British conversation is changing:
Resonance and engagement in the BNC1994 and the BNC2014

Abstract:

This applied study assesses the degree to which speakers re-use parts of one another's utterances. This form of alignment is called resonance (DuBois 2014; Tantucci & Wang 2021), and is a decisive indicator of creativity and verbal engagement. Consistent absence of resonance indicates interactional detachment, which is distinctive of autistic speech (Tantucci & Wang 2023). We analysed resonance in naturalistic interaction among British speakers in the demographically sampled sections of the British National Corpora: the BNC1994 and the BNC2014. We controlled for creativity, age, class, gender, context, dialect, and intra-generational speech for 1600 turns of informal speech. We discovered that upper-class people from the corporate world and neighbouring sectors mutually resonated much more in 2014 than they used to in 1994. This may be due to the dramatic change in corporate and institutional communication in the 2000s, involving a new turn towards corporate social responsibility (CSR), participatory frameworks in higher education, and the enactment of ideologies such as inclusivity, engagement and equality in higher social grades of British society. This plausibly affected not only the system of values of those communities but also their interactional behaviour, now increasingly geared towards overt acknowledgement of other people's talk.

1. Introduction

This paper is centred on how interaction among certain classes of British speakers changed between 1994 and 2014. In particular, we focused on **resonance** (Du Bois 2014; Tantucci & Wang 2021a, 2021b, 2022a, 2022b), a mechanism of engagement at work when a speaker re-uses part of what was said by his/her interlocutor. Resonance is an important indicator of engagement because it shows, on a large scale, that what the other speaker says is considered relevant for continuing the ongoing interaction (Tantucci et al. 2022, Tantucci 2023). This clearly applies to socio-cultural contexts where both speakers have somewhat 'equal right to talk' and can proactively engage in conversation. This excludes activity types such as police interrogations, interviews, court trials, and any other context where the turns of one or more interlocutors are institutionally or socially constrained (e.g. Levinson 1979). A consistent absence of resonance in contexts without

institutional obligations or power constraints on both speakers is a marked sign of lack of engagement (cf. Tantucci 2023).

In this study, we looked at how British speakers 'resonate' with their interlocutors during spontaneous conversation, whether they do it more or less creatively, and, most importantly, whether this form of engagement has changed over time. What we found is that, after controlling for a substantial number of socio-demographic variables, British interaction appears to be geared towards an increasingly engaging style. This is reflected in how speakers creatively re-use the constructions and the words uttered by their interlocutors, thus engaging in so-called dynamic or creative resonance (Du Bois 2014; Tantucci & Wang 2021). More importantly, this form of interactional engagement has been increasing mostly among people in higher social grades, namely, speakers occupying leading managerial positions in the corporate world and neighbouring sectors, including doctors, university lecturers and politicians. Quite differently, the population from social grades involving manual labour and less institutionalised communities of practice did not show a significant increase in how they creatively resonate with the language of their peers. This change is consistent across gender, age and dialectal variation. However, these results are not meant to support a neo-positivistic view of language change (cf. Kraft 2015), i.e. one that would suggest that a higher degree of engagement and creative resonance would/should lead to a 'better society'. Rather, the aim is to point to a significant transition in how British people structurally interact with one another and how this is reflected in different social stratifications.

This paper is organised as follows: Section 2 will discuss how language change can occur relatively quickly. In section 2.1, the two national corpora of British English, the BNC1994 and the BNC2014 – compiled 20 years apart – will be introduced. Section 3 presents the notion of resonance and how it can be accounted for quantitatively in corpus-based research. In section 4, we discuss the data retrieval and the annotation of this study. This is followed by a mixed-effects linear regression and a mixed-effects conditional inference tree analysis of the change of resonance in the populations of the two BNC corpora in section 5. Section 6 is devoted to the discussion of our data, while in section 7 we formulate the conclusions of this paper.

2. British English changed fast in recent years

Several socio-cultural aspects may trigger language change. Labov (1994:11) famously suggested that 'historical linguistics can be thought of as the art of making the best use of bad data', as it will never be possible to account for all socio-cognitive factors that contribute to language change.

In the last few years, a considerable amount of research has been devoted to changes of British English occurring in relatively short time spans. For instance, sociolinguistic effects have been shown to determine gender asymmetries in innovation and propagation of new forms in the linguistic system, with women significantly driving language change (Hudson 1996: 202; Nevalainen 2006: 360–361; Tagliamonte & D'Arcy 2009: 63). A relatively new sociolinguistic strand of language change occurring in short spans of time involves grammaticalisation patterns that are recurrent across individuals (Petré & Van der Velde 2020). Sociolinguistic studies of historical change have been mostly drawing on the so-called 'apparent-time method', taking speakers' age cohorts as proxies for time spans (e.g. Sankoff & Blondeau 2007:582, Tagliamonte & D'Arcy 2009:61). Starting from early 1900s (e.g. Gauchat 1905; Hermann 1929), this approach became extremely popular in variationist sociolinguistics (Labov 1963, 1966; Bailey 2002). However, it has been recently noted that this runs the risk of conflating variation with age grading (Trudgill 1992:368–70). Petré & Van der Velde (2020) suggest that the apparent-time approach may underestimate the rate of change and downplay the effective participation of older generations in ongoing variation. Put simply, the idiolect of a seventy-year old is unlikely to match the language use of when s/he was an adolescent. This means that adults' language use cannot be seen as diachronically crystallised, and, with the availability of data, it would be a methodological advantage to take this into account (cf. Petré & Van der Velde 2020: 869). Baker & Heritage (2022:566) similarly note that age may reflect what is perceived as the appropriate use of a particular form (e.g. the modal *ought* to be currently perceived as archaic by young British speakers) but may also relate to how age groups change their own language longitudinally.

While traditional approaches posit a number of demographic covariants for the analysis of intra-linguistic variation, Tagliamonte (2012: 353) observes that processes at different rates of change across landscapes may involve not only bare levelling of regional dialects, but also the changing types of communities as almost discrete entities (see Britain 2002; Cheshire et al. 2008; Kerswill et al. 2009a, 2009b), with age differences within a speech community not necessarily being only the result of ongoing generational change or geographical specificity. Dubois & Horvath (1998: 257) found that the resurgence of older Louisiana Cajun English features among younger generations of speakers was due to an increasingly positive evaluation of Cajun identity as a social construct that was not restricted to regional diversity. This is just an example of how social networks should not be accounted for exclusively in terms of regional and temporal variation, but also by their engagement with socio-economic change (e.g. Stuart-Smith 2010; Tagliamonte 2012). Numerous case studies since the 1990s have demonstrated that language change can happen over

decades. For one, rising intonation has become increasingly more common among younger speakers in recent years in Australian and New Zeland English (Guy & Vonviller 1996; Warren 2005). The presence of core modal forms in informal spoken British English has been found to have decreased between the 1990s and 2010s (Love & Curry 2021), further confirming the decline of English modal auxiliaries in their frequency of use between the 1960s and the 1990s (Leech 2003).

Labov identified several sociolinguistic factors that dialogically influence change, even at such rapid rates:

i. the principle of least effort (everyone shortens, reduces, and eliminates anything that's not necessary).
ii. the principle of density (who you hang out with the most is who you sound like).
iii. the principle of imitation (you imitate who you admire).

(Labov 2001:16)

The focus of the present study is on engagement as a byproduct of the reformulation – and expansion – of another speaker's utterances. This is related to the principle of both density (ii) and the one of imitation (iii). What this means is that people tend to engage with their peers especially when they (re)use their language and make it relevant for the continuation of the interaction. In section 5, we will present data indicating that creative resonance has been increasing among high social grades in British society, while it stayed relatively stable among speakers from lower social grades.

2.1 BNC1994 and BNC2014

The spoken component of the original BNC1994 is currently "one of the biggest available corpora of spoken British English" (Nesselhauf & Römer 2007: 297) and informed largely the creation of the Spoken BNC2014. The spoken portion of the BNC1994 was created to serve as a sample of British English spoken conversation (Burnard 2007). It was developed between 1991 and 1994 and was split into two sections: the context-governed section (about 60%) and the demographically-sampled section (about 40%) (Aston & Burnard 1998; Love et al. 2017:321). The present study is centred on demographically sampled (DS) interaction from both corpora. The volunteers who recorded their conversations with other speakers for the DS section of the BNC1994[1] and,

[1] 124 contributors recorded the language of 1227 speakers (15+) from throughout the UK.

subsequently, the BNC2014, were "selected by age group, sex, social class, and geographic region" (Aston & Burnard 1998: 31) and were recorded while engaging in everyday spontaneous interactions. The goal was to hire an equal number of men and women, individuals from each of the six age groups, and individuals from the four social classes (Aston & Burnard 1998: 32).

Some minor design and metadata flaws exist in the Spoken BNC1994 (e.g. Love et al. 2017: 323), however, the corpus had a remarkable impact on research in a variety of fields, including grammar (Rühlemann 2006; Gabrielatos 2013; Smith 2014), sociolinguistics (Baker & McEnery 2005; Säily 2011; Xiao & Tao 2007), conversation analysis (Rühlemann & Gries 2015), pragmatics (Wang 2005, Capelle et al. 2015; Hatice 2015; Tantucci 2016; Culpeper & Tantucci 2021), and language teaching (Alderson 2007; Flowerdew 2009).

A key challenge for collecting and interpreting DS data is that a general corpus of informal speech involves careful planning due to the requirements of size and demographic distribution (cf. Love et al. 2017). The goal of the compilers of Spoken BNC1994 was to collect a vast array of linguistic data from diverse sources to create a comprehensive sample of British interaction (Wichmann 2008: 189). This meant creating a corpus representative of "the language production of the population of British English speakers in the United Kingdom" (Crowdy 1993: 259). Representativeness here was pursued by sampling a spread of language users based on age, gender, social group, and region and recording their language output over a set period (Crowdy 1993: 257). Similar principles guided the compilation of the DS section of the BNC2014, which, albeit not longitudinal, still made the two corpora comparable for diachronic enquiries[2]. While it has been noted that no corpus can be exhaustively representative of a whole linguistic system, a multivariate rationale for the selection and description of naturalistic interaction can encourage proportionality between – and variability within – the demographic categories of a reference corpus (Burnard 2002: 5-6). In this study, we controlled for the socio-demographic variables discussed above whilst comparing the degree of creative imitation at talk (creative resonance) – as a byproduct of dialogic engagement – of British speakers in 1994 and 2014.

3. Resonance

[2] Worth acknowledging is that the BNC2014 does not contain a context-governed section. The BNC2014 DS section includes a larger dataset than the BNC1994 DS part (11.4 million words as opposed to 5 million words). One reviewer also suggested that, unlike the BNC1994, the BNC2014 did not include a pre-determined demographically sampled set of recruits.

Resonance is a form of alignment that involves the dialogic imitation and/or recombination of what is said by an interlocutor, namely the constructions that they used (cf. Du Bois 2014; Tantucci & Wang. 2022a). The notion of constructions as holistic pairings of form and meaning has been a cornerstone of the usage-based approach in Cognitive Linguistics (e.g., Langacker 1987; Goldberg 1995, 2006; Kay & Fillmore 1999; Tomasello 2003; Traugott & Trousdale 2013) and Pragmatics (Schmid 2021; Tantucci 2015, 2017a, 2017b, 2020, 2021). Constructions are acquired naturally through interaction. Speakers constantly hear and re-use forms that share similar semantic and/or morphosyntactic features. This boosts their ability to categorise meaning and produce new forms that bear similarities to the ones they experienced. The usage-based approach traditionally placed a strong emphasis on naturalistic interaction. However, people's capacity to categorise constructions is normally discussed as a mechanism involving one single speaker. In recent years, greater attention has been placed on how constructions are enacted through dialogue, that is, by two or more interlocutors. New models of dyadic cognition have been developed as a result (Arundale 2008; Arundale & Good 2002; Haugh 2010; Weigand 2018; Tantucci 2023) in which the structure and meaning of utterances are not solely represented by one mind, but, rather, frequently re-calibrated and re-conceptualised by both speakers during turns at talk (Dingemanse 2020: 24). The concept of dialogic constructions has thus become a central component of Emergent Grammar (e.g. Hopper 2011) and Dialogic Syntax (cf. Du Bois 2014; Zima & Brône 2015; Tantucci et al. 2018) in that these are created as a result of dialogic engagement between interlocutors (Du Bois 2014; Du Bois & Giora 2014; Su 2016).

Dialogic constructions frequently entail the creative re-elaboration of forms and meanings during the course of interaction (cf. Tantucci & Wang 2021a; 2021b). This means that speakers must quickly adapt to new dialogic stimuli. Linguistic processing is therefore not only idiosyncratic and not solely focused on fixed 'chunks' of language but also fundamentally recombinant (Tantucci 2023), in a way that what an interlocutor says is often textually acknowledged to be relevant for the continuation of the interaction. In this sense, resonance in conversation is key, as interlocutors constantly re-use and re-combine the form and/or function of their interactants' utterances (Du Bois 2014) to realise morphosyntactic, semantic and pragmatic analogies 'on the fly' across talk turns (cf. Fischer 2008; Gentner & Christie 2010).

This mechanism is important for several reasons. It involves shared categorisation, innovation and other important mechanisms serving language acquisition and language change. Most importantly, creative resonance is a fundamental component of interactional engagement, as it overtly expresses alignment with one another interlocutor's speech. It is a way to 'cite' someone

else during a dialogue. Generally, academics love citations. They are positive face boosters (cf. Brown & Levinson 1987), as they textually acknowledge that our work is relevant to someone else in the academic community. Something very similar occurs in everyday conversation, namely when people resonate with what we said. Consider the naturalistic exchange among family members from the DS section of the BNC1994:

[AB couple chatting with their son about tomorrow's plans]

(1)

F: <-|-> But **I <-|-> don't think you'll be well enough to go swimming**.

M: **I don't think you'll be fit to swim**, do you?

C: **I'll be even better tomorrow**.

M: Well, **you'll have to be very better tomorrow** before we went swimming.

BNC1994 KBW 5730

	I	*don't think*	*you'll be*	$AP_{physical}$	TO SWIM	IF
F:	*I*	*don't think*	*you'll be*	*well enough*	*to go swimming*	evaluation
M:	*I*	*don't think*	*you'll be*	*fit*	*to swim*	evaluation

Table 1.

Diagraph of [*I don't think you'll be* AP *to SWIM*]

In example (1), resonance occurs across the father's (F) and the mother's (M) turns, with F's utterance *I don't think you'll be well enough to go swimming* being recombined by M in the form of *I don't think you'll be fit to swim*. There are several formal and functional analogies between the two constructs. First, there is a verbatim repetition of the internal constituents, *I*, *don't think* and *you'll be*. Then, the adjectival phrase ($AP_{physical}$) which in this context expresses physical fitness *well enough*, is replaced with *fit* by M. The predicate *to go swimming* is also recombined in the form of *to swim*. All of these modifications serve agreement among parents but also boost interactional progressivity, that is, the uninterrupted sequence of turns and actions among interlocutors (Schegloff 2007). This is because M reinforces F's point in preparation for the following tag question *do you,* addressed to the child (C) who, in turn, is summoned to respond to both parents' evaluations. A key aspect of speakers' re-using one another's language creatively is that they textually acknowledge that what was said is relevant for the continuation of the ongoing interaction

(Tantucci 2023). As we mentioned, this can be considered as a spoken 'citation' of one interlocutor's speech, which functions as a rapport enhancement strategy (Spencer Oatey 2005).

The exchange further progresses when C comes in, resonating with his parents by realising a commissive speech act: *I'll be better tomorrow.* This is when M also engages with C's speech, as she creatively resonates with his construction so as to express a warning: *You'll have to be very better tomorrow.* This creates new affordances for shared categorisation of a more abstract construction [Pers Pronoun *'ll* BE *better tomorrow*], as *I* is dialogically replaced with *you*, *be* is marked with the deontic auxiliary *have to*, and *better* intensified with *very*, as shown in the diagraph in Table 2.

	Pers Pronoun	*'ll*	BE	*better*	*tomorrow*	IF
F:	*I*	*'ll*	*be*	*better*	*tomorrow*	commissive
M:	*You*	*'ll*	*(have to) be*	*(very) better*	*tomorrow*	warning

Table 2.

Diagraph of [Pres Pronoun *'ll* BE *better tomorrow*]

The above shows how complex imitation (Arbib 2012), that is, imitation that is often recombinant and functional to achieving new goals, is a crucial feature of spontaneous interaction. This capacity serves both categorisation of form and meaning and textual engagement between speakers. Conversely, consistent absence of resonance from other interlocutors' speech has been found to be a significant phenomenon in populations with Autism Spectrum Disorder, ASD (cf. Du Bois et al. 2014; Tantucci & Wang 2023). For the current study, we operationalised resonance to analyse the degree of creative engagement in British English spontaneous conversation in 1994 and 2014. In particular, we aimed to see whether class, gender or age would shed light on how certain segments of the British population interact dialogically in the 21st century and whether this changed over time. This constitutes an important socio-linguistic and socio-pragmatic turn in Dialogic Syntax, as it is the first to address resonance from a variationist perspective (see Tantucci & Wang 2021, Tantucci et al. 2022 for synchronic cross-cultural and cross-generational comparisons).

4. Data retrieval and annotation

We retrieved 1600 ‘turns at talk’ from the demographically sampled (DS) section of the BNC1994 and BNC2014, 800 in each (cf. section 2.1 on DS sampling). The retrieval involved searching for any ‘token’ element[3] in the DS section of both corpora after controlling for speakers’ demographics using CQPweb as a corpus tool (cf. http://corpora.lancs.ac.uk/BNCweb/, last accessed 10/05/2023). This allowed us to randomly retrieve the dialogic material uttered, say, by female speakers in 1994 from AB social grade, aged between 25 and 44. We then ensured that each dataset included an even distribution of turns across all the selected demographics. Turns’ lengths above 30 words were discarded (and subsequently randomly replaced). This affected only a small portion of the original retrieval, as the average word count of turns at talk per turn in our data was 9[4].

In both corpora, we measured the degree of resonance occurring from one turn to another by controlling for speakers’ class, gender, dialect, intra vs inter-generational exchanges, the speech event ID, presence of backchannels, distance of the resonating construction from the original input, and the illocutionary force of the resonating construction. A sample line of the input of all these dimensions is given in Table 3:

Class	Age	Text_ID	Resonance	Distance	Gender	Backchannels	IF	Time	Dialect
AB	25-44	KBC	3	2	Male	absent	assertion	1994	North

Table 3

Input for the annotation of resonance

We relied on several criteria to ensure the replicability of this approach. In the rest of this section, we will illustrate how we annotated each variable and which were the diagnostics for inter-rater reliability across annotators.

Class in the BNC is addressed by speakers’ social grade, which refers to their occupation (Love et al. 2017). For the BNC2014, social grades were contrasted with the National Statistics Socio-economic Classification (NS-SEC).

NS-SEC	Description	BNCSocial Grade	Description

[3] In the cqpweb version of the BNC this is retrieved as {*}.

[4] While the turn length in the present dataset was fairly stable, there may be other modes of communication with remarkable length disparity across turns. For data as such turn length could be controlled in the fit of the model.

1	- Higher managerial, administrative and professional occupations - Large employers and higher managerial and administrative occupations - Higher professional occupations	A	- Higher managerial, administrative and professional
2	- Lower managerial, administrative and professional occupations	B	- Intermediate managerial, administrative and professional
6.7	- Semi-routine occupations - Routine occupations	D	- Semi-skilled and unskilled manual workers
8	- Never worked and long-term unemployed - Students/unclassifiable	E	- State pensioners, casual and lowest grade workers. - Unemployed with state benefits only

Table 4.

NS-SEC and Social Grade assumed for BNC2014 metadata (adapted from Love et al. 2017)[5]

As we can see from Table 4, the BNC classification of social grades is based on occupation. Higher levels (A, B) of the rank primarily refer to managerial positions in the corporate world and other administrative and professional sectors (e.g. university lecturers, politicians and so on). Manual workers, state pensioners, casual/lower-grade workers and unemployed with state benefits occupy the lowest end of this classification[6]. Interestingly, a decisive difference between the two poles underpins whether people occupy an important role in the corporate world (AB) – and neighbouring sectors – or whether they do not (DE). This is a key point that the analysis in Section 5 and the discussion in Section 6 will return to. For our annotation, we included a categorical variable for Class, including the highest (AB) and the lowest (DE) ends of the rank in Table 4. We excluded dialogues with speakers from different social grades. Based on the Age classification of the BNC, we controlled for speakers aged 25 to 44 and 45 to 60. For dialect, we accounted broadly for Midlands, North and South variants so that a comparison between the BNC1994 and BNC2014 could be possible. We looked at whether a backchannel (e.g. turn initial expressions acknowledging what has been said, e.g. *yeah, well, uhm* and so on) would occur at turn initial position. We also looked at the illocutionary force with reference to Searle's classification (1975), including

[5] Table 4 comprises the highest and lowest social groups, whereas social group categories 3-5 or C1 and C2 have not been included. The rationale for this was to capture variation in resonance at the two social grade extremes of the DS population in the BNC corpora.

[6] Homeless people and people in prison are not represented in either corpus. The government classification schemes do not include these identities. The ACORN system (A Classification of Residential Neighbourhoods) in the UK is a geographic segmentation tool that categorises the UK's population into demographic profiles. It includes homeless people as numbers 60, 61 and 62, but it seems unlikely that a corpus-building project of speech would be able to reach them without making special efforts.

declarations, expressives, directives, and commissives. Following Tantucci et al. 2022 (see also Tantucci & Wang 2018, 2020), we further divided representatives into assertives (i.e. whether a proposition is given as a factual statement, e.g. *It's raining*), evaluations (whether a proposition is given as a personal opinion, e.g. *I think it's raining, maybe it's raining*), presentatives (whether a proposition is presented to the hearer without commitment to the truth of it, e.g. in evidential strategies such as *apparently it's raining;* see, 2016; Tantucci & Wang 2018 for a detailed model for the annotation of representatives). The most important variable for the present annotation was resonance. For this, we relied on the Dialogic Categorisation Model (DCM) (Tantucci 2023), which is based on the following conditions:

i. Resonance can be identified when there is at least one word – including interjections or pragmatic markers – that is repeated verbatim from interlocutor A to B.
ii. The measurement of resonance is based on the number of internal constituents of the dialogic construction that emerges from both A and B's constructs.

Condition (i) means that B textually re-used at least one lexical item of A's turn. This was the case for *'ll be better tomorrow* in M's turn from example (1). This choice draws on the notion of lexical boosting, stressing that the presence of the same lexical items of an original prime significantly favours syntactic alignment (cf. Pickering and Ferreira 2008; Pickering and Garrod 2021). Now, resonance normally involves more than mere repetition. It underpins the formation of a dialogic construction that emerges from both speakers' structures. In the case of M's utterance in (1), the emerging construction is [*I don't think you'll be* AP TO SWIM] as, respectively, *well enough* and *fit* are both generalisable as adjectival phrases ($AP_{physical}$) of physical fitness, *to swim* and *to go swimming* are both instantiations of the more general lemma SWIM. The resonance value then includes all the internal constituents of the emerging dialogic construction [I don't think you'll be $AP_{physical}$ TO SWIM], namely 9. Importantly, each constituent's schematicity (abstraction) depends on the degree of variation in the same slot from A to B's utterance. If the constituents are the same, then the node is not schematic, e.g. from A: *'ll* to B: *'ll* in (1). If they vary, the immediately 'higher' node in a schematic network is the one to consider, e.g. Pers Pronoun – rather than Pronoun, or NP – in the transition from A: *I* to B: *you* in (2).

We can put this model into play starting with example (3) from our dataset:

(3)

[DE speakers 25-44 discussing about Airbnb ratings]

A: **I think you need to write we need to write what we**.

B: **Yeah you cou- you you write a full like review of it** it's in email in the asking me to do it but I've just not done it yet (.) you don't just give one star and that's it you write like a paragraph.

BNC2014 S2DD 128

	PM_{stance}	Pers pron	Mod Aux	WRITE	Obj	IF
A	*I think*	*you/we*	*need*	*to write*	*what we…*	evaluation
B	*Yeah*	*you*	*could*	*write*	*a full like review of it*	evaluation

Table 5.

Diagraph of [PM_{stance} Pers-pron Mod-Aux WRITE Obj]

Here is how we annotated example (3). Sociodemographic data were imported directly from the BNC. In this BNC1994 excerpt, the Class of the resonating speaker corresponds to social grade DE, Age is 25-44, the gender is Male, and the dialect is Northern. The turn starts with a backchannel, namely *Yeah.* The speech act is evaluative (the speaker expresses a personal opinion via the modal auxiliary *could*). We identified resonance (our dependent variable) due to the lemma WRITE being repeated from interlocutor A to B (see condition i. above). The resonance value is 5, which is obtained by counting the number of internal constituents of the dialogic construction that emerges from A and B [PM_{stance} Pers-pron Mod-Aux WRITE Obj]. This means that the larger the emerging construction from a diagraph, the higher the resonance score, indicating a stronger effort of speaker B to engage with what speaker A said. The distance from the prime to the resonating construct is measured in intonation units IUs (cf. Chafe 1994), corresponding to a single intonation contour (Chafe 1994; Croft 1995; Du Bois et al. 1993; Tao 1996). IUs end with a continuing or falling intonation contour and are normally separated by a short pause. They are generally made of a single clause, which contains one verb plus commonly known phrases associated with it (Chafe 1994: 14). In this case, the IU occurs immediately after the original construction and is thus annotated as 1.

A second example from our dataset is given in (4) below:

(4)

[AB speakers 25-44 discussing about food]

A: I don't like hummus as much as my family does.

B: so but okay I I I.

A: **I've eaten so much of it in my life**.

B: **I could eat a pot a day**, it's so good I don't think it fucks up your insides either (…).

BNC2014 S29Q

	I	EAT	Part Obj	Temp Adv	IF
A:	*I*	*'ve eaten*	*so much of it*	*in my life*	assertive
B:	*I*	*could eat*	*a pot*	*a day*	expressive

Table 6.

Diagraph [*I* EAT Part Obj Temp Adv]

In example (4), two friends are at a restaurant chatting about food, hummus specifically. A's turn first includes the construct [*I've eaten so much of it in my life*], which is then resonated in the form of [*I could eat a pot a day*]. Creative resonance from A to B involves the recombination of some of the internal constituents of A's original utterance so that a more schematic construction emerges interactionally. In fact, the first person pronoun *I* remains the same in both turns, while *'ve eaten* and *could eat* are specific instantiations of the lemma EAT. *So much of it* and *a pot* both have the function of a partitive object. Similarly, *in my life* and *a day* are both specific instantiations of a more schematic Temporal Adverbial node[7]. Most importantly, formal and functional analogies from one construct to the other also involve a change in the illocutionary force of each speaker, from an assertive to an expressive one. What this shows is that resonance involves creativity. It is not simply aimed at formal alignment with the language with an interlocutor but also creates pragmatic affordances for advancing the flow of the conversation, realising new actions and boosting progressivity across interlocutors.

Just like for (3), the annotation of this row is again based on the sociodemographics of speaker B from the BNC2014. In this case, these are: Class AB, Age 25-44, Male, Midlands. The resonance value here is 4, corresponding to the internal constituents of the emerging dialogic construction [*I* EAT Part Obj Temp Adv]. The distance corresponds to 1 IU, as B's construction immediately follows the one realised by A. The illocutionary force underpinning B's construct is expressive, as the speaker discloses his/her preference for that particular type of food. A case where resonance is absent is in (5). A provides information about what a mutual friend is doing, while B

[7] In Dialogic Syntax, analogy occurs at various levels of abstraction. In (3), the temporal adverbials *a day* and *in my life* express something very different temporal meanings. This is precisely what fosters the progressivity of the conversation and allows B to contribute creatively to A's talk.

does not creatively resonate with anything that was said and simply responds to what she heard with *nice*.

(5)

A: She's writing a children's book, erm, well she's written one, and it's going around to the publishers and she's written or she's writing a second.

B: Nice.

BNC1994 KBF 8974

Three annotators reviewed the data in three separate stages to ensure consistent results. We identified and clarified differences in the annotation of resonance across all 1600 occurrences in our dataset. The annotators' agreement, measured by Cronbach's alphas, was $\alpha = .72$, $\alpha = .76$, and finally $\alpha = .93$ at each analysis stage. A 25% sample of the data was independently annotated at each stage, and any discrepancies were discussed and resolved among the annotators before moving on to the next randomised sample. As we expected, more challenging was reaching agreement upon the illocutionary force of resonating constructions, which is more qualitative in nature. In this latter case, Cronbach's alphas agreement resulted in $\alpha = .56$, $\alpha = .66$, and $\alpha = .77$ in the last round of annotation[8], with the remaining 23% of cases being resolved among annotators. As Jucker notes, a level of +70% is normally considered adequate, especially if functional categories are involved (Jucker 2018: 459).

5. Analysis

The most important predictor of resonance across our data was Class. As we mentioned in Section 4, this variable was originally controlled via profession type in the original design of BNC1994 and BNC2014, referred to as social grade. The violin plots in Figure 1 can give a first account of the mean difference in resonance across AB and DE social grades when comparing the BNC1994 and BNC2014.

[8] This indicator is unavoidably less stable than resonance, as it is not based on a quantitative assessment of the internal constituents of a resonating pattern, but is rather informed by the most obvious speech act that is being performed when resonance is present.

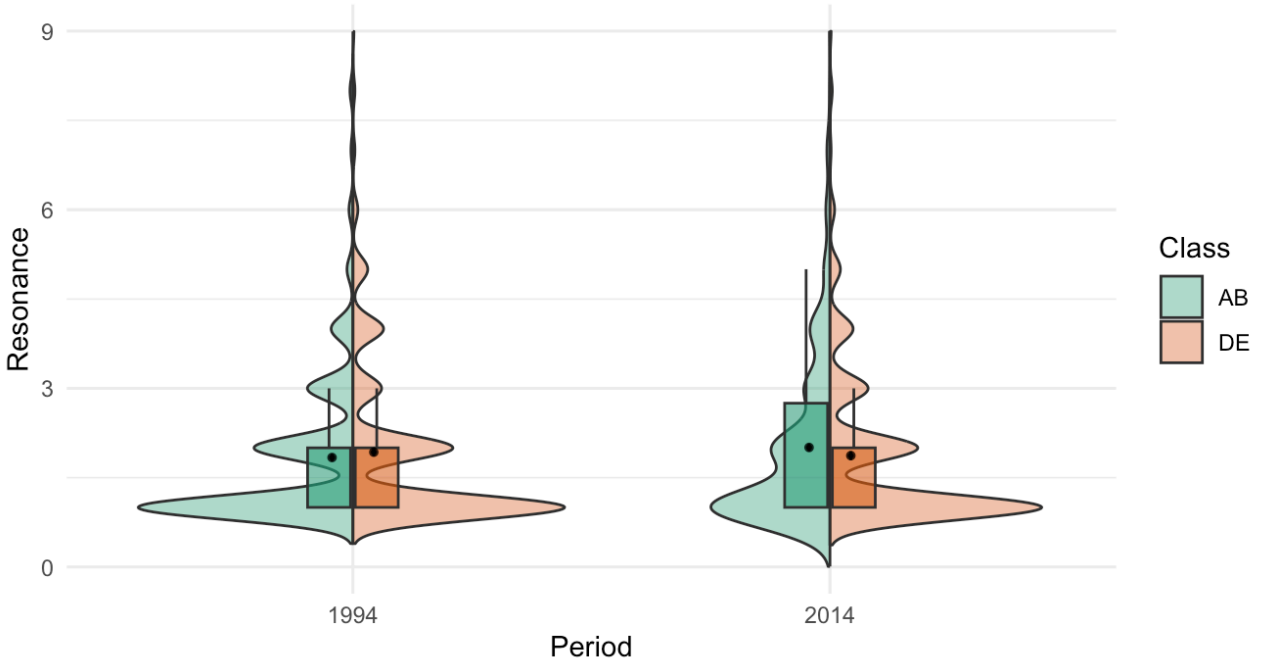

Figure 1.

Resonance across Class in BNC1994 and BNC2014

What is evident from the descriptive plot in Figure 1 is that, while the general values of resonance of lower social grades DE remained roughly the same, there is a clear increase from 1994 to 2014 in the way people from AB social grades resonate with each other. We confirmed this by fitting a mixed-effects multilinear regression (Baayen & Davidson 2008), obtained via step-wise forward selection of models via ANOVA and AIC comparison (cf. Levshina 2015)[9]. The predictors of our model were Period, Class, Age, Region, Gender and, most crucially, the interaction between Period and Class. The random effects were speaker ID, the range of distance from the prime to the resonating construction and the source of resonance, that is, speaker B resonating with speaker A, with him/herself or both (this was a categorical variable with three levels accounting for whether the re-used linguistic material originated from A or B's own speech).

Random Effects			
Groups	Name	Variance	Std. Deviation
ID	(Intercept)	0.156	0.395
Distance	(Intercept)	0.541	0.736
Source	(Intercept)	0.233	0.482

[9] R2c: 0.32. The goodness of fit of the model has been assessed with the simulateResiduals() function from the DHARMa package (Rstudio).

Residual		1.91	1.382	
Fixed Effects				
	Estimate	Std. Error	T value	Pr(>|t|)
(Intercept)	1.23	0.531	2.312	0.0415 *
Period2014	0.663	0.356	1.862	0.0970 .
ClassDE	0.311	0.329	6.805	0.3776
Age45-60	0.268	0.141	1.905	0.0607 .
RegionMidlands	0.176	0.409	0.432	0.6790
RegionNorth	0.409	0.384	1.065	0.3192
RegionSouth	0.359	0.317	1.134	0.2927
GenderFemale	-0.003	0.137	-0.025	0.98
Period2014:ClassDE	-0.969	0.423	-2.290	0.0414 *

*Signif. codes: 0.0001 '***' 0.001 '**' 0.01 '*' 0.05 '.'*

Table 7.

Mixed effects multilinear regression of Resonance in BNC1994 vs BNC2014

The random effects section at the top of the table comprises the standard deviation, i.e. the variability from the predicted values due to the random effects added to the model. The fixed effects are reported below, with the estimate column showing the coefficients that predict the slopes relative to each predictor.

As specified at the bottom right of the table, significant values are marked with one or more asterisks (*), while tendencies that approximate significance are marked with a dot (.). As we can see, there is no significant difference in degrees of resonance as such in the comparison between BNC1994 and BNC2014, despite a clear tendency towards an increase for the latter. Similarly, Class alone is not significantly a factor if Period is not considered. More mature generations (Age 45-60) also show values of resonance that only approximate significance (β= 0.268, p=0.067). Neither regional dialects nor gender significantly affected how people engage and resonate with one another in DS conversation. Most crucially, the only fully significant value of the model specifically hinges on the interaction between Period and Class, showing a decrease of resonance of Class DE in 2014 (β=-0.969, p=0414), in contrast with AB, in turn showing an increase. This mismatch can be better captured in the boxplot in Figure 2., showing the predicted means of resonance across social grades in the transition from 1994 to 2014:

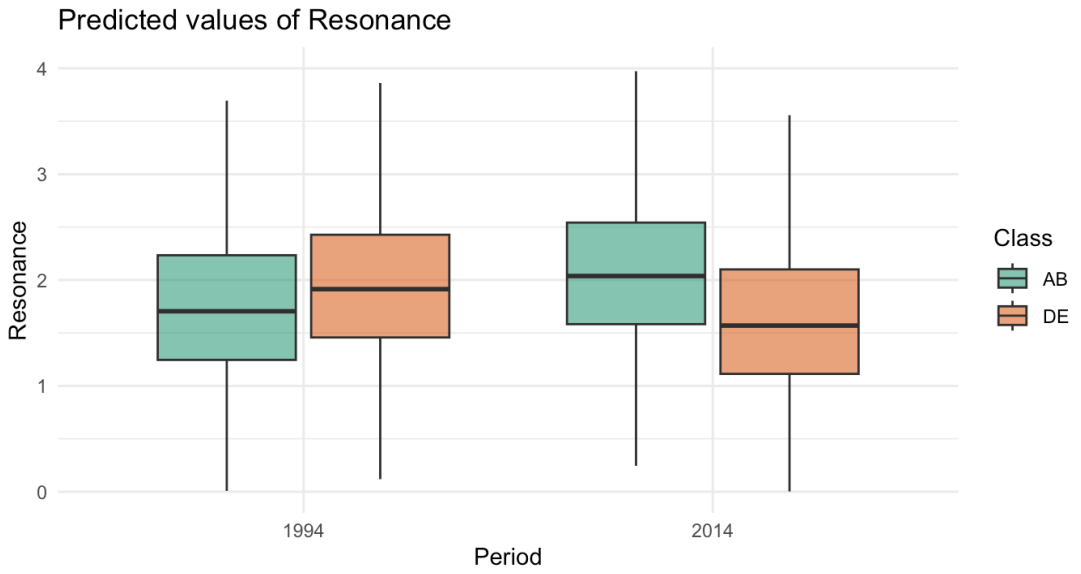

Figure 2.

Predicted values of Resonance across social grades in the BNC1994 vs BNC2014

The predictive boxplots show a significant increase in resonance amid the AB population. This coincides with the prediction of diminished resonance among people from DE social grades. In other words, people from higher social grades, specifically those operating within or connected to the corporate world and higher education, have been changing how they interact. Higher resonance values entail higher textual engagement with what an interlocutor says and higher levels of recombinant creativity (Tantucci 2023), that is, the capacity – and presumably the intention – to take the cue from someone else's interactional behaviour to express something new.

A rather obvious speculation to explain this is the dramatic transition towards a new way to interact and engage in the corporate world and neighbouring sectors in the 21st century, both in the communication with external stakeholders, but also in the way inclusivity and equality have been enacted in the workplace of professions corresponding to social grades A and B (cf. Table 4 in Section 4). We will expand on this key point in the Discussion in Section 6.

A final stage of our analysis concerned the way resonance in DS conversational interaction generally correlated with whether speakers markedly acknowledge that what has been said is relevant, no matter the social grade. This often occurs in turn-initial position, i.e. via more or less conventionalised backchannels, such as *yeah, definitely, that is absolutely true*, and so on. Similarly, we wanted to see whether different types of illocutionary force would predict different levels of resonance and engagement 'at talk'. To achieve this, we fitted a mixed-effects conditional inference tree (cf. Fokkema & Zeileis 2019), with resonance as a dependent variable, Illocutionary force (IF),

Backchanneling, Gender[10], Age and Period as predictors, while speakers' ID was fitted as a random effect. The results of our model are given in Figure 3:

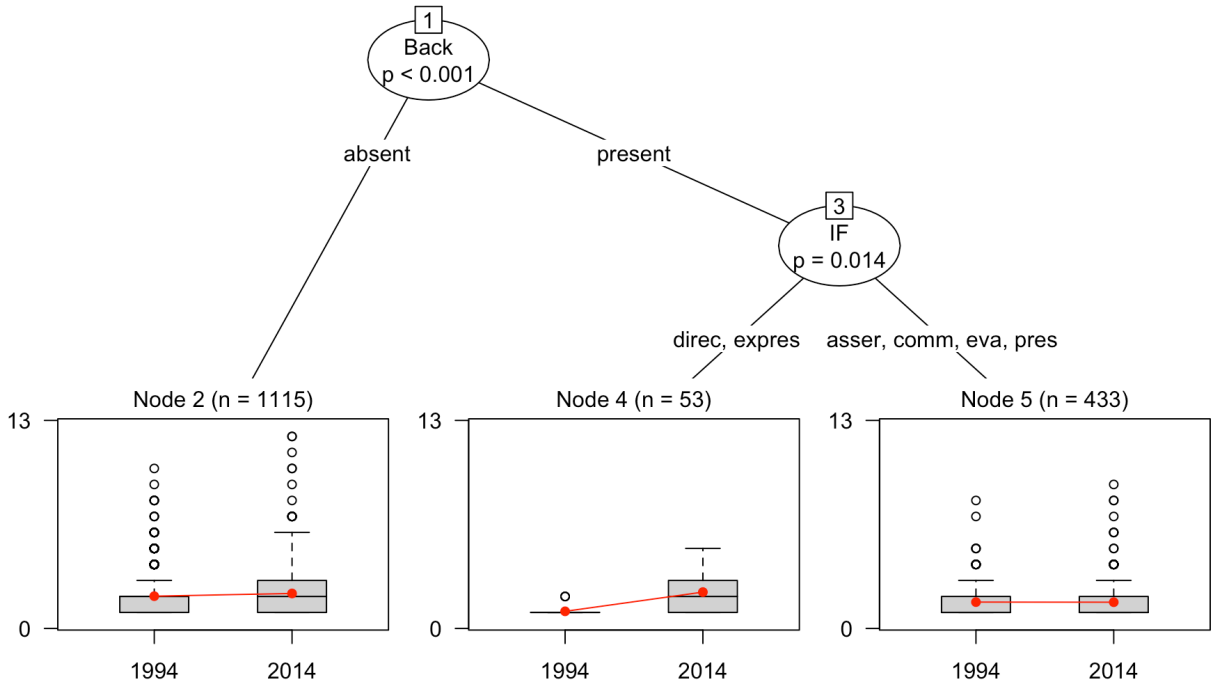

Figure 3.

Mixed effects conditional inference tree of resonance in BNC1994 vs BNC2014

The tree in Figure 3 is a data-driven one (it has nothing to do with generative trees). It results from a machine learning algorithm that constructs a hierarchical structure of decision nodes. It is based on Chi-squared testing at each decision node to determine where to partition the data to predict the target variable, which in our case was resonance. The plot is to be read from top to bottom. Starting from the first node, the first significant split has to do with backchannels (Back): in their absence (diagonal line on the left), there is a marginal, yet significant increase of resonance as a whole in BNC2014 compared to the BNC1994 (Node 2). This suggests that, in recent years, the degree of resonance in DS conversation has been increasing even in the absence of turn initial markers acknowledging what was just said.

In contrast, the presence of backchanneling strategies in turn-initial position determines a significant split in the association between resonance and speech acts. In fact, node 3 of the plot (the one where the diagonal line on the right culminates) shows that 2014 has seen a dramatic

[10] Gender was fitted in our formula, but was not computed as a relevant factor for the prediction of resonance by the conditional inference tree model in Figure 3.

increase in directives and expressives, while things remained fairly stable for the other speech act types included in the survey, i.e. representatives (assertions, evaluations and presentatives) and commissives. Now, the sample of cases where this happened is relatively small (Node 4, n=53), but statistically significant nonetheless. Directives can be face-threatening (cf. Brown & Levinson 1987). In this sense, overt relevance acknowledgement (via backchanneling) paired with resonance can be used as a face-saving strategy to mitigate the level of imposition of what is being said. Expressives, in turn, can be geared towards affiliation, as they often reduce the social distance among interlocutors, e.g. when serving banter among friends (e.g. Culpeper 2011) or when serving personal disclosure. The combination of this speech act type with backchanneling and resonance has also increased across generations and social grades in the BNC2014.

6. Discussion

This study's most important finding is that British DS conversation has been changing towards a more engaging style in AB social grades, while the same did not happen for DE ones. One key aspect of the BNC1994 and the BNC2014 design is that higher social grades come from professions directly or indirectly connected to the corporate world and higher education. Since the early 90s, corporate governance discourse evolved in a way that shaped and reinforced self-regulatory frameworks and keyholders' expectations (Jones & Pollitt 2004; Nordberg & McNulty 2013). The corporate world and affines (e.g. academic institutions, governmental bodies and so on) have been moving away from state responsibility, with an increasingly stronger emphasis on internal and external collaboration, employees' training and inclusive education (Nichols & Tucker 2000; Walters 2009). The interactional enactment of inclusivity has also become central in 21st-century higher education, hinging on dialogic participation and social inclusion theory (Gidley et al. 2010; Teo 2019). Such a turn towards employers' ideological awareness and workplace initiatives is at the core of corporate social responsibility (CSR) (Hart 2010: 586). CSR is geared towards a corporation's improved financial performance by inciting employers and employees to behave ethically and empathically, eventually leading to positive social and environmental change (Smith 2003). It was in 2002 that the UK government established the UK Sustainable Development Commission, which called for greater transparency, internal engagement, equity and accountability in business practices. The content and format of CSR reports have further evolved ever since, with many companies now using frameworks such as the Global Reporting Initiative (GRI) to guide their reporting. This reflects new governmental, educational and corporate ideologies embedded in

ethical practices typical of democratic materialism (Badiou 2019), such as engagement, empathy, inclusivity, equality and so on.

It is not farfetched to suggest that the sudden propagation and institutionalisation of participatory ideologies in higher sectors of British society may have affected the contents of conversations in the workplace, but most crucially in how people 'enact' inclusivity 'at talk'. Social grades A and B reflect higher/intermediate managerial, administrative and professional occupations. Social grades D and E include semi-skilled and unskilled manual workers, casual and lowest-grade workers, and unemployed with state benefits only. The significant mismatch between the two populations in the transition from the BNC1994 to the BNC2014 might be because A and B professions have increasingly involved CSR ideologies and affine practices of inclusivity as key components of their working ethos. It may also reflect how people in those sectors interact in institutional and informal encounters. The latter is what the present survey is centred on, as the DS section of the BNC reflects casual communication in contexts of low social distance (cf. section 2.1).

We propose that such participatory frameworks may have been less overtly embodied in social grades D and E, not being institutionally 'trained' to enact and reward inclusivity, empathy and other CSR values in workplace communication strategies. This would explain why lower values of resonance and interactional engagement characterise informal communication among D and E social grades', as reflected by the DS section of the BNC2014. The DS example (6) below illustrates the way resonance often underpins speakers' efforts to acknowledge and give importance to what their interlocutors said during a conversation:

[AB 25-45 chatting about having a dog]

(6)

A: **Would you have another dog** if you didn't travel as much?

B: Well I **I wouldn't have a dog** at all cos I'm not into animals at all apart from fish.

A: Mm.

B: Erm --ANONnameM **would like a dog** but it's like you said we're not here enough.

BNC2014 S0257

The excerpt in (6) is among high social grade speakers. A and B jointly realise the dialogic construction [Pers Pron *would* V *a dog*], mutually re-using and recombining the words of each other. This is also paired with B's overt acknowledgement (cf. Tantucci 2023) that what A said is

relevant for the progressivity of the interaction: *it's like you said*. Engagement and equality are at the core of CSR and affine participatory ideologies and are interactionally enacted so that interlocutors overtly acknowledge the importance of what is being said by their peers. The sedimentation of such discourse practises may have affected the turn-taking system and the way people overtly resonate with one another to express relevance acknowledgement. When resonance is absent, engagement with other people's talk is often achieved merely through backchanneling, which, in the long run, fails to reciprocate speaker A's efforts to provide novel and creative information (cf. Tantucci et al. 2022 on epistemic reciprocity in naturalistic interaction; see also Guydish & Fox Tree 2023).

[DE 45-60 discussion about a trial]

(7)

A: Work commitment three times without.

B: Yeah.

A: Providing evidence

B: Yeah.

A: You know er he can only go on for.

B: No.

A: So long (.) so he sent him to prison for eight weeks.

BNC2014 S575

The dialogue in (7) is among low social grade speakers. In this case, B's turns at talk may fail to reciprocate the efforts made by A in contributing to the conversation. Namely, no propositional information is produced in return, with mere atomic backchannels *yeah*, *no* being used to acknowledge what is being said. This is an example where resonance is completely absent from an exchange, resulting in scarce textual engagement with an interlocutor's speech. This may give the 'false' impression of a higher use of backchannels in DE social grades, but these are still used more among AB populations (X^2 23.053, $p < 0.05$). Resonance often combines with conventionalised forms of turn-initial aknowledgment (cf. the use of *Well* in example 6). Scarce engagement occurs when backchanneling is 'all there is' as responsive behaviour.

Another important aspect of this study is the aim to move a first step towards studying language change as a modification of interactional behaviour rather than morphosyntactic or semantic conventionalisation of specific linguistic forms (but see also Jucker & Taavitsainen 2000

on speech acts). This is an important difference from more traditional approaches to language change. It leads to a new array of research questions hinging on social changes in interactional behaviour, such as the directionality of behavioural change, the sociodemographic components that concur with how people interact with one another at different points in time, the context of use, the distance, the power relations among them and so on.

Resonance has been studied in several highly constrained contexts of use, as in mother-child ASD speech, throughout ontogeny, telephone interactions among family members and adult conversation to name a few (Hobson et al. 2012; Tantucci & Wang 2021, 2022a, 2022b, 2023; Põldvere et al. 2021). These studies led to insights concerning the ontogenetic, cross-cultural, cross-linguistic (e.g. Gipper 2020) and 'cross-typical' variation of resonance. For this study, we assessed whether resonance changes diachronically and whether this specifically correlates with certain socio-pragmatic components. Applied implications of the present study involve:

i. A new awareness of the inclusive role of resonance in naturalistic interaction.
ii. How ideologically charged practices in the workplace may affect the behavioural strategies of those communities in and presumably outside their working environment.
iii. The potential implementation of communication training strategies for engagement and inclusivity in corporate and educational environments.
iv. Flagging the importance of finding ways to implement inclusivity, engagement and equality in the communication strategies in communities of practice that are not necessarily part of high social grades.

It is also important to bear in mind that the results of the present case study need to be taken cautiously, as only a very short period of 20 years has been taken into account. Similarly, only two broad age groups have been considered for the present survey (25-44 and 45-60), as we wanted to control for people who could potentially still be working in a corporate environment. This means that our results cannot lead to adductive generalisations on how resonance changes over time as such. The grasp and the impact of this work are raising new awareness of how interactional style and engagement have been changing across different social grades in British society, the social and applied implications of this mismatch and how this method can inform further research into socio-pragmatic changes of interactional behaviour.

7. Conclusions

This study provided a new model for analysing the change of interactional behaviour across social groups at different points in time. Our focus was on dialogic engagement, which we tackled by looking at the degree to which speakers overtly engage with the words and the structures used by their interlocutors. This was measured quantitatively on the BNC1994 and the BNC2014 via resonance, that is, the degree to which speakers re-use and re-adapt the constructions uttered by their interactants. The results of our study bear an applied significance as we found that British speakers from higher social grades have been changing their interactional behaviour: by 2014, they resonated with one another significantly more than they used to in 1994. The same did not happen in British interaction among speakers from lower social grades. We hypothesise that a decisive factor determining this mismatch may have been the implementation of ideologies and interactional practises involving inclusivity, engagement and equality typical of Corporate Social Responsibility (CSR) and affine participatory frameworks from other high/middle-class spheres of British society. These values started to be institutionally implemented towards the end of the 90s and systematically reported in professions from the corporate world and neighbouring sectors, from which lower social grades (DE) of the BNC corpora are excluded. We speculate that participatory practices of inclusivity recurrently implemented at the institutional level in the workplace are also enacted in the turn-taking behaviour of AB speakers, both in formal and informal interactions. The data for this study consisted of the exchanges of the latter type, namely the informal and demographically sampled dialogues of BNC1994 and BNC2014.

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