers' intuition is an irreplaceable presupposition for qualitative assumptions about language use, intuition sometimes fails or is at least not adequate – especially for estimating the frequency of phenomena. In such cases computers are simply better. On the other hand algorithms cannot understand semantic structures of the data they analyze, so they cannot supplant qualitative reasoning. In this sense, one of the most recent approaches came to be labelled "computer *assisted* legal linguistics" (Vogel, Hamann & Gauer 2017; Hamann & Vogel, forthcoming 2017).

3. Fabric of Language and Law – The Conference

These themes inspired a conference in March 2016, being the first international meeting to bridge corpus linguistics and law. Hosted by the Heidelberg Academy of Sciences and Humanities' research group "Computer Assisted Legal Linguistics" (CAL²), it was entitled *The Fabric of Language and Law. Discovering Patterns through Legal Corpus Linguistics* and drew an audience of some forty participants to Heidelberg (Germany).

Speakers and participants from Germany, Switzerland, Italy, Poland, Spain and the U.S. (most from language sciences, law, philosophy and computer science) gathered for two days, attending a total of ten invited talks and a concluding panel discussion. Speakers included Larry Solan, Stephen Mouritsen, Łucja Biel, Stanisław Goźdź-

[2] This (possibly overused) trope may be substantiated by casually observing that the Department of Politics at Princeton University has hosted eight "Text as Data Conferences" (q-aps.princeton.edu/news/text-data-conference), the College of Social Sciences and Humanities at Northeastern University hosted seven "New Directions in Analyzing Text as Data" conferences (northeastern.edu/textasdata2016), and academic papers from various disciplines all use "text as data" in their title.

Roszkowski, Stefan Höfler, Ruth Breeze, María José Marín, Giulia Venturi, Rema Rossini Favretti and the conference's convenors Hanjo Hamann and Friedemann Vogel. On the final panel, Solan and Biel were joined by Dieter Stein and Andreas Abegg. A more detailed summary of the conference schedule was previously reported by Vogel et al. (2016), an article-length conference report by Lukas (2017).

Following the conference, its speakers were invited to submit full-length papers which were then peer reviewed for publication in JLL. This resulted in five JLL publications in its 2017 "Fabric of Language and Law" volume, which are summarized and contextualized in the following section. The debate has meanwhile continued on the other side of the Atlantic, with two of the Heidelberg contributors, as well as one of the present authors, joining a variegated roster of U.S. scholars for the second international conference on law and corpus linguistics, hosted by Brigham Young University in Provo, Utah – see the pending 2017 special issue of *BYU Law Review*.

4. Taking Stock of Legal Linguistics

In his keynote paper entitled *Patterns in Language and Law*, law professor and U.S. legal linguistics pioneer Larry Solan (2017b) builds on Pinker's (1999) distinction between rule-like and pattern-like structures of language and shows that law can be conceptualized in similar terms. As one of the most prolific advocates for legal linguistics, Solan is also one of the first to extensively incorporate corpus methods into his research (see Solan, 2016; Solan & Gales, 2016; Solan, 2017a; Solan & Gales, forthcoming 2017). He shows how the concepts of corpus linguistics may help to clarify and rethink four perennial problems of legal theory: The "inevitability of standards within rules"; coherence reasoning as "a basic rule of law value"; the kinship between ordinary meaning inquiry and "category membership and goodness of fit"; as well as "laws that explicitly call for pattern-like interpretation". Using U.S. court cases as illustrations, the author also reveals how patterns affect legal language and adjudication. From this analysis, he concludes that "corpus analysis cannot solve all of the legal system's interpretive puzzles" but reveals the surprising and not yet fully theorized extent to which "statutory analysis in law is based on the notions of central tendency and goal orientation".

These theoretical macro-reflections are then contextualized in another paper, by U.S. legal corpus linguistics pioneer Stephen Mouritsen (2017). In his paper on *Corpus Linguistics in Legal Interpretation* as *An Evolving Interpretative Framework*, he analyses and documents the development of the field within the U.S. and provides the much-needed origins narrative that the field had yet been missing (see Hamann & Vogel, forthcoming 2017). The author may be the best-placed of all people to relate this story, as it was his own work which inspired the movement (Mouritsen, 2010; 2011) at around the same time that German legal scholars started using corpus analysis (Kudlich & Chris-

tensen, 2009) and legal linguists started developing a coherent interdisciplinary methodology (Felder, Müller & Vogel, 2010; Vogel, 2012a; 2012b). In the U.S., according to Mouritsen, legal corpus linguistics ("LCL") started with judges succumbing to their "data impulse": By using "quasi-corpora", they inspired an actual wave of corpus usage in statutory interpretation, which eventually even made it into legal training at one U.S. law faculty. The article concludes with an extensive discussion of potential challenges to the use of corpora in law, showing how much reflection remains yet to be done (see also Lee & Mouritsen, forthcoming 2017).

Building on this theoretical groundwork, Spanish linguist María José Marín (2017) takes a more hands-on approach towards *Legalese as Seen Through the Lens of Corpus Linguistics*. Her thorough review of computer linguistic methodology as well as extensive software tests informed the author's *Introduction to Software Tools for Terminological Analysis*. Comparing various algorithms for automatic term recognition ("ATR"), the author provides an instructive and quite rich summary of the technological state of the art. Her text is illustrated with examples from the author's own "British Law Report Corpus" (BLaRC) which had already been introduced in previous studies (Marín & Rea Rizzo, 2012; Marín, 2014). This corpus-driven application makes the text easily accessible even to the computer linguistic novice, and hints at a wide array of applications that will further expand as more research is carried out and improved software tools become available, as the author notes in concluding.

One of the most important next steps for corpus linguistics in law is then paved by British philologist Ruth Breeze (2017) in her study on *Corpora and Computation in Teaching Law and Language*. Extending previous work by the same author (Breeze, 2015) and others (Hafner & Candlin, 2007), she shows how corpora can be used to facilitate language acquisition and terminology training in a particularly important legal domain: Business law. If law students become familiar with the concepts and methods of corpus research at an early stage of their education, this will not only change their concept of legal language ("application" of language "laws" vs. inductive analysis of usage patterns), but also enrich their methodological toolbox in quite tangible ways. In this sense, new teaching methods for students of law and language may be key to the dissemination and acceptance of the new methodology. This insight ties her contribution to Mouritsen's (2017), who had introduced corpus methods into his law school's curriculum, thus reaffirming the demand perceived by Breeze.

To round off the conference's special issue, JLL republishes a transcript of the final panel discussion that was previously published in Vogel et al. (2016). Dieter Stein, as a founding member of the International Language and Law Association (ILLA), chaired an open discussion involving conference speakers Solan (also ILLA co-founder) and Biel, joined on the podium by Swiss legal theorist Andreas Abegg. They were asked to first summarize their "lessons learned" at Heidelberg, and then discussed the present state of the art in corpus linguistics with the audience. One of the audience members, in citing "Alice in Wonderland", unwittingly coined the panel discussion's published ti-

tle: *"Begin at the beginning". Lawyers and Linguists Together in Wonderland.* Its transcript both documents the conference's bottom line and inspires future debate on essential epistemological issues of interdisciplinary research on law and language, and evidence-based policy (see Hamann & Vogel, forthcoming 2017).

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