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Linguistic Precedent as a Form of Linguistic Replication

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Abstract
This paper examines the interrelation of linguistic precedent and legal precedent, employing the lens of formulaic language as a bridge between these two domains. The first part of the paper is concerned with the argument that linguistic precedent is a form of linguistic replication. This argument is based on the premises that a) language repetition is a form of linguistic replication, b) that language use is a form of repetition and c) that linguistic precedent is a form of language use. The evidence for these premises is provided using insights and findings from Dawkins' meme theory, linguistics, history of law and cognitive science. After that I explore the semantic aspects of linguistic precedent and I propose that linguistic precedent is a form of linguistic replication by means of which two or more situations are represented as being the same. After discussing the theoretical foundations of the notion of linguistic precedent I suggest that linguistic precedent indicates to the reader that there are some more general principles and rules that underlie legal reasoning. I further propose that it is on the basis of such generalized casuistic relations between linguistically chained cases or case-based reasoning, that legal precedent emerges.

Keywords
linguistic precedent, linguistic replication, formulaicity, language use, casuistic relation

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1. Introduction

In this paper, I approach the notion of *linguistic precedent* as a phenomenon derived from language use. In particular, I explore the arguments and evidence that support the generalization that linguistic precedent is a form of linguistic replication. Although legal precedent forms part of norms that go to create a (specific) legal order (cf. to Ng, this issue), the law is an overwhelmingly linguistic construct which is "created, interpreted, and applied through language" (McAuliffe et al., 2022). Therefore, an understanding of the linguistic aspects of precedent more generally may enhance our understanding of legal precedent. I present an argument that linguistic precedent is a form of replication and discuss linguistic precedent as a general phenomenon which occurs in any type of language use. Finally, I demonstrate that linguistic precedent is also one of the ways legal precedent comes into being. As it will be seen, linguistic precedent forms a casuistic chain between legal cases.

I address the notion of linguistic precedent at an abstract and conceptual level rather than directly in relation to legal language. This is a deliberate decision that should help avoid the conceptual fallacy that linguistic precedent is restricted to legal language. In fact, as it will become clear below, linguistic precedent is a property of any kind of language use. In that sense linguistic precedent is like citation, which is also used in everyday communication. The notion of linguistic precedent is especially intriguing in the context of language and law, yet it has received relatively little attention in the literature (as an exception see McAuliffe, 2013). The studies concerned with formulaic language aim to describe the characteristics of legal language, but they do not delve into investigating the connections between these features and the topics related to legal studies. This is regrettable since such descriptive accounts on their own hold little relevance for legal studies. I believe that the findings from linguistic studies have potential to contribute to legal studies and to foster a connection between linguistic and legal research.

The paper is organized as follows. First, I discuss the argument underpinning the generalization of linguistic precedent in general terms and explore how findings from research on linguistic formulaicity and cultural evolution of linguistic expressions support this argument. The notion of language use plays a crucial rule in this argument. Since language use depends on cognitive mechanisms and processes, I also explore those mechanisms and processes which are relevant to our understanding of linguistic precedent. After that, I explore the relation between linguistic precedent and the representational function of language. I demonstrate that linguistic precedent plays an essential role in how speakers entertain linguistic representations of the world. In the final section I explore how the notion of linguistic precedent can explain the relationship between the use of formulaic expressions and legal precedent.

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2. Why is Linguistic Precedent a Form of Linguistic Replication?

In this section, I explore the following three premises from which the generalization of linguistic precedent is derived:

- Language repetition is a form of linguistic replication.
- Language use is a form of language repetition.
- Linguistic precedent is a form of language use.

The first premise is that language re-use is underlined by the dynamic evolutionary process of linguistic replication, discussed here in terms of Dawkins' notion of *memes*. The second premise states that language use is a form of language repetition. In general terms, this means that when a speaker utters a sentence or produces a text, they re-use expressions that other speakers of that language have previously used. I draw on research from linguistics and psycholinguistics to discuss this thesis. The third premise states that linguistic precedent is a form of language use, i.e., that linguistic precedent is realized when speakers use language. The first two premises are discussed in detail below. The third premise can be considered self-evident, and thus needs no detailed discussion here. Since linguistic precedent depends on language use, it is a truism to say that linguistic precedent cannot exist without language use. While not every instance of language use qualifies as a case of linguistic precedent, it holds true that every instance of linguistic precedent is indeed an instance of language use.

By approaching these premises in the form of progressive sorites, we can arrive at the overarching generalization that linguistic precedent essentially constitutes a type of linguistic replication:

- Language repetition is a form of linguistic replication.
- Language use is a form of repetition.
- Linguistic precedent is a form of language use.
- Therefore, linguistic precedent is a form of linguistic replication.

2.1. Linguistic Replication

In the evolution of cultures, replication can be considered a form of meme production. Memes were first introduced in analogy to genes by Dawkins, who defined the notion "as a unit of cultural transmission, or a unit of imitation" (Dawkins, 1976: 206). Genes possess the ability to divide and recombine with appreciable frequency (Williams, 1966: 20) and Dawkins ascribes this same property to memes. Dawkins distinguishes between two sorts of agents involved in evolution: replicators and vehicles. In *The Extended Phenotype* he defines replicator as "anything in the universe of which copies are made" (Dawkins, 1982: 83). Vehicles are entities produced by replicators that help these replicators

increase in numbers by interacting effectively with their environment. Replicators function in replication, while vehicles function in environmental interaction.

Culturally transmitted entities such as ideas, words or fashion spread "by the differential survival of replicating entities" (Dawkins, 1976: 206). Words and multi-word expressions are key (but not the only) means by which ideas or cultural practices can spread. In this context, it is useful to distinguish between words as tokens and words as types. Words in language use exist as word-tokens. A word-token is a singular occurrence of a word in a specific context. In other words, the notion of a word-token refers to how a word is uttered in a situation. On the other hand, a word-type covers all occurrences or utterances of a word. Speakers do not use words as word-tokens but rather as typed word-forms. This is true regardless of whether a speaker produces a spoken or written language text or whether she is reading or listening to a linguistic message. Words encountered in everyday communication situations are typed entities because language users ignore differences in the individual occurrences of a word such as that two speakers will pronounce the same word differently. What is more important is that individual word-tokens share some important commonalities. For example, despite their differences in size and shape, a competent speaker of English is likely to consider that the following five word-tokens are individual occurrences of one and the same word *cat*. By individual occurrences I mean how a word is realised in a specific speech situation. Thus, *Cat* might occur in a title of novel because in such a context content words (nouns, verbs, adjectives and adverbs) are typically capitalised. On the other hand, *cat* might be an occurrence of this word in the running text. However, both occurrences will be regarded as the same word.

Cat cat CAT cAt cAT

In addition, speakers are able to entertain higher-level abstractions; when a speaker encounters three occurrences of the word-token *play*, two occurrences of the word-token *plays* and one occurrence of the word-token *play*, she knows that they are variants of the same word-type. It is the same word. This kind of lexical knowledge is reflected in lexicography where only lemmas or base forms of a word are represented. Lemmas are used to represent a word in its simplest, most basic form, stripped of any inflections or conjugations that may occur when the word is used in different grammatical contexts.

The difference between word-tokens and word-types is displayed in Table 1, below, where the frequency of a randomly chosen set of English verbs from the British National Corpus (Leech, 1992) is presented.

Table 1: Words as Tokens and Types

Token	**Frequency**	**Type**	**Frequency**
baking	465	Bake	552
bake	45		
baked	12		

Token	**Frequency**	**Type**	**Frequency**
Stir	195	Stir	241
stirring	46		
pour	201	Pour	205
pouring	3		
poured	1		
melted	89	Melt	151
melt	54		
melts	8		
cool	194	Cool	227
cooled	24		
cooling	9		

It can be observed, for example, that the verb *melt* occurs in three different forms (*melt*, *melted* and *melts*). Each of these forms is realized through individual word-tokens but a competent speaker of English will have no difficulties in recognizing that individual occurrences are different tokens of the same word form. For example, in the following two examples there are two word-tokens of *melted* but it is part of the speaker's knowledge that they are two examples of the same word. This is true although *melted* does not have the same meaning in these two sentences.

1. The defendant's alibi *melted* away like ice cream on hot asphalt.
2. The snowflakes gently *melted* as they landed on the warm pavement.

What is more, the same speaker will also know that the three word-forms are three realizations in language use of the same lemma word (*melt*). Speakers are, therefore, able to produce typed entities by abstracting from word-tokens to word-forms and from word-forms to lemma words.

From a different angle, the word-form *melts* which occurs eight times in the BNC corpus can also be seen as eight replications of the same word-token. Importantly, individual tokens cannot be further reduced to any other token, i.e., since *melts* is the individual word-token here, it cannot be reduced to *melt* (the lemma). On the other hand, one can consider the lemma *melt* (that consists of tokens *melt*, *melts*, *melted*) as a type of a higher-level category such as verbs. Types and tokens are relative categories that depend on the taxonomy at hand, but the key point is that speakers have no problems in identifying both types and tokens at any of these levels.

What is important for the present discussion is that in a set of any number of occurrences of a word-token, all but the first token can be regarded as descended from an ancestor token. Metaphorically speaking, every token can then be considered as a generated offspring and every type as a species – this is the notion of words as memes which was advanced in Dennett (2017). Similar to how genes are replicated and transmitted across generations, memes (including words) are copied and spread through human interactions. In this framework, words are seen as cultural entities that are transmitted from person to person through communication. Following this view, we can observe that each new occurrence of a word-token becomes an instance of its replication. Each of these instances produces new copies or replicas of existing word-types.
The cultural evolution of words through replication is a sort of natural selection and it satisfies all three Dennett's (1991: 200) conditions that any sort of evolution must satisfy.

a) variation: a continuing abundance of different elements
b) heredity or replication: the elements have the capacity to create copies or replicas of themselves
c) differential 'fitness': the number of copies of an element that are created in a given time varies, depending on interactions between the features of that element (whatever it is that makes it different from other elements) and features of the environment in which it persists.

To start with these conditions, words as memes undergo variations and changes over time as they are adopted and passed on by different individuals. The above example with the word *cat* is adopted from Dennett (2017), who introduced it to illustrate how variation emerges through replication of words. There are also some linguistically more interesting types of variation such as when a word is used in different contexts and when such usages lead to the modulation of the word's meaning. When this happens, a word undergoes a change (or mutation to stay metaphorically within the domain of genetics). Although the existence of a species depends on high-fidelity copying, copying is never perfect, and speakers always find new contexts in which to use a word in a novel manner. This sort of mutation (which technically speaking is a copying error) might be a source of innovation and novelty for cultural evolution (Dennett, 2017).

Through replication a number of copies of the same type (regardless of which type we consider) compete and those that possess the *winning feature* prevail. Take any text from any language and count the occurrence of every word in it and you will see that words do not occur with the same frequency. In fact, Zipfian law (1949) predicts that in any language most words will have very low frequency and that a small portion of the vocabulary will occur with high frequency (Baayen, 2001). This is an indicator that words reproduce through competition and differential replication.

Words have also reproductive fitness which is due to specific winning features. One of these winning features for words is for example their length. Zipf (1935: 33) observes that "shorter words are distinctly more favoured in language than longer words". There are exceptions of course and this remark should be understood as referring to a tendency rather than to a rule. The tendency predicts that if two words are equal in all important respects and one of them is shorter than another, then we can expect that the former will

be more favoured in use than the latter. Other relevant winning features include semantic and syntactic flexibility. We can predict that a semantically flexible word will have more collocates than a word which is more restricted in meaning. In fact, this is why general verbs such as *get* and *make* are more frequent than the more specific *receive* and *bake* for example. The former entails the meaning range of the latter but not vice versa. By the same token, those words (in the sense of lemmas) that can be associated with a larger number of syntactic frames might have an advantage, other things being equal, to words which occur in only one syntactic frame. A syntactic frame in linguistics refers to the grammatical structure of a sentence. It represents the underlying template or structure that can be filled with specific words to create grammatically correct and meaningful sentences. Syntactic frames are like skeletal structures that guide the arrangement of various elements in a sentence, such as the subject, verb, object, adjectives, adverbs, and other constituents.

Consider the difference between alternating unaccusative and pure unaccusative verbs in English. Here are two examples.

3. She *melted* the chocolate. (alternating unaccusative)
4. The chocolate *melted*. (alternating unaccusative)
5. The glass *fell*. (pure unaccusative)
6. *[1]She *fell* the glass. (pure unaccusative)

Alternating unaccusatives can be used both transitively and intransitively and pure unaccusatives are used only intransitively. Transitive verbs are verbs that require a direct object to complete their meaning and make sense in a sentence. Intransitive verbs are verbs that do not require a direct object to complete their meaning.

The point of introducing this distinction here is to illustrate how replication works in language. It can be predicted that an average alternating unaccusative verb in English will replicate more efficiently (it will occur more frequently) than a pure unaccusative verb because the former has the same feature as the latter (both can be used intransitively), but also an additional feature (only the former can be used also transitively) which makes its occurrence with a greater number of other words (at least theoretically) more likely. A verb which can be used both transitively and intransitively is more applicable and is likely to convey a wider range of meanings. From a memetic perspective, linguistic items that have broader applicability are more likely to be adopted, used, and transmitted across generations. This is because they offer a richer semantic space for expression and can be more adaptable to different contexts, which enhances their memorability and usage.

While words as memes can undergo variations as they are copied and transmitted, there is also a strong tendency for words to maintain their integrity and remain relatively consistent over time. Uniformity refers to the tendency for words to be passed

[1] The asterisk sign is used to indicate that a linguistic expression or construction is ungrammatical or unacceptable in English.

down relatively unchanged from person to person. 'Relatively unchanged' means, as was said above, that certain differences (such as how a word is pronounced or written on two different occasions) are ignored or considered irrelevant.

2.2. Language Use, Repetition and Formulaicity

In this section, I discuss the research that supports the premise that language use is a form of language repetition. Corpus-linguistic studies have demonstrated that "meanings are made in chunks of language that are more-or-less predictable, though not fixed, sequences of morphemes" (Hunston & Francis, 2000: 21). Sinclair (1991) goes so far as to claim that idiomaticity (formalized as *the idiom principle*) is one of the basic principles of language use:

> The principle of idiom is that a language user has available to him or her a large number of semi-preconstructed phrases that constitute single choices, even though they might appear to be analysable into segments. (Sinclair 1991: 110)

This claim is reminiscent of the proposal advanced by Lord (1991) that oral texts are composed of bits of memorized speech called formulae. Lord observed that young singers of epic poems acquired the knowledge of producing oral texts through rote learning: "by hearing them in other singers' songs, and by habitual usage, they become part of his singing as well" (Lord, 1991: 76). The learned that formulae are transmitted within a discourse community of singers by means of oral performances. This is a prime example of language use! Metaphorically speaking, by being shared and distributed, formulae are being stored to a communal memory of singers. It was also observed in these studies that individual singers did not reproduce entire texts. Instead, they produced *their own texts* by combining formulae or pieces of texts they had acquired through rote learning. Alexander (2006: 26) argues that the skill of producing epics depends on the singers' "fluency in the corpus of traditional elements". In other words, the existing formulae served as a base for new formulae, and it can be argued that the familiarity with a higher number of formulae fostered creativity. New formulae emerged when within an established pattern an element was replaced by a novel expression. "When this point is reached, the singer depends less and less on learning formulas and more and more on the process of substituting other words in the formula patterns" (Lord, 1991: 37). Although oral performance meant that epics were transmitted from one onto another generation, every new performance also produced variation. Oral epics are, therefore, also an example of replication and cultural evolution. The use of formulae has also been observed in oral law across different traditions. For example, alliteration (the use of expressions that begin with the same sound) helped practitioners remember phrases more easily (Tiersma, online).[2] Various other kinds of legal formulae had the same function in the Icelandic

[2] I am grateful to Karen McAuliffe to pointing out this to me.

law code Grágás (McGlynn, 2009), or in the Albanian oral law called the Kanun of Lekë Dukagjini (Hasluck, 1954), for example. The scholars point out that in these cases that performances preserved the oral law, but they also produced variation. The variations introduced were due to various factors including the adaptation of Grágás and Kanun to new circumstances, regional linguistic influences or changes of customs. A number of studies concerned with language acquisition (Wray, 2013), register and genre analysis (Biber et al., 2004) and language processing (Christiansen & Chater, 2016) provided further evidence that language use is formulaic. The answer to why language use is formulaic is that the use of formulaic sequences decreases demands on cognitive capacity of speakers because such sequences are processed more efficiently than non-formulaic linguistic units (Pawley & Syder, 1983; Conklin & Schmitt, 2012). In addition, it was demonstrated that between 30 % and 50 % of (spoken or written) texts produced by average English language speakers are made up of formulaic expressions (Erman & Warren, 2000; Schmitt & Carter, 2004). It should be stressed though that the degree of linguistic formulaicity is subject to variation due to the features of domains of discourse and register (e.g., Biber, 2009; Pérez-Llantada, 2014; Grabowski, 2015). Some recent studies (Goźdź-Roszkowski, 2011; Trklja, 2017; Trklja & McAuliffe, 2019) demonstrated empirically that formulaicity is one of defining features of legal language.

2.3. Cognitive Aspects of Linguistic Precedent

Language use is governed by various cognitive processes, the majority of which are not specific to language. They are domain-general processes because they are involved in other human activities and states such as perceptual and attention abilities and neuromotor processing. There are four cognitive processes that I consider relevant for linguistic precedent: chunking, analogy, computational operations and priming.

Chunking is a memory mechanism that serves to increase the amount of information stored in memory (Gilchrist, 2015). When a stimulus is encountered, the information is divided into smaller sets because this fosters processing and increases the ease of recalling information (Miller, 1956). When a piece of information is processed, it splits into chunks and these chunks are then stored into declarative memory. Recalling chunks, on the other hand, facilitates their processing. Chunking in language exists because of the incremental nature of human sentence processing (Altmann & Steedman, 1988). Language acquisition and language use involve processing a current input in the working memory before new pieces of information arrive (Christiansen & Chater, 2016). The linguistic units processed are then passed to a higher level of linguistic representation (Christiansen & Chater, 2016; McCauley & Christiansen, 2017). The mechanism of chunking is linked to the mechanism of statistical learning. Statistical learning can be regarded as an independent computational mechanism (Frost et al., 2019) responsible for language learners' and users' sensitivity to distributional patterns of linguistic units.

This mechanism constrains and shapes expectations in online processing of linguistic units. This mechanism also explains individual linguistic differences between speakers.

Chunking is not only involved in the process of splitting stimuli into smaller units of information but also in the process of joining individual linguistic stimuli. But, neither chunking nor statistical learning accounts for how linguistic units are combined into larger units. This is regulated by a computational operation. Marcus (2003) proposes that this operation is Universally Quantified One-to-One Mappings (UQOTOM). If we regard chunked linguistic units as variables, then UQOTOM presents the operation over those variables. UQOTOM can create various types of relations including concatenation and identity both of which are relevant for linguistic precedent. Concatenation is the operation which is, for example, involved in morphology such as when an affix is added to a root to produce a morphological word. A root is the smallest semantic unit in language to which the units that modify its meaning (affixes) are added to produce different kinds of words. Consider the root *liber*, which is of Latin origin and which can result in various words through concatenation with different affixes (e.g., *-ate*, *-ty*, *-al*, *-ation*) as in *liber-ate*, *liber-ty*, *liber-al* or *liber-ation*. Not only words but also phrases and whole clauses can be combined in a similar fashion. UQOTOM operates over linguistic chunks and creates linguistic structures of a higher order. The incremental combination of chunks results in new lexical units but also in structures or patterns of the more general kind. These structures consist of certain constant elements which are typical grammatical categories and certain lexical items that are inserted into slots such as in the examples discussed in Talmy (2000).

As noted earlier, singers of epics crafted new expressions by drawing upon established formulae. It can be added that the reuse of formulae also entails the process of creating analogies. Bybee (2010), for example, explores how novel linguistic expressions in a language are produced in analogy to the previously produced expressions. Analogy is defined in the literature as "a general cognitive process that transfers specific information or knowledge from one instance or domain (the analogue, base, or source) to another (the target)" (Blevins & Blevins, 2009: 2). There are two domains or entities in this process and the relationship between them is based on some sort of similarity. In other words, "[i]n analogy, two entities or state of affairs are compared, as they have a property or predicate in common" (Ribeiro, 2014: 34). To return to the issue of linguistic chunks for a second, they should in this view be regarded not as units which are stored in memory as individual items but as members of some more general categories (Bybee, 2010). The members of the same category can share various kinds of properties such as collocational relations, grammatical features or lexical semantics. As was mentioned above, some linguistic units are involved in a large number of different grammatical and semantic structures (typical examples are general nouns or light verbs), whereas other linguistic units occur in more restricted environments (typically the low-frequency words). Similarly, there are syntactic constructions that allow a great range of items into their slots and those that are more restricted in this sense (see below discussion on cultural

evolution). What is possible or impossible and what is probable or improbable is always subject to specific co-occurrence relations or grammatical and semantic properties.

Finally, language use is governed by speakers' preferences or *semantic* and *structural priming* (Schvaneveldt & Meyer, 1973; Bock, 1986; Hutchison et al., 2013). Priming refers to the fact that a stimulus introduced at one point may influence decisions made at another point. Semantic priming can be well-illustrated and was explored by means of lexical decision tasks. There is, for example, the experimental evidence that subjects respond more quickly when a specific target word (e.g., NURSE) recently presented was a semantically related (e.g., DOCTOR) than when a recently presented word was a semantically unrelated word (e.g., BREAD). Relevant experiences strengthen preferences in speakers when the same stimuli are presented. Priming is an unconscious process and is part of non-declarative or implicit memory (Squire & Zola-Morgan, 1991). Evolutionary speaking one can assume that priming is

> advantageous because animals evolved in a world where things that are encountered once are likely to be encountered again. Priming improves the speed and efficiency with which organisms interact with a familiar environment […]. (Squire & Dede, 2015)

In linguistic research (Hoey, 2004), it was demonstrated that not only semantically similar lemmas can be involved in priming but also semantic categories and grammatical types of words if they occur with a sufficient frequency. Incidentally, if a word was previously used with a certain semantic or syntactic type of expression and if the speaker encounters that word again, she will be primed to combine it with the same expression; for example, a speaker might be primed to use the word *assert* with a complement phrase.

A general picture that emerges is the following. Sentences from a language are chunked into smaller units, which are stored as members of certain categories to the speaker's long-term memory. Sentences are produced by retrieving these chunks and by joining them through the computational operation called UQOTOM. When UQOTOM is repeatedly applied to linguistic chunks longer expressions and sentences emerge. The incremental concatenation of existing chunks through UQOTOM produces also structures of higher orders such as grammatical complexes. Each of these types of structures is associated with a set of semantic and/or syntactic classes of expressions. Similarly, each chunk is associated with a limited number of such structures. Such structures typically consist of constant elements and variables. The variables are lexical items that can be substituted by other items that share the relevant semantic or syntactic properties. The substitution is again carried out utilizing UQOTOM, which establishes the relation of identity between different chunks.

3. Sameness Created Through Linguistic Precedent

One may object that the above discussion is concerned only with the dynamics of language use but not with linguistic content. Therefore, this section demonstrates that the dynamics of linguistic precedent does *have an impact on how content is produced*.

Language is a representation system of possible and actual world-states – the ways the world could have been and the way the world is (e.g., Soames, 2010). Speakers never represent the world in its entirety and language can never completely describe the world (Waismann, 1968). The world contains features that language does not represent, either because of the way human cognition operates because they are not relevant to speakers, or because of limitations specific to individual languages. Linguistic representations are, therefore, intrinsically selective. Language represents states of affairs which can be regarded as particular portions of reality (for more details see Barwise & Perry, 1981, or Armstrong, 1997). In general, language represents states of affairs in terms of individuals (including both persons and objects and both abstract and physical entities) and relations (any sort of relations including spatial, temporal or causal relations) (Devlin, 2006). To sum up, linguistic expressions are linguistic representations of states of affairs that selectively pick out the information and represent the world as being a certain way.

There is nothing in the world that makes two states of affairs intrinsically similar to each other; all states of affairs are unique events. Even if there would have been identical situations in the world, humans would have experienced them differently because of individual differences. These differences are due to the specific nature of neural functioning (Gruszka et al., 2010). The interaction between neural functioning and the environment results in different ways the individuals experience the world (McDowell, 1998). In terms of information processing, different cognitive agents "are capable of extracting different information from the same source (situation)" (Devlin, 1995: 14). Situations possess an endless number of features and the discrimination between relevant and irrelevant information depends on prior knowledge and linguistic experience (see also the previous section on priming). But, if states of affairs are necessarily unique and if there are so many differences between human agents, how can it be said that two or more situations are represented in the same way in language? The answer is linguistic precedent.

A speaker's knowledge of a term (a word or a multi-word expression) is a set of all licensed applications of a term to individual situations (Récanati, 2003). These applications of terms form the speaker's linguistic background knowledge. Situations represented by a term stand for *source situations* and future applications of a term are underpinned "by the judgment that the situation of application (or *target situation*) is similar to the source situations" (Récanati, 2003: 148). It is therefore a human cognizer that establishes the similarity relation between individual situations by applying the same linguistic expressions to different situations. The cognizer uses language to

represent unique occurrents of states of affairs as if they were similar. In other words, when the same word or multi-word expression (either in terms of word-forms or lemma) is applied to two distinct states of affairs, those two states of affairs are represented as being the same way. In Russellean terms (1921), a cognizer's representation of the world is not only due to a sensational stimulus but also due to previous experience of what the cognizer regards as similar situations. This notion can be extended to an inter-agent communication. When two or more individual speakers use the same term (either in terms of word-forms or lemma, either a word or multi-word expression), they represent unique representations as being the same way.[3]

So, what is the relationship between representations of situations and the notion of linguistic precedent? I have argued above that language use is a form of language repetition and that language repetition is a subject to natural selection. I also explained that in my view this is what linguistic precedent is about. We have just seen that similarity relations between unique situations are established through language use. It follows that it is due to linguistic precedent that different situations are represented as being the same.

When linguistic items are re-used and applied to different situations they are interpreted in the same or similar way. As far as representation is concerned, if we assume that every state of affair is associated with specific features it follows that semantically equivalent situations are those that share relevant features.[4] The more features they share, the stronger the relevance of those features and the more similar those situations will be. Importantly, the equivalence relations are not simply ascribed to existing situations, they are produced through linguistic precedent.

One may wonder why language works this way. Obviously, it is more beneficial to speakers to apply existing terms to novel situations than to create novel terms for novel situations. Besides, a mass of stimuli which are associated with any novel situation is being neutralized in this way. This reduces 'the descriptive complexity' and unpredictability of a new situation (Clark, 2005; Bertolotti & Magnani, 2017. One may also add that when a speaker re-uses a term, she transforms a novel situation into a situation she is familiar with.

We thus arrive at the following generalization:

Generalization of representational equivalence:
When speakers re-use a linguistic expression X that was uttered at the point *t1* to denote a situation A and they then re-use the same expression at the point *t2* to denote a situation B, they establish the relation of semantic equivalence between the two situations.

[3] This is actually a simplification because the truth-value of a term depends on contextual features.

[4] The equivalence relation is understood here not in its mathematical sense but a vaguer sense of correspondence relations.

4. Linguistic Precedent and the Language of Law

From the language of use point of view, it is justifiable to consider the entire case law (from any legal system) as a set of texts composed within a specific time period. Texts are not only sequences of sentences but also a patchwork of replicated expressions. In Section 2.1., I illustrated the notion of replication in terms of individual words. It is a trivial observation that a case law text contains words which are used in previous texts. But, from the studies discussed in Section 2.2. we know that not only individual words, but also longer formulaic expression are subject to replication in legal texts. And this is especially true of case law. To give an example, Trklja (2017) demonstrated that formulaicity is one of key features of the CJEU judgments regardless of the language in which they are produced. Similarly, judgments produced by supreme or constitutional courts of some EU member states are also to a considerable extent formulaic. Replication therefore through the re-use of formulaic expressions establishes a textual connection between individual cases. If we regard a case law as a set of all texts produced within a specific time period, we can represent the textual connection mentioned in the previous sentence in the form of a sub-set of texts produced within a more specific time frame. Such a sub-set contains a source text in which an expression originally occurred and a number of target texts that contain the same expression. We can call a lineage that traces the origin and development of formulaic expressions through various generations of texts a linguistic precedent chain (LPC).

In reality, a target text contains expressions from various source texts, and this explains my use of the metaphor of a patchwork above. Besides, the same text may also serve as a target text for some previously produced text and as source text for some forthcoming texts.

Formally, we can represent LPC as an ordered set[5] that has one source expression as the first member and an array of target expressions as the second member.

$$LPC=\{(a_{sc}), (b_{tg1}, b_{tg2} \dots b_{tgn})\}^{6}$$

Patchwork relations (PR) between linguistic expressions represent the opposite sort of relationship. However, here it is more appropriate to talk about relations between a case law text and source expressions. Those expressions populate the target text and they have their origin in other case law texts. It is through these expressions that a link between case law texts is established. In a patchwork there is one target text and a number of source expressions from which various expressions that populate the target text come. Formally, PR is an ordered set in which the first member is target or receiving text and the second member is a range of source expressions.

[5] An ordered set as a mathematical concept refers to a set in which the arrangement of elements follows a specific order defined by the binary relation that establishes the ordering among its members.

[6] *sc* stands for a source expression and *tg1 … tgn* stands for an unknown number of target expression in a set.

PR={(a_{tx}), (b_{sc1}, b_{sc2} … b_{scn})}[7]

To give an example from the EU case law, according to the EUCLCORP (Trklja & McAuliffe, 2018) the collocation *irremediably impaired* occurs as a source expression in the judgment 61987CJ0046 and it occurs as a target expression in five other cases (the last one being 62009CJ0521). In fact, this collocation is part of a longer expression that occurs in the following ways:

7. But it is also necessary to prevent those rights from being irremediably impaired during preliminary inquiry procedures […] (61987CJ0046)
8. […] it is necessary to prevent those rights from being irremediably impaired during preliminary inquiry procedures […] (61987CJ0374)
9. But it is also necessary to prevent those rights from being *irremediably impaired* during preliminary inquiry procedures […] (61987CJ0085)
10. But it is also necessary to prevent those rights from being *irremediably impaired* during preliminary inquiry procedures […] (61987CJ0097)
11. It is therefore important to ensure that the rights of the defence are not *irremediably impaired* during that stage of the administrative procedure […] (62009CJ0521)
12. […] it is important to ensure that the rights of the defence are *not irremediably impaired* during the preliminary investigation stage […] (62009CJ0521)

In these cases, *irremediably impaired* is used to represent different situations as the same. Just as explained in Section 2.2., new occurrences may produce some variation in these representations. However, the additional variation could also be introduced by varying the expression in question. As a matter of fact, we do find in this context two additional expressions: *irreparably compromised* and *irremediably comprised*. In the EU case law, variability depends on a particular language. For example, all these three English expressions correspond to only one expression in French: *irrémédiablement compromis*. It follows that replication of copies is less erroneous (in the evolutionary sense) in French than in English. In fact, in this particular LPC, variation might be introduced through translation (for more details on this issue see McAuliffe & Trklja, 2018.

If we regard the choice between various expressions in English as competition (in the evolutionary sense), then *irremediably impaired* is most successful among the three variants since it occurs in the largest number of cases. However, it becomes evident that while it thrived in the initial years, it was subsequently succeeded by the other two competitors in more recent times, only to be revived in the most recent instances within this lineage.

13. irreparably compromised (62000CJ0231, 62000CJ0480, 62000CJ0495)
14. irremediably compromised (62004CJ0105, 62004CJ0113)
15. irremediably impaired (61987CJ0085, 61987CJ0046, 61987CJ0097, 61987CJ0374, 62009CJ0521)

[7] *sc* stands for a source expression and *tg1… tgn* stands for an unknown number of target expression in a set. In the representation that follows *tx* stands for a target case law text.

The phenomenon discussed is not specific to the EU case law. As a matter of fact, as Alexander's (2006) investigation of the Mishnah[8] demonstrates, it can be traced to the earliest legal traditions. The following three examples from Shevuot illustrate the point.

16. Mishnah Shevuot 3:4
    (1) [If a person said:] "I swear [lit. "it is an oath"] I will not eat," (2) and then he ate carri-on or torn flesh, forbidden beasts or creeping things – (3) he is liable. (4) R. Shimon exempts him.
17. Tosephta Shevuot 2:1
    (2) [If a person said]: "I swear that I will not eat," (2) and then he ate forbidden foods: a sacrificial offering disqualified by improper intention, sacrificial meat left over beyond the permitted time for its consumption or impure sacrificial meat, (11) [If a person said:] "I swear I will not drink," (21) and then he drank forbidden drinks: wine from grapes grown in a vineyard where the laws that prohibit eating fruit produced in the tree's first three years and the laws that prohibit growing more than one species in the vineyard were not observed – (3) he is liable. (4) R. Shimon exempts him (adapted from Alexander, 2006: 65–66).
18. Tosephta Shevuot 2:2
    (1) [If a person said:] "I swear I will eat," (2) and then he ate forbidden foods: a sacrificial offering disqualified by improper intention, sacrificial meat left over beyond the permitted time for its consumption or impure sacrificial meat, (11) [If a person said:] "It is an oath that I will drink," (21) and then he drank forbidden drinks: wine from grapes grown in a vineyard where the laws that prohibit eating fruit produced in the tree's first three years and the laws that prohibit growing more than one species in the vineyard were not observed – (3) he is exempt. (4) R. Shimon holds him liable.

In these three examples, we have a combination of perfect copy and variation and the representation of the same situation. Alexander points out that such linguistic patterns have consequences on legal reasoning. The formulaic nature of texts indicates that there are some general principles and rules that apply to different situations. He argues that such principles and rules are not defined in advance but are derived from particular cases. When a formulation which was used in one case is re-used in another case, it receives "an air of universality" and "engender[s] a tendency toward more generalized thinking" (Alexander, 2006: 145). The formulation ceases to be attached to only one particular case. Using the terminology from Section 3, a formulation represents two situations as being the same. Speakers re-use existing terms in analogy to previous experiences as discussed in Section 2.3. When new variations are being introduced to an al-

[8] The Mishnah is a fundamental work of Jewish law and tradition. It is a compilation of teachings, explanations, discussions, and interpretations of the Torah (the first five books of the Hebrew Bible) and other legal texts that were developed by Jewish scholars over centuries. The Mishnah is considered the first major written collection of Jewish oral law and forms the foundation of the Talmud, which is a later, more extensive work of Jewish legal commentary and interpretation. Shevuot, which translates to "Oaths" is the third tractate in the Order of Nashim (Women). This tractate primarily deals with matters related to oaths, vows, and affirmations.

ready recurrent expression in new cases, it becomes more generalized, and this broadens its applicability to future situations. Alexander considers that in this way variables are introduced into a prototype case where the latter refers to the first case in a series. Yet, this terminology is misleading because the notion of prototypes refers to a typical example that represents a category. It makes more sense in treating the cases in a series as ordered pairs between the first and following cases as suggested above. In this way, we do not presume that one case is more typical than another. In fact, if a formulation links each case with a specific situation, then there cannot be more and less typical cases since this would imply some situations in the world are more typical than others which is an absurd claim.

We can now draw some more general conclusions from this discussion. I suggested above that recurrent formulaic expressions establish a textual link between individual cases. I also suggested that this is what we can refer to as linguistic precedent and proposed that cases linked in this way form a linguistic precedent chain. I suggest now to regard this as a weak definition of linguistic precedent in the legal context. A stronger definition should take into account Alexander's remark from above. When an expression is being re-used in a new case in the original or modified form, this re-use generalizes its applicability. What is more, such generalizations indicate to the reader that there are some more general principles and rules that underlie the legal reasoning. In this way, casuistic relations between linguistically chained cases emerges. Casuistry or case-based reasoning is basically what underlies the principle of legal precedent. This explains how linguistic precedent leads to legal precedent. Of course, this is not the only way legal precedent comes into being – the use of citations, mentioning sources or addressing legal principles are some other ways. What distinguishes linguistic precedent from other methods is that it is not necessarily conscious. One cannot cite a previous case, mention a source or address a legal principle without being aware of doing it. But, while deliberate language use is conscious, much of our language use occurs without explicit reflection.

Above, I cited the studies that demonstrate the formulaic nature of the oral and contemporary case law. A piece of qualification is in place here. Not every type of formulaic language is a form of linguistic precedent. For example, from the finding cited above (Trklja, 2017) that the EU case has a high degree of formulaicity, it does not follow that it has a high degree of linguistic precedent. This study, however, does not distinguish between overt citations and the use of formulaic expressions discussed in examples (7) to (15). Besides, representing situations (see section 3) is not the only function language has. This issue is explored in Trklja and McAuliffe (2018), who explore formulaic expressions that have textual rather than representational function. Such expressions serve to guide readers through the text by indicating logico-textual relations between textual chunks. Linguistic precedent underlies legal precedent, therefore, only when there is no overt and deliberate citation of previous cases and when language performs the representation function. It is an empirical question to what extent linguistic precedent causes

legal precedent and up to the point, there has been no research that explored different manners in which legal precedent has been realized.

It is worth mentioning that casuistry is ancient in religious and scientific thinking of antiquity (Bottéro, 1992). Bottéro (1995: 39) states that one of the earliest examples of casuistry comes from Mesopotamia and was based on the practice of "the accumulations of concrete and individual cases that were enumerated in the way of Lists". These lists or paradigms contained individual expressions. Bottéro (1995: 178) further argues that

> [it] was by the repetition and the variation of particular cases, of models to be considered in a spirit or analogy, that the substance of the discipline in question was assimilated, that the habit of scientific judgment was formed.

The knowledge created through the principle of casuistry is incremental rather than abstract. It is because of this that Elster (2000: 97) argues that statutory laws are made whereas case laws emerge or evolve and that Brenner (1992: 49–50) claims that case law is forever unfinished.

Against the backdrop of the perspective mentioned earlier we can regard legal cases as linguistic representations of states of affairs through language use. The relevance of what will be represented is what a dispute is typically about. Accordingly, when a dispute becomes a subject of a legal process, the court's task is to resolve which of the possible ways a world might be to the way the world actually is. It also follows from above that when individuals represent states of affairs in a legal case, they represent novel target situations in terms of formerly represented source situations by means of linguistic precedent. Compare this to what happens when legal precedent is produced where a decided case (source case) "furnishes a basis for determining later cases (target cases) involving similar facts or issues" (Garner, 2004: 232). Legal precedent establishes a dependency relation between a source and target cases and in this relation, a source case constrains the span of available interpretations of target cases.

Finally, it should be pointed out that linguistic precedent contributes both to the coherence and heterogeneity of the law since replication is not only the source of uniformity but of variation, as well. In the same way legal precedent contributes to the coherence of law, linguistic precedent contributes to the coherence or uniformity of linguistic representations. But linguistic precedent can also serve as a source of diversity. Just as legal precedent contributes to the consistency of law, linguistic precedent similarly contributes to the coherence or uniformity of linguistic representations.

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