

Resonance and recombinant creativity:

Why they are important for research in Cognitive Linguistics and Pragmatics

Abstract:

The present paper discusses the key role of creativity as a form of engagement and categorisation in interaction. One decisive way to display engagement ‘at talk’ is when speakers resonate (cf. Du Bois 2014) with what they heard from one another. Speakers constantly imitate, re-use and creatively recombine the utterances and the behaviours of their interlocutors. Recombinant creativity (RC) is a cognitive mechanism that underpins speakers’ formal re-elaboration of utterances and illocutionary forces of others, but also, more generally, the creative intervention on observed patterns of behaviour in context. RC is crucial for primarily two pragmatic and conceptual mechanisms: relevance acknowledgement and schematic categorisation. A persistent tendency towards the proactive reformulation of an interlocutor’s speech is a symbolic and textual indicator of relevance acknowledgement. This is because what is said by the other speaker is overtly put on record and treated as useful information for the continuation of the interaction. The opposite trend – to be measured on a large scale – is an indicator of lack of engagement. RC is also decisive for speakers’ interactional enactment of constructional and socio-pragmatic schemas and the generalisation of form and meaning as a process of shared categorisation.

1. Introduction

This paper discusses the functional and conceptual characteristics of **recombinant creativity (RC)** in interaction and socio-normative behaviour. RC involves the socio-cognitive capacity to recombine a priming stimulus in order to express a new meaning or perform a new action. When RC is at play through dialogue it underpins dynamic resonance (cf. Du Bois 2014), e.g. the proactive reformulation of the utterance of an interlocutor. However, RC is not only restricted to grammatical and lexical analogies, but more generally underpins creative recycling of any aspect of socio-normative behaviour. RC involves a number of textual and conceptual phenomena, but in this paper I will focus mainly on two aspects. The first is related to intersubjective coordination and alignment (Goodwin & Heritage, 1990), as speakers re-use linguistic material that has just been produced by their interlocutors. In particular, creative re-elaboration of what is said by an interlocutor is important for Pragmatics’ research in that it overtly expresses the acknowledgement of relevance of an interlocutors’ speech (Author et al. 2022) for the continuation of the on-going

interaction. At the same time, recombinant capacities are fundamental for cognitive and socio-normative categorisation. This applies to different levels of schematic abstraction of dialogic constructions (Brône & Zima 2014), but also to social schemata (i.a. Steffensen et al. 1979; Eysenck & Keane 2010) and adaptive behaviour in new socio-cultural contexts.

RC is relevant to the enacted view of human cognition as being inherently geared towards cooperation (Tomasello 2019; Author 2021) as a joint activity (Clark 1996; Pickering & Garrod 2021) on the one hand, and conceptual categorisation, on the other. It emphasises the central role of creative alteration of previous utterances as a central component of pragmatic competence, inter/intra-cultural adaptation and language learning. It is centred on the assumption that interaction is inherently 're-active' in that meaning emerges as a creative re-elaboration (e.g. Hopper 2011) of priming stimuli. Such stimuli do not need to be limited to the here-and-now of an interaction, but can also be stored in speakers' long-term memory and involve a delayed recombinant adaptation of the prime to a new context. The present provides an applied model of analysis to measure RC and engagement throughout naturalistic interaction, hereby defined as the Dialogic Categorisation Model (DCM), which proved to be effective for the quantification of dialogic creativity and shared dialogic categorisation in a wide range of populations (FLA, ASD, intercultural adult speech and so on, cf. Author & X 2021a, 2021b, 2022a, 2022b).

The paper is structured as follows: In section 2 I introduce the notions of resonance and recombinant creativity (RC) as key dimensions for a usage-based approach to engagement and categorisation. Section 3 is centred on the relationship between RC and relevance throughout interaction. In section 4 I describe the operational characteristics of the Dialogic categorisation model (DCM). The model is useful for a large-scale measurement of RC as a byproduct of engagement and shared categorisation of form and meaning. In section 5 I discuss the key role of RC for intra and inter-cultural pragmatic competence and socio-normative categorisation. In section 6 I formulate the conclusions of this paper.

2. Usage-based Linguistics: A dialogic turn

The foundational element of the usage-based approach in Cognitive Linguistics has been the study of constructions as holistic pairings of form and meaning (i.a. Langacker 1987; Goldberg 1995, 2006; Kay & Fillmore 1999; Tomasello 2003; Traugott & Trousdale 2013). Constructions are acquired through naturalistic interaction. The more a speaker is exposed to real use of forms that share similar semantic and/or morphosyntactic features, the better his/her capacity to categorise

meaning and produce new forms that bear structural and functional similarities to the ones s/he experienced. To give an example of this, the recurrent exposure to sentences such as *John gave me the book*, *Mary passed me her pen*, *We texted John my new address* and so on allow a speaker to identify semantic-pragmatic and formal analogies among them, until s/he can (implicitly) categorise the ditransitive construction [Subj V Obj₁ Obj₂], which is semantically characterised by the passing of a real/abstract object from Subj to an animate Obj₁.

Despite the focus of the usage-based model on naturalistic interaction, constructions and people's ability to categorise them have been traditionally addressed as representations of one single speaker. However, in recent years new emphasis has been given to the enactment of constructions through dialogue and the way they are conceptualised by two – or more – interlocutors. This has led to new models of dyadic cognising (Arundale 2008; Arundale & Good 2002; Haugh 2010; Weigand 2018; Author forthcoming) in which structure and meaning of utterances are not exclusively represented by one mind, but rather repeatedly recalibrated and re-conceptualised by both speakers throughout turns at talk (Dingemanse 2020: 24).

As part of this new strand of research, the notion of dialogic constructions has become a key component of Dialogic Syntax (cf. Du Bois 2014; Zima & Brône 2015; Author et al. 2018). In this framework, constructions emerge dynamically as a result of interlocutors' dialogic engagement (Du Bois 2014; Du Bois & Giora 2014; Su 2016) and often involve the creative re-elaboration of forms and meanings throughout interaction (cf. Authors 2021a; 2021b). What this entails is that linguistic processing is not exclusively idiosyncratic – i.e. not exclusively centred on fixed 'chunks' of language – but also inherently recombinant, in a way that speakers need to constantly and quickly adjust structure and meaning to new dialogic stimuli. In other words, while most approaches to Construction Grammar fairly emphasise that language is a network of constructions as increasingly entrenched units of form and meaning (i.e. the so-called constructicon, e.g. Fillmore et al. 2003), not enough emphasis has been given to the dynamic nature of such network, which is constantly altered through recombinant activity during the here-and-now of dialogic exchanges.

2.1 Resonance and recombinant creativity

A fundamental underpin of the Dialogic Syntax approach is **resonance**, a mechanism by which interlocutors re-use – and eventually recombine – the form and/or the function of their interactants' utterances (Du Bois 2014). Resonance allows speakers to construe morphosyntactic, semantic and pragmatic analogies (i.a. Fischer 2008; Gentner & Christie 2010) 'on the fly' across turns at talk.

Instances of resonance are far from being exceptional in dialogic interaction. The naturalistic exchange below is retrieved from the demographically sampled section of the British National Corpus. The conversation is about the East End of London and the possibility to find bananas in the past in that area:

(1)

A: Nobody had bananas, first bananas came in about forty five.

B: **Came a long way didn't they?**

A: <unclear> **one of these ships docked isn't it?**

A: Cos one of them brought bananas in.

BNC D8Y 206

In (1), we can see how speakers eventually align formally and pragmatically with one another via strategies of expected agreement (cf. Author 2017, 2021). This is achieved morpho-syntactically via the tag-question construction [X V'*nt* PRON ?], which in British English is conventionally used to make an assertion along with the expectation of the addressee's agreement with his/her statement. B is the first to use the construction in the specific form of [*Came a long way didn't they?*]. A subsequently resonates with B's strategy via the utterance [*one of these ships docked isn't it?*]. Instances such as (1) are very common in dialogue as interactional engagement from one interlocutor to another is often textually reflected via analogy and constructional similarity.

Dialogue unfolds as a joint project among interlocutors (cf. Clark 1996; Branigan et al. 2000; Pickering & Garrod 2021) whereby intersubjective coordination is a key condition for mutual understanding and information flow. In the Conversation Analysis literature, a recurrent notion for the study of adjacency pairs is the one of 'tying' (Sacks 1992), involving forms of talk (e.g. indexical, anaphoric reference) which require a hearer to make reference to another utterance to understand the current one, and which thus 'tie' the turns at talk to one another. With tying the focus is on the 'sequential dependence' of B's utterance on A's one and thus primarily tackles the unfolding of interlocutors' engagement as a 'serial' process. Similar notions also involve cohesion (Halliday & Hasan 1976), that is the linking that holds a text together and gives it meaning and entrainment (Clark 1996), which is at work when adopting the reference terms of an interlocutor. Beyond those, the concept of 'alignment' (Pickering & Garrod 2004; Rasenberg et al. 2020) has been perhaps the most cited and influential one in cognitive psychology, hinging on automatic and unconscious production and interpretation of expressions in the same ways that a speaker's partner

has just done (Pickering & Garrod 2006). Alignment can result from more or less conscious mechanisms of imitation. As clearly noted in Rasenberg et al. (2020), automatic alignment is at play in cases of priming (e.g., Pickering & Garrod, 2004, 2006), whereas less implicit mechanisms of grounding hinge on interactive and multimodal (Chui 2009) coordinative efforts involved in joint meaning-making and information sharing (Brennan & Clark 1996; Holler & Wilkin 2011; see also (cf. Duran et al. 2019 for computational implementations of this).

While it is important to acknowledge a distinction for automatic vs explicit/conscious alignment, the present paper holds a distinctively gradient view, whereby complex imitation and recombinant creativity are geared towards engagement, but are not exclusively finalised at sharing information with an interlocutor. In other words, purposeful coordination at talk is not solely epistemic in nature (not solely centred on sharing information), as imitation may vary in degrees of complexity and self-awareness (cf. Arbib 2012). Interactional engagement – as a proto-social form of co-actional cooperation – may underpin both automatic and purposeful reactions to a previous stimulus. Such reactions may be geared towards different forms of per-locutionary effects (e.g. directing actions, expressing emotions, enhancing rapport and so on), but, plausibly, may often include both automatic and goal-oriented components. This makes it difficult to clearly disentangle alignment that is automatic vs one that is explicit¹. Structural similarity across turns reflects speakers' efforts to calibrate their language in order to be best understood and therefore maximise both cognitive and social cooperation.

However, one important aspect that has been somewhat neglected in the literature is the relationship between interactional engagement and creativity, that is the degree to which an interlocutor is able – and/or intends – to intervene on what was said by others to formulate something new. In this sense, the focus of resonance is more distinctively on the phenomenology of interactional imitation and on whether recombinant creativity is at work in response to a stimulus. This is where the notion of resonance is a decisive one, as it allows to measure creativity by adopting a constructional approach to dialogue, and therefore studying both formal and functional analogy across utterances as byproducts of both engagement and conceptual ability to produce and categorise new constructions.

¹ While the issue of conceptualisers' intentions has been noted to be controversial one empirically (Haugh & Jaszczolt 2011; Culpeper 2011; Kissine 2013; Harris et al. 2018), the present constructional approach to dialogic similarity across turns at talk is more distinctively concerned with the assessment of the phenomenology formal and functional analogy, rather than tackling its un/conscious nature. From such a usage-based angle, engagement is behaviourally at play when some kind of resonance is realised, that is, either when an interlocutor has a clear aim of sharing information with another, but also in cases when interaction involves other forms of speech acts. It may even be at work when imitation not consciously goal-oriented.

A large-scale account of resonance thus becomes an important usage-based indicator of interlocutors' strategies to cooperate interactionally with one another. Cooperation here does not necessarily mean agreement (or affiliation), as speakers do pursuit engagement and interactional coordination also in contexts where they hold different perspectives or beliefs (cf. Author & X 2020b). Concerning the relationship between linguistic similarity and relevance, evidence shows that, in contexts that are not constrained by power imbalance and institutional obligations, consistent absence of resonance and RC in particular underpins interactional detachment and tends to be significantly at play in subjects with Autism Spectrum Disorder, ASD (cf. Hodson et al. 2012; Du Bois et al. 2014; Rendle-Short et al. 2014; Author & X 2022a).

2.2 Recombinant creativity and goal-oriented behaviour

When resonance occurs creatively, cognitive and social cooperation among interlocutors is textually 'on record'. This is an important cue of interlocutors' overt ability to coordinate one another's speech intersubjectively. A transition from mere repetition to creative recombination is observed in child's ontogeny (Koymen & Kyratzis 2014; Author & X 2022b). In early stages of first language acquisition (FLA) children frequently repeat the priming input of their carers or peers. When this happens, resonance occurs 'statically', i.e. only on the form of a mere repetition (Author & X 2020b), as recombinant creativity is not at play for the cooperative elaboration of new meanings:

(2)

MOT: 火山爆发啊。

huǒshān bàofā a

volcano erupts SFP

'The volcano is erupting!'

CHI: 火山爆发。

huǒshān bàofā

volcano erupts

'The volcano is erupting'.'

CHILDES² / Zhou2 / mb14 / 4;00

In the exchange above, the child (CHI) resonates with what she heard, but does not recombine the priming input of the mother (MOT) in order to express something new. This is a case of static resonance in which the construction [火山] *huǒshān* ‘volcano’ 爆发 *bàofā* ‘erupts’] is simply copied.

On the other hand, when structural, semantic and pragmatic features of a dialogic stimulus are creatively recombined, resonance is then dynamic (cf. Du Bois 2014: 353; Author et al. 2018). These are cases where a previously encountered utterance is creatively re-elaborated and new analogies (i.a. Fischer 2008; Gentner & Christie 2010) are realised across turns at talk. A key aspect of dynamic resonance in FLA is that it often serves explicit interactional goals (Corsaro and Maynard 1996; de León 2007; Ervin-Tripp 1991; Goodwin 1990, 2006; Keenan 1977).

Hurley (2008) refers to the notion of ‘true imitation’ in phylogeny as a sophisticated form of proto-social cognition, which requires a novel action learned by observing another do it plus instrumental or means-to-ends structure. In this sense, others personas’ means to achieve their goals are recalibrated, rather than being simply replicated. When behaviour is recombined via analogy to achieve new results and per-locutionary effects, complex imitation is at play, which is something that cannot be found in non-human (e.g. chimps) imitation (Call & Tomasello 1994; Nagell et al. 1993; Voelkl & Huber 2000). Complex imitation is a spectrum that involves the ability to recognise another’s goal-oriented performance and to use this as the basis for a novel action. This extends to the gradient ability to approximate and categorise variants of actions that are already in the repertoire (cf. Arbib 2012: 163). Complexity of imitation therefore increases with recombinant creativity, as involving the cognitive capacity to recognise, re-enact, modify an observed behaviour and establish new goal-oriented categories of form and meaning as a result. From an ecological perspective, recombinant intervention on structure and the function of a linguistic act – or socio-normative behaviours – is beneficial to expanding the communicative/behavioural potential of that same structure/action. What is novel about this is that speakers’ capacity to categorise linguistic meaning and structure is enacted (Engel et al. 2013) in – either physical or projected – dialogue. Communication and linguistic conceptualisation then occur as a ‘meaningful’ **re-action** to a prior stimulus, rather than an independent ability of categorisation.

In FLA, the child shows abilities of recombinant creativity when s/he resonates dynamically with utterances of his/her interlocutors. Consider the British English interaction below from the Fletcher Corpus:

(3)

INV: I have a board (.) this one and **we have some stickers**.
 INV: And you can put the stickers from here on to the board.
 INV: Have you seen such a game before?
 CHI: Yeah, but **I have (.) got some stickers at home** but not these <sort>.

CHILDES / Fletcher / cpmich / 5; 02

In the exchange in (3), the child does not simply repeat what is said by the investigator (INV), but rather enriches a previous construction that she heard in order to engage with INV’s talk. More specifically, she textually engages with the construct [*we have some stickers*] in the form of [*I have got some stickers at home*]. An operational way to analyse this transition – and any other case of resonance – across turns is in the form of a diagraph, i.e. a syntactic structure that emerges from the coupling of two or more utterances (or utterance portions) through the mapping of resonance relations between them (Du Bois & Giora 2014: 354). The corresponding diagraph of example (2) is given in Table 1. The creative alteration of the original ad hoc construction is marked as underlined text (in case of replacement) and in brackets (in case of (addition)):

	Subj	HAVE	some	stickers
INV	<i>we</i>	<i>have</i>	<i>some</i>	<i>stickers</i>
CHI	<i>I</i>	<i>have (<u>got</u>)</i>	<i>some</i>	<i>stickers (<u>at home</u>)</i>

Table 1.

Diagraph of [Subj HAVE *some stickers*]

Diagraphs are important for the corpus-based annotation of dynamic resonance. That is because they allow an annotator to capture the degree of schematicity (i.e. the ability to identify categories of form and meaning) that is jointly construed by the interlocutors (Gentner, 1983, 2003; Markman & Gentner 2001; Goldwater 2017; Tomasello 2003; Goldberg 2019). Creativity here is key, as the recombinant modification of a previous input allows for the identification of a higher node of schematicity in the speakers’ construction (cf. Fillmore et al. 1998).

This principle is relatively simple: analogy across similar constructs triggers categorisation, as some common feature is identified among two single instantiations of form and meaning. In the case of (2) INV’s original construct is re-elaborated and expanded by CHI in a way that *we* can be replaced by a similar personal pronoun functioning as the subject *I*. The predicate *have* can be

replaced by *have got* and the object *stickers* can be expanded with an external location for the possession of the object. This recombinant process creates affordances for the joint categorisation of the more schematic form [Subj HAVE *some stickers*] as a higher node of abstraction in the constructional network of both speakers. Importantly, this involves specific goal-oriented behaviour, that is the child's speech act of informing the interviewer of what he considers a relevant piece of information about *those stickers*. In fact, what in my view has not been emphasised enough about this process is that it does not necessarily occur with the child's goal of 'learning' new constructions, but rather as a byproduct of interactional engagement with locally specific goals and per-locutionary effects. Differently put, linguistic categorisation occurs via goal-oriented alignment, not as a process of learning-oriented sedimentation. One speaker identifies schematic patterns of form and meaning through a 'conceptual pact' (Brône and Zima 2014) with his/her interlocutor so that the categorisation of new constructions is 'interactionally plausible'. Such enacted process of conceptualisation is effectively a form of **dialogic categorisation**.

Schematicity in Construction Grammar is normally addressed as a usage-based process of conceptual and syntactic abstraction. The construction [*I am tired*] is less schematic than [*I am ADJ*], which is less schematic than [*I BE ADJ*], which, in turn, is less schematic than [*I V ADJ*], which is less schematic than [Subj V ADJ], which is less schematic than [SUBJ PREDICATE] and so on. The phonetic realisation of *I am tired* may correspond to all of these representations. What is distinctively novel of the present framework is that increasing schematicity is intertwined with recombinant creativity in dialogic interaction, i.e. we must rely on creative variation to categorise things. Namely, the process of schematisation from specific instantiation (*I am tired*) to more schematic constructions ([Subj V ADJ]) inherently necessitates of a recombinant component that is bound to interactional alignment with some other interlocutor(s).

2.3 Recombinant is not transformational

In Construction grammar, creativity is often seen as a capacity that competes with repetition and conventionalisation. Goldberg (2019) notes that three important mechanisms are at play when constructions arise out of naturalistic interaction:

- i. Expressiveness: Linguistic options must be sufficient for conveying speakers' thoughts, beliefs, and attitudes in ways that listeners are able to understand.

- ii. Efficiency: Fewer and shorter constructions are easier to learn and produce than more or longer constructions.
- iii. Obeying conventions: learners attempt to use language in the ways that others in the language communities do.

(Goldberg 2019: 8)

Dialogic constructions are established in spoken interaction (e.g. Brône & Zima 2014: 466) in the form of local routines leading to entrenchment and categorisation (cf. Diessel 2006; Brône & Zima 2014). In this sense, both socio-cognitive mechanisms of obeying interactional conventions (iii) of a community of practice and efficiency of information transmission (ii) are reasonable principles underlying the ubiquitous pursuit of analogy across turns. Expressiveness (iii) is also a fundamental source of creativity for the realisation of ad hoc constructions, favouring creative recombination of form and meaning as a mechanism that competes with systemic and repetitive behaviour (cf. Author & X 2020).

One reason of the considerable emphasis of the usage-based model on the idiosyncratic and repetitive component of constructions might be the strong stance against the Chomskian assumption of syntax as a transformational generative component of language (i.a. Chomsky 2013). While both traditional and dialogic usage-based models do emphasise the key role of innovation (i.a. Croft 2007, 2010; Traugott & Trousdale 2013) and ‘extravagance’ (Haspelmath 1999) for constructional change, nonetheless very little emphasis has been given – both theoretically and methodologically – to the role of pro-active recombination of form and meaning throughout interaction as an inherent component of the theory. This is possibly due to the need for the usage-based model to avoid confusion with notions echoing a ‘transformational’ terminology. The latter concept is traditionally associated with the assumption that syntax depends on innate and modular ability to generate and transform structure independently from meaning. However, corpus data extensively suggest that language structure and meaning are constantly re-adapted and re-structured through interaction: in this sense, grammar might be not generative or transformational, but it is indeed recombinant. My claim is that a usage-based view of interactional abilities is inherently dependent on humans’ ability to recombine form and meaning of similar constructions and behaviours through (or after) dialogic engagement. In fact, from a strictly usage-based perspective, the bottom-up process of acquisition of a construction is not possible without analogy and recombinant adaptation of constructions via the here-and-now of dialogic categorisation. Language is thus built out of constantly recycled constructions (Christiansen & Chater 2022) that derive from manipulation of other people’s

utterances (Kecskes 2017). It is therefore essential for the usage-based model to give a new emphasis to a flexible and recombinant component of human interaction.

3. Recombinant creativity and relevance acknowledgement

In the present discussion I focus on two main characteristics of Recombinant Creativity (RC), one that is primarily pragmatic and one that is more conceptual. When people recombine structure, words, gestures, visual expressions, intonation and/or illocutionary force of a previous utterance, they overtly engage with the text of their interlocutors, on the one hand, and jointly categorise form and meaning, on the other. Concerning the former effect, resonance is key for the overt acknowledgement that the linguistic material produced by our interlocutors is useful for the continuation of the interaction. When resonance is recurrently absent or weak in one interlocutor's turns at talk, that is a formal indicator of lack of **relevance acknowledgement (RA)**.

RA can indeed also be expressed 'on the fly' or via more or less conventionalised constructions functioning as relevance acknowledgement markers (RAM) such as *it is interesting that you said that*, *that's crazy*, or more atomic backchannels such as *wow*³. This clearly excludes institutionalised activities and obligations involving power asymmetries where RA may be contextually redundant, such as police interrogations, interviews, court trials and so on. Consistent, large-scale absence of both recombinant creativity and RAM can be reliable indicators of formal detachment from other persona's speech and have been found significantly at play in the ASD population (cf. Du Bois et al. 2014; Author & X 2020a). In Sperber & Wilson's (2004) Relevance Theory, an ostensive stimulus is optimally relevant when:

- i. It is relevant enough to be worth the audience's processing effort.
- ii. It is the most relevant one compatible with the communicator's abilities and preferences.

(Sperber & Wilson 2004: 612)

This principle guides speakers' cognitive information seeking. If what is said is relevant to us, that affects our capacity to process information. This is a reasonable explanation of speakers' attentional abilities and selection of valuable information. However, what is strictly connected to this – and which has rarely been taken into account in the Pragmatics' literature – is that relevance is also

³ More generic backchanneling can also involve relevance acknowledgement i.e. *well, ok but*, although they may also simply involve a conventional organisation of turns at talk as part of the idiolect of a speaker.

connected to social expectations, and therefore (im)politeness (cf. Jary 1998; Author & X 2021; Author et al. 2022). People expect their talk to be relevant to their peers and thus constantly monitor how they react to what they are saying. This mechanism is a by-product of reciprocity, as the costs and benefits produced by an information giver are normally expected to be reciprocated in kind by the information receiver (cf. X & Author 2021; Author et al. 2022).

From the perspective of Conversation Analysis, Schegloff (1968) first noted that sequences of turns are bound to what he defines as ‘conditional relevance’. The principle is that if one’s turn-at-talk is conditionally relevant on another when a first pair part provides for the textual relevance of the second. An example of this are summons-answer sequences. The directive illocutionary force of a summon’s first pair part involves getting someone else to do something (cf. Searle 1976): the occurrence of a summons, e.g. calling out someone’s name, makes an answer by the recipient conditionally relevant (cf. Kendrick et al. 2021). If no answer occurs, the Gricean maxim (1975) of Relation/Relevance (e.g. *be relevant and say things that are pertinent to the discussion*) is not satisfied. Most importantly, textual absence of an answer in cases where an answer is expected is a marked event (cf. Levinson’s 2000 M principle), which allows for a number of inferences (e.g. the recipient did not hear or is ignoring the interlocutor). When a summon is realised, the hearer has accordingly three choices:

- i. Meeting the conditions of satisfaction of the first pair part (this would mean *answering the question*).
- ii. Acknowledging the relevance of the first pair part, yet without meeting the condition of satisfaction (this would underpin an *overt refusal to answer the question*).
- iii. Ignoring the relevance of the first pair part (this would mean *staying silent or rather talking about something different*).

While respectively (ii.) and (iii.) are cases of response failure (Stivers, Enfield & Levinson, 2010; Stivers 2013), relevance acknowledgement (RA) is still present in (i) and (ii), as the second pair part would either comply with the preparatory conditions of the initial question or meta-linguistically address the summoning act itself. Accordingly, in both (i) and (ii) the likelihood of producing dynamic resonance is much higher than in (iii). This is particularly important for the operationalisation of relevance acknowledgement (RA), as the annotation and statistical account of dynamic resonance can inform the large-scale assessment of textual engagement among speakers. This is clearly not to say that resonance here would be the only way to express engagement, but it can be, on a large scale, a solid and measurable indicator of it. Consider example (4) from the BNC:

[On the Record: television broadcast]

(4)

A: I'm very puzzled by this now so I ask for clarification, [...] are you saying that the franchisee will have **control over the track**?

B: [...] Let me just go beyond.

A: So, but but just answer that bit first, so I'm clear.

B: Not, not, **not on the track** as not on.

BNC HUW 201

In (4) the interviewer A asks a question about the passenger franchise of British Rail. The interviewee B at first does not comply with the conditional relevance of A's directive, as he makes an attempt towards a topic shift. He is then interrupted and asked to comply with the original directive: *just answer that bit first*. Compliance of conditional relevance finally occurs in B's final turn, as he addresses whether the *franchisee will have control over/on the track*, leading to the joint realisation of the ad hoc construction [*franchisee will have control* PREP *the track*]. This final turn involves relevance acknowledgement (RA), as it finally includes a textual element of A's previous turn-at-talk. When compliance of conditional relevance was not met, no resonance was present in B's turn, which textually reflected a comparatively lower degree of interactional engagement with A's speech, leading to A's new request to comply with the original directive: *just answer that bit first*.

3.1 Recombinant creativity and relevance checking

Consider now the exchange the demographically sampled exchange from the BNC in (5) below:

(5)

A: [...] I'm talking about cord and five lines here for the minute <pause> aye <pause> and I'm talking about bringing in <pause> talking about bringing in four or five lines down there, right?

B: mm, mm.

A: and there's not any reason why once your in you canne put another couple of lines in, and you can even put a couple of lines in on a different number if you want

B: mm <pause>.

A: but still have to four phone in for the same purpose, **are you with me?**

BNC KDJ 34

The dialogue occurs in a context that is expected to be interactive, as it is a real-time discussion about arranging a number of connection lines for a particular event. This excludes lower expectations of knowledge exchange typical of storytelling for instance (Sacks 1974: 337; Drummond & Hopper 1993; Stivers 2008).

In (6), A is pro-actively making sure that the ‘plan’ will be implemented. At some point A directs B’s attention to the ongoing interaction itself via the metalinguistic construction [*Are you with me?*], in order to make sure that B is properly engaged with what is being said. The idiom is used to realise a specific form of directive speech act, which can be defined as a ‘**relevance checking**’ strategy. Idiomatic constructions of this kind are conventionally used to monitor the addressee’s involvement in the interaction, and, whether what is said is relevant to the hearer. The directive illocutionary force is due to the addressee being expected to pay more attention to the ongoing interaction and produce a more substantial contribution to the dialogue. What is key in (6) is that B’s engagement with A on record is very poor, as all she provides are mere backchannels, yet without any propositional information being reciprocated in return. In other words, B does nothing more than acknowledging that information is being transmitted from A to herself, with no diagraphs emerging from the exchange: resonance is absent (see also Author et al. 2022 for cross-cultural evidence of this phenomenon).

Comparatively higher degree of engagement is at play when some propositional content is dialogically returned from B to A, with a proved large scale correlation with dynamic resonance (e.g. Author & X 2021). Consider example (6) below which takes place in a Cinema Board meeting:

(6)

A: I’m not looking for it to make, make a profit,

B: No.

A: be super efficient, it’s just that <pause> there is a chance of keeping going without too

B: Yes.

A: without **having a crisis every other year** or whatever.

B: Yes, this is exactly one of the reasons **we had a crisis last <pause> last time <pause>** was because <pause> erm we didn’t know <pause> that the then director I’m sure didn’t know

what, what was happening.

BNC F7A 452

In example (6), B pro-actively engages with the language that is produced by A. In particular, structural and lexical analogy are realised in the transition from B's turn to of A's turn at the end of the exchange. This recombinant strategy is markedly different from mere backchanneling, as it underpins pro-active exchange of information flow (cf. Author et al. 2022) on the one hand, and is characterised by overt relevance acknowledgement (RA), on the other. Different from example (5), this is a scenario where A is unlikely to verify whether B is engaged with his speech (e.g. via relevance checking strategies such as [*Are you with me*]). An obvious speculation here is that having large scale speech acts of 'relevance checking' is more likely when recombinant creativity is absent rather than when is present. Similarly, a plausible large-scale prediction could be that – all conditions being equal – instances of dynamic resonance among interlocutors lead to longer turns at talk (including higher number of words) than when recombinant creativity is absent (cf. Author & X 2021a, 2021b; Author & X 2022a, 2022b; Author et al. 2022).

3.2 Recombinant creativity and autistic speech

Recombinant capacities in dialogue serve information flow among interlocutors. When this happens, relevance acknowledgement is textually 'on record' as speaker B relies on elements of A's talk in order to continue the interaction. This dual capacity has been shown to be partly impeded in ASD (Hodson et al. 2012; Du Bois et al. 2014; Author & X 2022a, 2022b). In autistic speech, the process of learning is mostly based on the acquisition and storage of information, with engagement resulting in the desire to share all that has been acquired. What is often missing in ASD speech is the element of relevance acknowledgement and recombinant innovation in 'real time', that is during the here-and-now of the interaction (cf. Author & X 2022a). This suggests that communication in subjects with ASD is not impeded for what concerns the long-term categorisation of form and meaning and the functional ability to speak grammatically and idiomatically (cf. Anderson et al. 2007; Wodka et al. 2013; Kim et al. 2014; Kissine 2021). Rather, what seems to be relatively inhibited is the ability to flexibly recombine dialogic structure and meaning at the moment of the interaction. The excerpt (7) below is from a context of toy play with 5 year old Roger from the Flusberg corpus of ASD child's speech:

(7)

MOT: Oh, Roger, Helen's talking to you.

MOT: Look at Helen.

CHI: Yeah.

MOT: Say yes, I would .

CHI: Good.

MOT: Give me the book, we can read it later.

MOT: **Bye Alice.** Bye.

CHI: **Bye Alice.**

Flusberg Roger 5;02.18

The excerpt briefly illustrates a tendency in autistic children's speech where dynamic resonance statistically appears to be less flexible in contrast with neurotypical individuals (Hosbon et al. 2012; Author & X 2022b). This also reflects a socially more impeded ability to engage in dialogic behaviour as it would be expected in socio-culturally situated interaction. In the exchange above, Roger struggles to proactively engage with and respond to Helen's speech. The only turn in which Roger formally resonates with his mother, is in the static form of a greeting at parting with another person, Alice, as in *Bye Alice*.

3.3 Recombinant creativity and intercultural communication

Recombinant creativity is essential in intra-cultural interaction, but also a fundamental mechanism serving inter-cultural communication and SLA. This is not simply because second language speakers create affordances for categorisation based on what they hear from their native interlocutors, but also because re-using one another's constructions at talk is a key strategy for intercultural engagement. Consider the exchange below from the The International Corpus Network of Asian Learners of English (ICNALE), which is set in the context of examination involving an English language instructor and a Chinese student of English:

(8)

E: So , uh , there are different types of speaking such as, uh, you know, face-to-face, one-to-one conversation and then a **group discussion**. Which do you like better?

S: Uh, of course, the um, group uh, the **group talking**.

E: Hmm, so why do you prefer a **group discussion, group talking**?⁴

ISD4201 CHN B11 CONV⁵

In this example, the student resonates with the compound *group discussion*, however, he does so in a recombinant way that leads to a non-idiomatic lexeme, namely *group talking*. This analogy creates affordances for the dialogic categorisation of the more schematic [*group* Speech Activity] construction. At this point, the instructor further resonates with what the student has said by re-using the original compound *group discussion*, as to implicitly suggest that this would be a preferable lexical choice. She further self-expands on the same lexeme by resonating with the student's less acceptable form *group talking*.

In the excerpt, resonance both underpins intercultural engagement and constructional categorisation. On the one hand, the native speaker overtly shows a pedagogical preference towards the idiomatic option, so that the student will gather that the more prototypical member of the [*group* Speech Activity] construction is *group discussion*. At the same time, s/he also resonates with what the student has said – despite it being unidiomatic – so as to display overt engagement with his/her turn at talk and lexical choices. This is ultimately to show that RC functions as a fundamental mechanism for the establishment of a dynamic common ground (Kecskes 2014) that is most distinctive of intercultural communication, as a ‘dialogic pact’ about the ad hoc acceptability of the lexical compound *group talking* is established between the speakers during that specific dialogic exchange. The two interlocutors, therefore, establish a mutual understanding that *group talking* is provisionally acceptable ‘between them’, but that it would be best to use *group discussion* in future contexts of interaction with other native speakers of English (cf. Author 2021 on immediate vs extended intersubjectivity). What this means is that when common ground is co-created – as it is generally the case in contexts of intercultural communication – strategies of resonance and recombinant creativity may involve ad hoc functions not to be found in typical intra-cultural exchanges. A case in point is the coexistence of static and dynamic resonance within same turns, conveying two completely different forms of engagement, as in (8) where the examiner overtly alternated the two compounds *group discussion* and *group talking* within the same utterance.

4. The Dialogic Categorisation Model (DCM)

⁴ E: examiner, S: student.

⁵ <https://cqpweb.lancs.ac.uk/icnalesd/>. Last accessed 02/04/2022.

If we look back at example (7) in section 3.1, we can see how interlocutors jointly realise the emergent structure [HAVE *a crisis* TIME-ADV⁶] as a result of the recombinant modification A’s utterance [*having a crisis every other year*] in the form of B’s response [*we had a crisis last time*]. This is illustrated in the diagraph in Table 2:

	HAVE	<i>a</i>	<i>crisis</i>	TIME_ADV
A	<i>having</i>	<i>a</i>	<i>crisis</i>	<i>every year</i>
B	<i>(We) had</i>	<i>a</i>	<i>crisis</i>	<i>last time</i>

Table 2.

Diagraph [HAVE *a crisis* TIME-ADV]

As shown in the diagraph, both utterances function as specific instantiations of the more schematic construction [HAVE *a crisis* TIME-ADV]. The latter emerges ‘on the fly’ as a bottom-up process of categorisation driven by analogy across turns. Crucially, this kind of analysis can inform the large-scale annotation of recombinant creativity in interaction as a continuous variable. The way to assess this is to count the internal constituents of the schematic structure [HAVE *a crisis* TIME-ADV⁷], namely 4. The identification of resonating constructions can be restricted to adjacency pairs, or it can involve larger textual distance, which can be measured in intonation units (Chafe 1994) or physical time, with working memory being therefore accounted for as a contributing component of RC.

This approach to dialogic annotation can be defined as **Dialogic categorisation model (DCM)** (Author & X 2020; 2021a, 2021b; Author & X 2022a, 2022b) and has the advantage of reliably quantifying both dialogic schematicity and engagement in naturalistic interaction, which are key mechanisms for applied approaches to Pragmatics and Cognitive Linguistics, e.g. by comparing context specific instances of intra-cultural versus inter-cultural communication, and see whether significant mismatches emerge about speakers’ degree and modalities by which they resonate with one another. This method proved to be stable for inter-rater reliability (reflected in Cronbach’s Alphas) of annotated data in FLA, ASD, and cross-cultural Pragmatics and is

⁶ Time adverbial.

⁷ Time adverbial.

particularly suitable for multinomial linear regression (Author & X 2021a; 2021b; Author & X 2022a, 2022b). Two conditions for the implementation of the analysis need to be met:

- i. For the identification of resonance, there must be at least one lexical unit – including interjections or pragmatic markers – being repeated from interlocutor A to B.
- ii. The measurement of dynamic resonance includes the units that allow for the identification of the node that is immediately higher up in a constructional network.

The reason for condition (i) is that schematic structure is always present in conversation, which could be challenging for the delimitation of cases in which resonance occurs schematically (e.g. the diagraph in Table 2 could be interpreted as [HAVE NP] or even [V NP]). This is addressed by including presence of at least one priming lexical item, particle or interjection as one of the internal constituents of a resonating construct, e.g. the presence of the specific units *a* and *crisis* in example (6) as they are both ‘lexically’ re-used by B after A’s priming utterance. This approach draws on the notion of lexical boosting, which emphasises that presence of same lexical items of an original prime significantly favours syntactic alignment (cf. Pickering & Ferreira 2008; Pickering & Garrod 2021). Related to condition (i), in condition (ii) I emphasise the importance to limit the annotation of schematic abstraction to the closest node higher up in the network. To fully understand how this works, consider Figure 1 below:

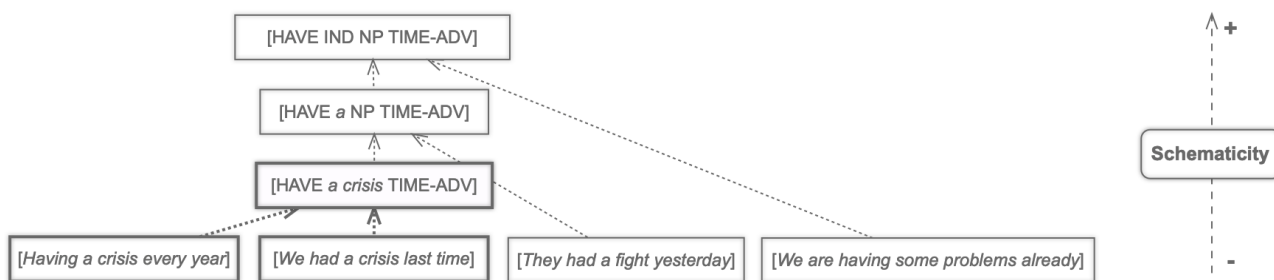


Figure 1.
Schematic abstraction of [HAVE IND NP TIME-ADV]

Figure 1 illustrates an ideal bottom-up process of schematic abstraction involving the categorisation of the [HAVE IND NP TIME-ADV] construction, which can be semantically associated with a

negative experience or situation (in the NP slot, e.g. *crisis, fight, problems*) in the context of a personal relationship.

Speakers' ability to 'abstract away' schematic meaning and structure depends on analogy across token instantiations of form and meaning. In the case of (7), speakers create textual affordances for reaching the [HAVE *a crisis* TIME-ADV] node during the here-and-now of the interaction thanks to the analogy between [*Having a crisis every year*] and [*We had a crisis last time*] (all these three constructions are represented in thicker boxes in the figure). This is the closest node possible which can be identified for the annotation of dynamic resonance in example (7) and therefore what should guide the rationale for a corpus-based DCM. If turns-at-talk in (7) had included also the expression [*They had a fight yesterday*], then the closest node would have been the more schematic node [HAVE *a NP* TIME-ADV], as the NP slot would no longer be limited to the specific word *crisis*. Similarly, affordances for a higher node would be possible if the exchange would also include [*We are having some problems already*], as in this case the article *a* could be replaced by similar indefinite determiners (e.g. *some*), and so on. What this means is that speakers' capacity to 'abstract away' both linguistic and socio-normative categories out of particular utterances correlates with their interactional involvement with what is said (or done) by themselves and their interlocutors – or what they project as such in monologue.

This is somewhat in contrast with the traditional usage-based view that analogy emerges 'monadically', that is as a mechanism that is cognitively independent from the recombinant unfolding of a dialogic exchange. This is clearly not to say that traditional usage-based models do not account for context. Rather, the issue is that not enough attention has been paid to the key role of recombinant modification of form and meaning for the schematic categorisation of constructions across turns at talk. Such an inherently dialogic view of grammatical knowledge is also in contrast with the idea that schematic abstraction may emerge out of single constructions (e.g. Hilpert 2015: 136). It rather suggests that categorisation requires recombinant creativity to occur, as it is necessarily bound to analogy among at least two similar, albeit not identical, constructs.

4.1 The applicability of the DCM to Pragmatics' research

The DCM works at its best as a multifactorial scheme of annotation, which is necessary in Pragmatics' research. This is because the degree of resonance may be predicted by a diverse range of variables, including distance from the priming construction and the resonating one, multimodal components (e.g. gaze, gestures), power relations, social distance, speakers' identities,

demographics and cultural background, but also illocutionary forces. An example of the latter is in (9) below:

(9)

A: Alright Martin **I'll see you later.**

B: **I'll see you later anyway.** I'll.

A: Okay yeah.

BNC/HMD/1459

(Author et al. 2018)

In (9) A employs a conventionalised construction to perform a greeting at parting in British English [*I'll see you later*] which is similar to saying *good bye*. The expression is low in compositionality (Traugott & Trousdale 2013), as the semantic contribution of each word to the procedural meaning of the construction is rather opaque. In fact, A performs the action of 'greeting at parting' rather than making a factual assertion about meeting B at some point during the day. In the following turn, B resonates with A's proposition *I'll see you later*, with the addition of the sentence-peripheral pragmatic marker *anyway*. In this case, B creatively recombines the meaning of the internal constituents of A's utterance as s/he makes a new assertion (which includes a commissive component) to emphasise that *they will effectively meet each other later on*. This is exemplified in Table 3:

	I	'll	see you	later	Illocutionary force
A:	<i>I</i>	<i>'ll</i>	<i>see you</i>	<i>later</i>	greeting
B:	<i>I</i>	<i>'ll</i>	<i>see you</i>	<i>later (anyway)</i>	commissive

Table 3.

Joint realisation of the commissive construction [*I'll see you later ADV*]

With creative alteration of the original construct, engagement with the other speaker is textually 'on record'. At the same time, new affordances are possible for shared categorisation of pairings of form and meaning. After B's utterance leads to a joint understanding that the construct [*I'll see you later ADV*] is structurally similar to [*I'll see you later*], but pragmatically involves a completely different kind of behaviour: from A's greeting to B's commitment to meet again the same day.

Figure 2 illustrates the large scale, cross-cultural quantification of 2000 assertive speech acts involving dynamic resonance in Chinese vs American English interaction among family members, from the Callhome corpora of telephone conversation. In this case, it is possible to observe a clear cross-cultural mismatch emerges in favour of Mandarin speakers involving resonance occurring morphosyntactically, lexically and the distance between the original dialogic stimulus and the resonating construction. Each black dot represents one resonating exchange. The diamond-shaped symbols in the middle of the violin plots indicate that means of syntactic, lexical resonance and distance, respectively.

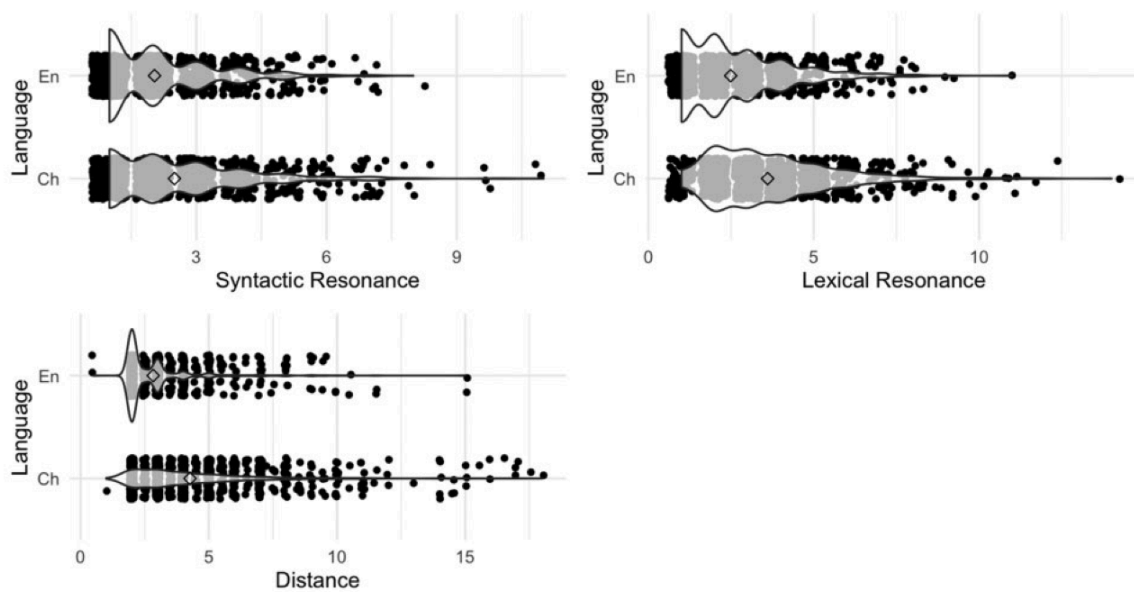


Figure 2.

A cross-cultural comparison of resonance occurring assertive speech acts.

(Author and X 2022a: 132)

One of the challenges in Pragmatics' research has always been the development of frameworks that could capture conversational and cooperative maxims and heuristics on a large scale. This issue is complicated by fact that Pragmatics primarily account for extra-propositional meaning that is often conventionally or conversationally implied. As a result, the discipline has traditionally been geared towards individual examples that could illustrate how meaning and socio-normative evaluations emerge from particular concurrences of context and utterances. In the last few years a new quantitative turn has been emerging in Pragmatics' research (Culpeper & Gillings 2019), with the aim of providing tools to measure implied meaning in context on a large scale. The DCM is in line with this trend in that it has the capacity to quantitatively account for dynamic resonance and

inform the degree to which interlocutors overtly engage with one another's language through dialogue. Most importantly, it provides the methods to enquire whether such engagement is creative and therefore pro-actively geared towards the continuation of information flow and reciprocity. At the same time, it also provides the tools to assess the degree of schematic abstraction (i.e. the establishment of new constructions) and creativity that is achieved from one turn to another in conversation, shedding new light on naturalistic speech in FLA, ASD, Intercultural Communication, Social Media, and Political debate, to name a few.

5. Recombinant creativity and socio-normative categorisation

In the seminal monograph "How the brain got language", Arbib (2012) identifies human capacities of complex action and recognition imitation as key for the phylogenesis of language, he describes this as:

"The ability to recognize another's performance as a set of familiar movements designed to achieve specific sub-goals and to use this as the basis for flexible imitation of the observed behavior. This extends to the ability to recognize that another's performance combines novel actions that can be approximated by (i.e., more or less crudely be imitated by) variants of actions already in the repertoire".

(Arbib 2012: 214)

Correspondingly, recombinant creativity serves four key functions of recognition imitation:

- i. Learning through engagement.
- ii. Strengthening.
- iii. Innovation.
- iv. Inhibition.

Speakers learn through engagement (i) when exploring recombinant variations in order to fit to normative communicative functions of their interlocutors and their community of speakers. A similar process involves knowledge strengthening (ii), as speakers constantly test the degree to which the extension of usages of a linguistic act or structure is conventional or idiomatic (cf. Goldberg on statistical preemption 2019). RC underpins innovation (iii), as speakers creatively seek for the extension of their communicative potential, and potentially the one of their community (cf. Croft 2007, 2010 on first, second and third order variation; Traugott & Trousdale 2013 on

innovation). Finally, RC may also underpin the large-scale inhibition of entrenched behaviour, favouring alternative way to express a recurrent communicative function. Examples fo this can be ad-hoc greeting variations as in [*See you again young man*] (BNC G5E PS285), or [*See you in a bit*] (BNC KC2 5522), instead of the conventionalised [*See you later*] in BE (cf. Author et al. 2018; Author & X 2020).

5.1 Recombinant creativity and social schemas

Intuitively, recombinant functioning is not only at work for linguistic constructions. It is also a fundamental component for the categorisation and the acquisition of socio-normative behaviour. This is because people do not just talk to one another, but are rather – more or less consciously – aware of the type of activity they are jointly engaged in (Tomasello 2008: 72) and jointly construct such activity type (Levinson 1979; Stokoe 2012), including the social roles that fit them (Berger & Luckmann 1966: 89–96; cf. also the notion of conceptual frames in Cognitive Semantics e.g. Fillmore & Atkins 1992). In this respect, Sacks crucially notes that a culture is “an apparatus for generating recognizable actions” (1992), whereby repetition and analogies across situated behaviours play central roles in constructing and recognising social norms.

Imagine a child who somehow happens to watch a boxing match on the television. S/he notices that at the end of the last inning the two contestants hug each other as a sign of fair play throughout the ‘fight’. The child may engage in complex imitation and adapt that behaviour at the kindergarten with one of his/her peers with the expectation that this will further improve their social relationship. For instance, she may recombine the punching component of the boxing ‘game’ into a judo class with his/her mates. Pretty soon s/he will learn that punching is bound to very specific activity types in order to be socially acceptable. S/he will eventually also learn that even in the context of a boxing competition, ‘punching’ is not necessarily conducive to the improvement of interpersonal relationships. This kind of recombinant mechanism will be at play in a variety of contexts via ‘real’ implementation, but also – increasingly often – simulation (e.g. Hurley 2008). The same process will involve the acquisition and the categorisation of the highly situated nature of various speech acts, such as ordering, requesting, asking and so forth. Just as for verbal or nominal slots of a schematic construction (e.g. the animate nature of Obj1 as part of the ditransitive construction [GIVE Obj1 *an/the* Obj2]), s/he will constantly recombine and re-use different kinds of linguistic and behavioural strategies in different social settings, which in some cases will prove socially unacceptable, in some others will be well received.

The recombinant component of socio-normative categorisation will also be key for the understating that certain actions are ‘universally’ (i.e. semantically) wrong, such is *killing* or *stealing*, meaning that negative evaluations of such actions are at play in almost every possible context and therefore can reach a very high degree of schematic categorisation, as in the social schema [KILL → UNACCEPTABLE], whereby the ‘→’ operator symbolically stands for *socially evaluated as*. Others will be understood to involve a lower degree of schematicity and therefore need to be situated contextually to be judged as socially acceptable or even commendable. An example of this would be the categorisation of the minimal context (cf. Terkourafi 2001, 2009) or conceptual frame (Fillmore 1976, 2006) of *boxing activity* and the socio-normative schema [PUNCH *in the context of boxing* → ACCEPTABLE].

Just like morphosyntactic constructions, social contexts and activity types are conceptually stored due to their varying token and type frequency. A highly frequent situation type that the child conceptualises, which also involves high token frequency, may be having breakfast at the kitchen table with his/her mother before going to school, or displaying the bus ticket to the school bus driver. These will be characterised by relatively conventionalised interactional formulas, e.g. *good morning, how did you sleep? Thank you* and so on. These will soon be conceptualised as involving a gradient range of possible interactional strategies and constructions. Throughout this whole process of schematic categorisation of socio-normative behaviour, recombinant creativity will be a fundamental component of the enactment of pragmatic competence and intersubjective awareness, as once again, categorisation will occur as a result of creativity through complex imitation and ways expressions can be recombined, e.g. [*Did you sleep well?*], [*Did you have a good night sleep?*], and so on.

5.2 Recombinant creativity and (Im)politeness

An important argument of this paper is that recombinant creativity is a key component of intra- and inter-cultural adaptation and understanding. (Im)politeness is a domain where RC is most prominent, as it requires the socio-normative understanding of what might cause offence to someone (cf. Culpeper 2011) in different contexts. In her frame-based politeness approach, Terkourafi (2005: 213) argues that expressions and behaviours become conventionalised when there is a “relationship holding between utterances and contexts, which is a correlate of the (statistical) frequency with which an expression is used in one’s experience of a particular context”. These count as polite as they become normative and go unchallenged (e.g. Terkourafi 2005; Haugh

2007a) and become part of expected behaviour in some situation. The categorisation of normative behaviour in context, in turn, requires a speaker's ability to engage in complex imitation and the capacity to recombine some components of situated interaction. This means that the categorisation of 'normatively polite' behaviour results from the proactive enactment and assessment of the components that are considered acceptable by a community of practise in some situation. Politeness (in the sense of politic engagement, cf. Watts 2003; X & Author 2021; Author et al. 2022) is therefore construed via an enactive process of recombinant implementation of possible 'behavioural slots' that are experienced to be normatively acceptable in some activity type or minimal context. Even throughout a process of inter-cultural adjustment and second language acquisition, speakers' ability to engage in recombinant creativity is a fundamental element of the categorisation of polite behaviour in context.

6. Conclusions

In this paper I discussed the fundamental role of recombinant creativity (RC) for interactional engagement and schematic categorisation of form and meaning. RC is an important dimension for research in Pragmatics and Cognitive Science in general. It occurs linguistically in the form of dynamic resonance, involving proactive re-elaboration of a previous utterance to express something new throughout a dialogic exchange. More broadly, RC involves the creative ability to recombine any form of human behaviour that is observed in context in order to achieve new social goals. RC is crucial for Pragmatics' analysis of engagement as it involves the enacted acknowledgement that what was said by a an interlocutor is relevant for the continuation of the interaction. It is also an important aspect of language learning that has not been emphasised enough in the usage-based literature, as it posits that morphosyntactic and semantic-pragmatic categorisation originate in the form of creative responses to interactional stimuli, rather than through 'mere' exposure to frequent language use. I argued that a multifactorial, large-scale annotation of recombinant creativity can inform a systematic analysis of interlocutors' degrees of engagement at talk. The recombinant dimension of language has important applications in autistic speech, first language acquisition, but also in inter-cultural communication and neighbouring social sciences (Author & X 2020; Author & X 2021a, 2021a, 2022a, 2022b; Author et al. 2022).

The second claim of this paper has to do with linguistic and socio-normative categorisation. Put simply, recombinant creativity is key for schematic abstraction. Analogy across constructions and activity types emerges when some elements/slots of two or more similar chunks or behaviours

can be successfully recombined so that semantic, formal and socio-normative categories can be identified. The enactive source of this process is dialogue and speakers' proactive attempts to re-use and recombine one another's constructions and behaviours via complex imitation. I proposed an operational annotation model to quantitatively account for this through dialogue, when constructional schematicity is at work. I defined this approach the Dialogic Categorisation Model (DCM), which proved to be a solid method for corpus-based analysis in a wide range of populations (FLA, ASD, intercultural adult speech and so on, cf. Author & X 2021a, 2021b).

I finally argued that the same recombinant component that triggers the categorisation of linguistic constructions is also a play for the intra- and inter-cultural understanding of social norms and bears significance for the enactment and conceptual understanding of (im)polite behaviour in context.

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