Assuming identities online

Authorship synthesis in undercover investigations

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Biodata

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Introduction

The current collection, along with the articles in journals such as the *International Journal of Speech, Language and the Law* and *Language and Law/ Linguagem e Direito*, is testament to the breadth and diversity of the kinds of task in which forensic linguists engage. Within the set of tasks broadly defined as *authorship analysis* we might wish to distinguish between two areas of activity: first, there is *sociolinguistic profiling*, whereby the linguist offers assistance in the investigation of what sort of person produced a text; second, *comparative authorship analysis* refers to those tasks in which the linguist gives their opinion on the most likely author of an anonymous text from a candidate set. Most recently, police investigators in England and Wales have called upon the services of forensic linguists for their assistance in a somewhat different authorship task: the taking-over of an individual's online identity for the purposes of intelligence gathering and/or securing an arrest. One context in which this is a routine strategy is operations against online child sexual abuse and/or exploitation. Imagine the

scenario: a caregiver discovers a child has been taking part in sexualized Instant Messaging (IM) conversations with an adult online. The police are alerted, and the victim is removed to a place of safety. An undercover officer (UCO) takes her place, engaging the adult in IM conversation in an attempt to set up a meeting to secure an arrest on suspicion of grooming under the Sexual Offences Act 2003 (discussed in the next section). The UCO must *synthesise* – that is, construct from available resources – the victim's identity. The role of language in this process of identity assumption cannot be overstated. In the anonymous online world with restricted access to physical attributes of identity, language becomes pivotal to our projection of self (see Tagg, 2015). Undoubtedly, the synthesis of another individual's linguistic persona is not a straightforward task. It requires close analysis of the target persona's usual linguistic style, an understanding of the causes of variation in language, and, I will argue here, as we do elsewhere (Grant and MacLeod forthcoming 2020; Grant and MacLeod, 2018; MacLeod and Grant, 2018), an awareness and suppression of the officer's own linguistic identity. It is a cognitively demanding, time constrained activity, with UCOs often having just hours to prepare for the live operation in order to avoid a sudden and unexplained break in communication. The wary perpetrator, already likely to be on high alert to the possibility of being apprehended, must not have their suspicions aroused that the person they are talking to is no longer the child that they have been grooming for sex for days, weeks, or months.

Academic linguists, including the author, have been involved for several years in the delivery of the Pilgrim training programme, a course designed to 'improve the legal knowledge and undercover policing skills of those staff who operated online' (HMIC, 2014: 153). Academic involvement in assisting with such activities is, of course, laden with ethical considerations. Critical scholars might argue that this activity risks further empowering an already dominant group (the police). However, Wodak (1996) maintains that there are a number of domains in which changes to discursive practices have the potential to advance the interests of the powerless. Thus, the credible counter-argument is that the most effective way of assisting powerless groups – for example, the innocent accused and child victims themselves – is to ensure that online investigations are conducted in the most informed, evidence-based manner possible. In bringing language analysis to this arena we can contribute to improving the quality of prosecutions of the guilty and defences of the innocent. Working directly with

practitioners, such as in the way set out in this chapter, is the most effective method of ensuring that the insights arising from linguistic research are put to meaningful use in improving the investigative process and the delivery of justice.

This chapter considers the role of the forensic linguist in training UCOs in the particular task of authorship synthesis in IM, drawing on work carried out within a wider project investigating the assumption of identities online. I set out a stratified model of language based on Herring's (2004) four-level hierarchy of computer-mediated discourse, and explain how the model has been adapted and translated into useful training tools for UCOs. There follows some discussion of the effectiveness of this training for UCOs' skill at identity assumption, asking and answering the following questions. How can we best describe a linguistic individual? What are the necessary and sufficient levels of description that allow an identity to be taken on without discovery? I conclude with some observations on what this work tells us about the relationship between language and identity, an update on theoretical contemplation which began in Grant (2010) and which continues in Grant and MacLeod (2018) and Grant and MacLeod (forthcoming 2020).

The policing of online child sexual abuse

Just as the evolution of Internet and mobile communication technologies has revolutionised communication and other activities for the law-abiding public, so too have they aided the commission of particular categories of crime. One example of this is that child sex offenders now have direct and easy access to potential victims for grooming via chat rooms and instant messaging (IM). They have made use of these channels both to target children for sexual abuse and to facilitate networking with other offenders in order to share abusive imagery. The anonymity afforded by the Internet has led to individuals, including children, feeling less inhibited about the sharing of personal information and forming of intimate relationships over a relatively short period of time.

The concern here is with the specific criminal context of what is known as online grooming. 'Grooming' lacks a definition in English law and is a notoriously fuzzy concept, but the

offence is described as ‘arranging or facilitating the commission of a child sex offence’ in the Sexual Offences Act 2003 (SOA) s. 14. The offence is subject to a maximum sentence of 14 years’ custody. Going on to meet the child following grooming, as set out in s. 15 of the SOA 2003, could result in a further maximum 10 years’ custody (Sentencing Council, 2013). In order to commit this offence, the offender must arrange to meet the victim with the intention of sexual activity and, crucially, must not reasonably believe that the victim is 16 or over. The amendments brought in by the Serious Crime Act 2015 s. 67 also outlaw the preparatory offences themselves, regardless of whether arrangements are actually made to meet in person, setting out a maximum of two years’ imprisonment on indictment.

UCOs must remain cognisant of the relevant legal issues – for example, they must avoid operating as *agents provocateurs.* That is to say, they must anticipate and deflect any subsequent accusations of having incited illegal behaviour from their targets during the course of their communications (see Martellozzo, 2013). The Police and Criminal Evidence Act 1984 (PACE) further constrains the UCOs, as officers must also avoid conducting an illegal interview, and The Regulation of Investigatory Powers Act 2000 (RIPA) s. 26-29 requires that all their undercover actions be legally authorised and warranted. Keeping detailed records of the online interactions and the investigative decisions made at each stage is therefore imperative. It may be the case that UCOs will have to provide operational cover for one another – multiple officers may be required to operate as one specific offender or victim within an operation due to changing shift patterns, illness, or leave. Similarly, a single officer may be involved in multiple concurrent operations.

An example of the kinds of IM interactions that occur between offenders and victims of online sexual abuse appears below. These data are from a resolved case and were recovered from the offender’s computer then provided by an English police force at the conclusion of his trial.

(1) Abusive chat log

1	Victim:	ahh okaii .. most boiis wnt mee too just strip n stuff like tht for
2		them on cam but it dnt feeel right :/ .... :L:L:L:L
3	Offender:	lol i aint most boys ;)
4		id rather see a pic of a nice girl in her undies rather then naked
5	Offender:	that stuff shud be in person
6	Victim:	:L

7	Offender:	lol not sayin come meet me btw aha
8	Victim:	:L:L dw ii know:L
9	Offender:	lol now u know wot i like....what do u like?
10	Victim:	ii like too c a boy topless on cam thats bwt it tbh lol
11	Offender:	lol may be able to help u out with that 1 if u ever wanted
12	Victim:	:Lfankyhuu .. same with your teasin fing :L.. but am fat (N)
13	Offender:	u dont look fat
14		body pic mite help dat tho :P
15	Victim:	ii feel it :L

Even in this short extract we can see that there are a number of linguistic habits, on the phonological, lexical, pragmatic, and interactional levels, on the part of the victim that would need to be emulated if a UCO was to successfully assume her identity online. In terms of lexis and phonology, as well as her frequent use of (often multiple) emoticons (lines 2, 6, 8, 12 and 15) she also uses a number of initialisms: *dw* for 'don't worry' (line 8) and *tbh* for 'to be honest' (line 10). She uses letter repetition for emphasis (lines 1, 2, 8, 10, 12 and 15), vowel deletion (lines 1, 2, 10), letter-word substitution (lines 1 and 10), pronunciation stylization (e.g. *fankkyhuu* and *fing* on line 12), and g- dropping (line 12). Moving up to the level of pragmatics, we can see that in this extract the victim produces expressive statements about her feelings and her likes and dislikes (lines 1-2 , 10 and 15). At the interactional level we can see that she has taken up and responded to the topic of 'teasing' over webcam (lines 1-2 and 12) and her own viewing preferences (line 10), but she produces at most minimal responses to the topics of meeting in person (line 6) and sending a picture of her body (line 15). If we wanted to make any comments about the social identity the victim is projecting we might comment on her reference to her extensive experience: what *most boiis [boys] wnt* (line 1), to her assertion that she has a certain moral code and assesses these requests as *dnt feel right* (line 2), that she knows her own preferences (but note the 'nervous' or 'shy' laughter) (line 10) and that she is rather self-critical of her appearance (lines 12 and 15). There is undoubtedly a lot for the UCO to remember about this victim's linguistic identity. Add to this the extra-linguistic intelligence that they must retain when they enter the live operation – family members, pets, school life, friends, etc. – and the true scale of the cognitive demands of the task begins to emerge.

Training linguistic analysis and synthesis

Trainee UCOs complete the Pilgrim training across three months, including a residential week at either end. It is within the second of these residential weeks that the linguistics input is delivered – and it occupies just half a day of the programme. Given the limited time available, cuts had to be made to the scope of linguistic phenomena that were originally deemed relevant. The resulting course content is based, therefore, on a highly simplified fraction of the stratified model in Table 1.

Table 1: Domains of Computer Mediated Discourse Analysis (from Herring, 2004:18)

	Phenomena	**Issues**	**Methods**
Structure	typography, orthography, morphology, syntax, discourse schemata	Genre characteristics, orality, efficiency, expressivitiy, complexity	Structural/Descriptive Linguistics, Text Analysis
Meaning	Meaning of words, utterances (speech acts), macrosegments	What the speaker intends, what is accomplished through language	Semantics, Pragmatics
Interaction	Turns, sequences, exchanges, threads	Interactivity, timing, coherence, interaction as co-constructed, topic development	Conversation Analysis, Ethnomethodology
Social behaviour	Linguistic expressions of status, conflict, negotiation, face-management, play; discourse styles, etc.	Social dynamics, power, influence, identity	Interactional Sociolinguistics, Critical Discourse Analysis

The linguistic component of the Pilgrim training maps on to the first three domains Herring (2004) sets out. A paper-based pro-forma is distributed, on which there are spaces to record information about a target linguistic persona in terms of the structural level (vocabulary choices, spelling variants and frequencies), the level of meaning (specifically speech act classes as set out in Searle (1969), and the level of interaction (topics introduced, maintained, and rejected (see Gumperz, 1982)). The following day, in a mock-disruption of the scheduled

course activities, the trainees are briefed for an operation matching the scenario I set out above: a child has been identified as at risk from an online sexual offender she is planning to meet that evening, she has been removed to a place of safety, and the trainee UCOs have just two hours to prepare for engaging with the 'offender' via IM. The UCOs are paired up, and to assist in this preparation they are provided with the historical chat logs of conversations between the offender and the victim. The online chat begins, and while one trainee engages with the 'offender' the other assists their colleague, collecting open-source intelligence and referring back to the chatlog where necessary. During the course of the IM conversation the trainees must get confirmation from the 'offender' (actually a trainer in a different room in the building) of the elements that must be established in order for a charge to be made under SOA 2003 s. 15 (see MacLeod and Grant, 2018 for more on the Pilgrim training course).

The content of the chats is, at times, sensitive, and understandably reflective of the interlocutors' professional identities and experiences. Extract 2 below is taken from one of these roleplayed conversations – note that part of the trainer's role is to instruct the trainee pair when they should swap roles, hence the contribution on line 6.

(2) Training chat log

1	Trainee:	i am a virgin
2	Trainer:	gonna do u anal do u know what that is
3	Trainee:	yh
4	Trainer:	fuck no u aint
5	Trainer:	well u wont be in a bit
6	Trainer:	CHANGE STUDENT
7	Trainee:	i hope so
8	Trainer:	what u gonna wear
9	Trainee:	my school uniform

Trainees are encouraged to immerse themselves in the role-play, and to pursue the pre-specified investigative points to their best ability. Trainers, in their role as the offender, are instructed to engage in challenging behaviour and a degree of sexualised talk that might be expected to test the capabilities of the trainees. In the genuine operational setting, UCOs must also master details of the child's life including their family and school life, and from any

captured chat logs understand what the victim has told the offender and *vice versa*. Chiang and Grant (2017) show that suspicious offenders can and do engage in conversational moves involving the assessment and management of risk, and this sometimes occurs through quizzing the children on aspects of their previous interactions. For the linguistic portion of their analysis, the UCOs must understand a specific victim's performed identities within the interaction so that they can successfully deceive the offender.

Prior to any linguistic training, trainees tend to stereotype and overestimate victims' use of what one might describe as 'netspeak' or 'textspeak'. In the task described above trainee UCOs draw on a markedly wider range of initialisms than is evident in the victim's historic chats, for example using 'lol', when it has not occurred in the historic log. While the historic log shows that the victim never uses a number to substitute a word or syllable, trainees often do, as in (3).

(3) Training chat log

Victim says: yh gud. take yu long get to train i got 2 leave soon. u still wnt know wot im wearin?

In general the historic log shows the victim's phonetic stylisations to be representative of fairly standard speech, while a number of trainees select spellings with strong accent stylisation, as well as various representations of the sound of laughter, which do not appear anywhere in the victim's writing. Furthermore, while the victim only omits vowels a handful of times in the historic chats, there is a substantially higher level of vowel omission in the chat of trainees. Finally, some trainees shift into uppercase part way through their conversations, while the victim makes no use whatsoever of upper case in her writings. The failure to accurately assume the victim's identity is also often evident in their over-use of g-clipping, again rare in the victim's own style, but used more often than not by trainees.

Linguistic training on structural features results in considerable improvement but not entirely accurate replication of a persona from historic chat logs. UCOs improve in observing the proportionate use of some words; as well as picking up the use of the more unusual variants

such as ‘dnt’ and ‘pls’, the trainee UCOs learn to alternate these forms with the more standard spellings ‘don’t’ and ‘please’, providing a more accurate synthesis of the victim’s style. Despite this, our investigations (MacLeod and Grant, 2018) have shown that the rate of use of terms inconsistent with historic chats barely reduces following training. Before training UCOs tend to use terms derived either from their stereotype of a victim’s chat or from their own style – in short, there is identity ‘leakage’ (Grant and MacLeod, 2018). Examples of inconsistent items persisted post-training, particularly the non-standard spellings stereotypical of ‘netspeak’. G-clipping and vowel deletion continue to be over-extended even following training, as shown in (4).

(4) Training chat log

1	Victim says	wht u doin for me?u havin my cherry lol
2	Role Player says	u will have too much clothes on though
3	Victim says	wen we meetin
4	Role Player says	look u had bad day... you no
5	Victim says	?
6	Victim says	ur jus messin wid me
7	Victim says	babe
8	Victim says	wuu2

Observations that a victim had used these features in the historic chat seems to be the basis of a rule, but trainees fail to build into the rule the fact that this particular victims has considerable use of the standard variant for these features too.

Most current research and practice in authorship analysis principally occurs at the structural level. This may be because most reported authorship analysis questions concern largely monologic texts, driving the discipline towards focusing on low-level structural features. Some work has been done at a functional level of analysis (e.g. Nini and Grant, 2013). However, because the use of structural features has been shown to be sufficiently effective in many attribution tasks, there appears to have been little motivation to include analysis of discursive patterns in addressing traditional authorship analysis problems.

For authorship synthesis too, the structural level is undoubtedly important. In post-task evaluations trainers noted issues such as ‘*over use of text speak – not so much in original’* and

'*heavy use of punctuation'*. It is clear, however, from some of the trainers' contributions to the chats, that higher levels of linguistic behaviour might also be open to scrutiny by interlocutors, and thus play a pivotal role in the analysis of authorship for the purposes of synthesis. Italicised comments in Extract 5 are those that relate to the level of meaning, while those underlined are observations made at the interactional level.

(5) Trainers' comments

1. you *askin* a lot today; whats up wiv u you aint <u>not been horny</u> wiv me b4 is summat wrong; wtf y u no talk sexy wiv me; who are u? you <u>taked and played sexy</u> b4
2. no worri cutey u no <u>scared</u> when u on cams so what change
3. why you keep *asking* who i am?

It is clear from the examples in (5) that trainers also flagged up *pragmatic* and <u>topic</u> issues as having the potential to cause suspicion: noting that the 'victim' is *askin* a lot, i.e. producing more interrogatives, and seems less willing to discuss sexual <u>topics.</u> As part of their post-operation evaluation of trainees' performance one trainer wrote 'lots of questioning as a result felt very cold and clinical'. Comments such as these, along with the within-chat log challenges as exemplified in (5), above, suggest an assumption by trainers that a genuine offender would be alerted by language features such as a higher than usual degree of interrogatives, or by a reluctance to engage with sexual topics.

Of course, these are comments from trainers simply roleplaying the part of an offender, instructed to express their frustration in an exercise specifically designed to test the trainees' mettle under pressure, rather than from genuine online predators. As part of the wider project a series of experiments was conducted, in order to gain a deeper insight into the types of linguistic incongruence that arouse online participants' suspicion that the individual they are conversing with is not who they purport to be. In these chats, in contrast to the training chats discussed above, there was no brief for participants to challenge their interlocutor's behaviour at every turn (see Grant and MacLeod, 2016; MacLeod and Grant, 2016 for more on the experiments). After engaging in a 15-minute conversation over IM, participants were asked to identify when they believed their interlocutor had been substituted – and what had led them

to this decision. A selection of their comments appears in (6).

(6) Experimental participants' comments on suspected substitution

1. No turn initial capitalisation; NNS features e.g. superfluous determiners; lack of plurals; increase in exclamation marks; increase in 'hahaha'.
2. Shorter turns; decrease in multi turn contributions.
3. There is a slight topic discontinuity in that one of the subtopics gets picked up as the new global topic for the rest of the conversation.
4. Apologised for long pause by saying phone had gone off
5. Decrease in questions.

It is clear from the first comment that for these individuals too, changes at the structural level are noticeable and potentially indicative of a substitution. But, again, this is not the full story. Comments on turn length (comment 2), topic management (comment 3) and speech acts (comment 5) also make an appearance here.

When approaching questions of identity assumption in authorship synthesis it is clearly important to be able to replicate the target's language at the structural level. The question then arises: can disguise be successful in a case where structural level features are accurately reproduced but patterns of meaning, interaction and social behaviour differ from the target's past performance?

In the Pilgrim historic chat logs, the victim's use of speech acts is complex owing to the chat log representing her interactions with multiple identities (although these identities transpired to all belong to the same individual offender – see Chiang and Grant, 2018). Given such complexity it is hard to describe the victim's characteristic use of speech acts, but there are some patterns that emerge. She uses a significant proportion of directive as well as commissive speech acts, and even within coercive interactions she attempts to bargain, using utterances which contain a combination of directive and commissive force. At the start of one particular coercive interaction there is a long run of interrogatives where she is trying to get information about the offender's identity and intentions. She is also highly expressive (mostly about the sexual acts). Perhaps one main characteristic of this individual is that she draws on

a wide range of linguistic resources expressing herself through a mix of different speech acts, as detailed above. This is not true of all the individuals analysed within the wider project; others demonstrate a preference for just one or two types of speech act in their interactions.

Prior to training UCOs show very little awareness of potential variation in speech acts, and their analysis notes show no evidence that they consider anything like this in their preparation for engagement. Perhaps because of this lack of awareness, trainees show considerable individual variation in their engagement as the victim. Several trainees, for example, use a high proportion of interrogatives in an attempt to pin the 'offender' down to a time and location for their meeting, and to elicit his phone number. For other trainees there is a clear difficulty in using directives while playing the role of the victim. In the historic chat the victim often tells the offender what to do, including directing him in online sexual activity. Another aspect where the trainees perform less well is in their use of expressives as a way of deflecting the apparent suspicion of the offender. Some trainees naturally perform better. One was observed to use a fairly high but appropriate number of directives: 'i wana meet u propa'; 'giv me ur numba'; 'wana lose my virginity', and also a number of interrogatives: 'who r u agan', 'how will i kno its u', in keeping with the victim's online identity as recorded in the historic chat logs.

This variation in ability to assume the victim's identity at the pragmatic level clearly marks a training need. Post training there was more consistency with the historic chat logs, but there were also some individual UCOs who clearly struggled with their analysis and performance at this pragmatic level. The best trainees could be observed in the preparation phase of the simulated operation using the linguistic input and attempting to better understand the way the victim used language in the interactions. Some, however, persisted in using extended runs of interrogatives that are not generally characteristic of the historic chat. This tendency may well relate to the operational task of intelligence gathering but is nevertheless a point of difference between the actual persona of the victim and the officer assuming that persona. As such it marks a point of potential discovery and thus operational failure.

Moving on to topic management (the interactional level), it goes without saying that this is an

important function in the relationship between the interactants. As well as ensuring consistency in identity performance, there are strong operational reasons for accuracy with regard to topic management. One concern is that undercover officers might leave themselves open to accusations of acting as *agents provocateurs* if they are seen to instigate or participate in sexual conversations whilst acting the part of the child. However, many children have been so effectively groomed and sexualised that they themselves instigate sexual topics of conversation and initiate online sexual activity. Failure to act consistently with this past behaviour during identity assumption may risk alerting the perpetrator to the victim's replacement by the UCO. As we saw above, suspicions are raised by 'offenders' where UCOs' are reluctant to engage in sexual activity that has been normalised between offender and victim.

Amongst the list of topics initiated by the victim in the historic chat are sexual topics, including online sexual activity, and she also engages in sexual activity at the instigation of the offender. The chat logs of trainee UCOs prior to linguistic input show significant differences at the level of interaction to the target persona. In the historic chat the victim introduces sexual topics and sexual activity on several occasions. In the overwhelming majority of cases, trainee UCOs fail to do this. Not only this, but they decline sexualised talk when it is attempted by the 'offender'. This natural reluctance to engage in online sexual activity whilst performing as a 14-year-old needs to be overcome by UCOs in these tasks, and some find this difficult to achieve. An explicit learning objective of the simulation exercise is to facilitate officers doing this more effectively, whilst staying within their authorisation, and avoiding going further than activity and discussions analysed in the historic chat.

A further feature of the pre-training chat is the nature and quantity of topics of operational interest to the UCOs. As well as performing the victim's identity in a sufficiently convincing manner they must try to obtain information about the offender which might identify them, be explicit about the victim's age so that the offender will fall within the terms of the Sexual Offences Act, try and arrange a location to meet away from other children who might be endangered by a sexual predator, and get a description of the offender so that they can be easily recognised at the meet. All these tasks may create points of inconsistency with the

victim's previous chat, and it is part of the skills that the officers develop to work these new topics naturally into conversation.

After training, officers show consistent improvement in this area, and demonstrate an appreciation of how language analysis can protect against accusations of acting as *agents provocateurs*. Points of inconsistency typically involve introduction of the operational issues as discussed above – for example, a UCO assuming the identity of a child cannot, for obvious reasons, acquiesce to repeated requests to turn on their webcam.

Post-training chats show a reduction in structural level identity performance flaws, and none were commented on by the trainers in their evaluations in the post-training condition. Rather, as we can see in (7) all comments appear to centre on incongruencies at the pragmatic or interactional levels:

(7) Trainers' in-chat comments on trainees' linguistic performance after training

1. ur annoying me wont cam dictating where I have to go
2. u ok not like u not to talk dirty is this the sis or what?

On the whole, however, there tends to be a notable reduction in linguistically focussed challenges post-training. Challenges focus either on the content of previous chat or more behavioural differences observed by the trainers. This suggests a marked improvement in trainees' ability to emulate the style of the victim, suggesting some success for training input on linguistic analysis.

Trainees' performance before and after training was examined in order to evaluate the usefulness of the linguistic model for adopting a persona, and to discover the basis on which trainers might indicate suspicion of identity assumption by their interlocutor. It appears that the provision of the structured linguistic analysis was shown to be trainable to these non-linguists and that there was improvement at all levels of linguistic analysis. Prior to the linguistic training, trainees tended to concentrate their efforts at identity

assumption almost exclusively by mimicking vocabulary features, but in doing so they tend to overestimate the victim's use of 'netspeak' or 'textspeak' spellings. Subsequent to training this stereotyping is generally reined in and most students perform better, recognising that the victim used a range of variants for some terms and that the ratio of use could be copied. Prior to training, pragmatic patterns and patterns in turn taking and topic control are almost entirely neglected by UCOs in their attempts at identity assumption. After training they improve in their emulation of these patterns, and doing so is important to avoid detection.

The principal finding of this research is that there are important contributions to be made by linguists to this challenging area of police work. We should continue to strive for linguistic input in these contexts, to ensure investigations are carried out with the firmest possible evidence base.

Theorising language and identity

The work described in this chapter has provided some rich insight into the relationship between language and identity, and it is worth setting out here where the theoretical contributions might lie.

The notion of *idiolect,* that is, an individual's 'distinct and individual version of the language they speak and write' (Coulthard, 2004:432), is a well-discussed one in the authorship analysis literature. In the first edition of this handbook, Grant (2010) argues that a theory of idiolect is unnecessary, and that measures of stylistic consistency suffice when it comes to questions of authorship. In extending Johnstone's (1996; 2009) resource model of identity, he maintains that our identities are at once facilitated and constrained by our sociolinguistic histories, the interactional situation, and our cognitive structures (Grant, 2010, Grant and MacLeod, 2018; forthcoming 2020).

Brubaker and Cooper (2000) distinguish between 'strong' and 'weak' understandings of identity, summarizing the 'strong' approach as being concerned with *sameness* over

time or across persons. From this perspective, identity is something that all people and groups have, and is something to be 'discovered' and about which one can be mistaken, i.e. there are clear boundaries between categories. This maps rather tidily onto the simplistic understandings of identity evident in the quantitative social sciences, including most traditional variationist sociolinguistics and the vast majority of computational linguistic work in the area of authorship profiling and attribution, which correlate social behaviour with macro identity categories such as age, gender, and social class (see, for example, Argamon *et al.*, 2003). From the 'strong' perspective, identity is no more than simply a collection of broad social categories (Bucholtz and Hall, 2005).

There are a number of reasons for rejecting this position from the outset, and many theorists have found themselves in a similar position. As Johnstone puts it, 'it is more enlightening to think of factors such as gender, ethnicity, and audience as resources that speakers use to create unique voices, than determinants of how they will talk' (1996:56). Increasingly uncomfortable with the 'strong' identity theory and viewing it as incongruous with a post-structuralist approach to social behaviour, they have favoured instead a move towards a more positional or 'weak' understanding of identity, as something an individual 'does' rather than something that they 'are' (see Butler, 1990). Identity does not emerge at a single analytic level, but operates at multiple levels. Even at one point in a single interaction, different kinds of positions can occur simultaneously (Bucholtz and Hall, 2005). However, Brubaker and Cooper argue that these 'weak' understandings are routinely packaged with standard (and almost obligatory) qualifiers: *multiple, in flux, contingent, fragmented, constructed, negotiated* – which 'risk becoming mere placeholders...in their insistence that identities are multiple, malleable, fluid and so on, soft identitarians leave us with a term so infinitely elastic as to be incapable of performing serious analytical work' (2000:11).

Thus, there are two pitfalls to avoid in developing a theory of identity. First, there is the rather deterministic view of identity as a set of static social categories with a predictable effect on linguistic behaviour. Second, the view that an individual's identity is radically unconstrained seems too slippery a notion to work with. A theory that asserts that identities are entirely interactionally negotiated will struggle to account for an idea of

persistence of personal identity, which is at the heart of the type of authorship analysis tasks that forensic linguists often face.

One process that featured prominently in the early, 'strong' explorations of linguistic style, but which is less often articulated within the resource model as described by Johnstone (1996; 2009), is the possibility that identity performances are constrained. The resource model does not suggest that an individual can, in any moment of interaction, be whomever they choose. The resources available constrain individuals to a large but specific portfolio of identity performances. The resource-constraint model as set out in Grant and MacLeod (2018; forthcoming 2020) avoids the pitfalls that come with being wholly deterministic on the one hand, as well as those associated with theories that view identity as being entirely interactionally negotiated on the other. According to this model, while some resources afforded us by our sociolinguistic histories may persist across different interactional moments, others, such as those emerging from the audience or purpose of the interaction, are more dynamic. More importantly, while an individual's sociolinguistic history might provide them with myriad identity resources from which to draw, they cannot perform an identity for which the resources are simply not present – they are, in this regard, sociolinguistically *constrained.* This is a point to remember when we consider that the performance of an alternative identity requires the acquisition of a new set of identity resources – but also the suppression of resources that were not available to the target persona.

To illustrate this, let us turn to the idea that less competent or less well-trained UCOs' identity assumption can be subject to identity 'leakage', as touched upon earlier. That is to say, where identity assumption is only partially successful we find hybrid identities, which draw on both the 'home' set of language resources of the UCO and also those of the target identity. Figure 1 below gives us an insight into one particular feature – the inclusion or omission of apostrophes to mark possession and omission – in the habitual style of two experimental participants.

Figure 1 here

Figure 1: Apostrophe omission/inclusion

As Figure 1 shows, the 'victim' in this simulated exercise demonstrates a preference for omitting apostrophes in positions where we might expect to see them, i.e. in contractions and possessive forms. In contrast, the 'UCO', chatting as themselves, has an overwhelming preference for including apostrophes. When the UCO attempts to assume the victim's identity they are partially successful, in that there is a noticeable decrease in the frequency of their apostrophes. It seems they have noticed and assumed a new feature into their repertoire. However, they are unable to entirely suppress their inclination to include apostrophes. They have studied the victim's chat and this has given them the resources to become more like her – but they are also drawing on language resources which are part of their own long-held habits yet were rarely used by the victim. It is an interesting, as yet unanswered empirical question as to whether an officer who is linguistically close to a target identity will do better at performing that identity. This linguistic leakage and performance of hybrid identities is not limited to lower level features –in other examples we see UCOs unable to suppress discursive or pragmatic habits.

Conclusions

The operational work described in this chapter brings to the fore the theoretical issues concerning the very idea of a linguistic individual. Carrying out authorship analysis and synthesis tasks necessarily requires an understanding of linguistic identity as to some extent *persistent*, i.e. elements of one's identity must remain fairly stable across different texts and interactions – the task would be impossible were this not the case. Reconciling this with contemporary understandings of identity as fluid and emergent has been the central aim of the work presented here. Since at least the 1990s, the issue of identity has established itself firmly at the top of the academic agenda within the social sciences, owing to the fact that its study 'enables the gap between the micro level of the individual and the macro level of the social order to be bridged' (Preece, 2016: 3). While there has been a turn in applied linguistics,

matching that across the social sciences as a whole, from essentialist views of identity towards more social constructionist understandings, the theory to emerge from the explorations here is neither deterministic nor wholly interactionist.

This work has important implications for forensic linguists engaged in authorship analysis tasks. Until now, scholars and practitioners have been faced with the choice of understanding individual style either as a product of sociolinguistic experiences (e.g. McMenamin, 2010) or a product of cognitive competence (e.g. Chaski, 2001), or, in the case of most computational approaches (e.g. Juola *et al.*, 2006), as existing in something of a theoretical vacuum. In order to comment upon the likely background of an author, or to offer an opinion on the similarity or distinctiveness of an author's choices when compared to an anonymous text, the linguist must view an individual's cognitive structures and/or sociolinguistic experiences, including their membership of particular social categories, as to some degree *determining* the linguistic choices they are likely to make when producing a text. Evidently a theory of identity is a timely addition to the forensic linguistics literature.

In order to become a specific different linguistic persona one needs to understand not only that persona, but also how *any* linguistic persona is performed and created. This requires an analysis of identity performance in separate and specific interactions, and also an understanding of how linguistic identity might persist across different interactions where context, mode of production and audience may change. Grant (2010) suggests that the idea that we draw on our sociolinguistic experiences when producing a stretch of language allows for the possibility that we also draw on cognitive resources simultaneously. If this is the case, then an individual's linguistic persona is better understood as being assembled on the basis of resources and constraints provided by sociolinguistic and cognitive capacity, rather than being determined by either one. As we have seen, at any given moment, a factor relating to the context, or an individuals' sociolinguistic history, or their physicality, and so on, may be simultaneously operating as both a constraint on, and a resource for, their identity performance.

As set out in Grant and MacLeod (2018; forthcoming 2020) factors that can operate simultaneously as resources and constraints for identity performance include an individual's

sociolinguistic history, the communities of practice in which they participate, and the immediate resources provided by the situational affordances of any on-going interaction. They also include the technologies to which they have access and also their physicality. Any individual at any specific moment has a wealth of resources to draw on to perform their developing identities across the portfolio of possible identities afforded by these resources. The negotiation and renegotiation of identity through discursive practice is rich because of the variety of resources that can be available to an individual, allowing them to develop divergent identities to accommodate to different individual interactions and situations.

With the continuing advance of technology and increased opportunities for anonymous communication online, it is clear to see that the future will present an expanded requirement for forensic linguists to assist with online policing tasks – not just training for identity assumption but also, for example, the infiltration of online criminal communities. By ensuring that such assistance is underpinned by empirical testing and robust theory, we can safeguard the overriding rationale of forensic linguistic work: improving the delivery of justice through language analysis.

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Further reading

Baxter, J. (2016) Positioning language and identity: Poststructuralist perspectives. In S. Preece (ed.) *The Routledge Handbook of Language and Identity*. Abingdon: Routledge, 34-49.

Darvin, R. (2016) Language and identity in a digital age. In S. Preece (ed.) *The Routledge Handbook of Language and Identity*. Abingdon: Routledge, 523-540.

Drummond, R. and Schleef, E. (2016) Identity in variationist sociolinguistics. In S. Preece (ed.) *The Routledge Handbook of Language and Identity*. Abingdon: Routledge, 50-65.

Grant, T. and MacLeod, N. (forthcoming 2020) *Language and Online Identities: The Undercover Policing of Internet Sexual Crime.* Cambridge: CUP.

Johnstone, B. (1996). *The Linguistic Individual: Self Expression in Language and Linguistics.*

Oxford: Oxford University Press.

References

Argamon, S., Koppel, M., Fine, J., and Shimoni, A.R. (2003) 'Gender, genre, and writing style in formal written texts', *Text - Interdisciplinary Journal for the Study of Discourse* 23 (3): 321–346.

Brubaker, R. and Cooper, F. (2000) 'Beyond 'identity'', *Theory and Society* 29: 1 – 47.

Bucholtz, M. and Hall, K. (2005) 'Identity and interaction: A sociocultural linguistic approach', *Discourse Studies* 7 (4-5): 585 – 614.

Butler, J. (1990) *Gender Trouble*. Abingdon: Routledge.

Chaski, C. (2001) 'Empirical evaluations of language-based author identification techniques', *Forensic Linguistics* 8 (12): 1350 – 1771.

Chiang, E. and Grant, T. (2017) 'Online grooming: moves and strategies', *Language and Law/ Linguagem e Direito* 4 (1): 103 – 141.

Coulthard, M. (2004) 'Author identification, idiolect, and linguistic uniqueness', *Applied Linguistics* 25 (4): 431 – 447.

Grant, T. (2010) 'Text messaging forensics Txt 4n6: Idiolect free authorship analysis?' In M. Coulthard and A. Johnson (eds) *The Routledge Handbook of Forensic Linguistics,* Abingdon: Routledge, 536 – 550.

Grant, T. and MacLeod, N. (2016) 'Assuming identities online: experimental linguistics applied to the policing of online paedophile activity', *Applied Linguistics* 37 (1): 50 – 70.

Grant, T. and MacLeod, N. (2018) 'Resources and constraints in linguistic identity performance – a theory of authorship', *Language and Law/ Linguagem e Direito* 5 (1): 80 – 96.

Grant, T. and MacLeod, N. (forthcoming 2020) *Language and Online Identities: The Undercover Policing of Internet Sexual Crime.* Cambridge: Cambridge University Press.

Gumperz, J.J. (1982) *Discourse Strategies,* Cambridge: Cambridge University Press.

Herring, S. (2004) 'Computer-mediated discourse analysis: An approach to researching online behavior', In S. Barab, R. Kling and J.H. Gray (eds) *Designing for Virtual Communities in the Service of Learning,* Cambridge: Cambridge University Press, 338 – 376.

HMIC (2014) *An Inspection of Undercover Policing in England and Wales,* https://www.justiceinspectorates.gov.uk/hmicfrs/wp-content/uploads/an-inspection-of-undercover-policing-in-england-and-wales.pdf

Johnstone, B. (1996) *The Linguistic Individual: Self-expression in Language and Linguistics,* Oxford: Oxford University Press.

Johnstone, B. (2009) 'Stance, style, and the linguistic individual', in A. Jaffe (ed.) *Stance: Sociolinguistic Perspectives.* Oxford: Oxford University Press, 29 – 52.

Juola, P., Sofko, J, and Brennan, P. (2006) 'A prototype for authorship attribution software', *Literary and Linguistic Computing* 21: 169 – 178.

MacLeod, N. and Grant, T. (2016) "You have ruined this whole experiment…shall we stop talking now?' Orientations to the experimental setting as an interactional resource', *Discourse, Context and Media* 14: 63 – 70.

MacLeod, N. and Grant, T. (2018) "go on cam but dnt be dirty': linguistic levels of identity assumption in undercover online operations against child sex abusers', *Language and Law/ Linguagem e Direito* 4 (2): 157 – 175.

Martellozzo, E. (2013) *Online Child Sexual Abuse: Grooming, Policing and Child Protection in a Multi-media World.* Abingdon: Routledge.

McMenamin, G. (2010) 'Forensic stylistics: Theory and practice of forensic stylistics', in M. Coulthard and A. Johnson (eds) *The Routledge Handbook of Forensic Linguistics,* Abingdon: Routledge, 487 – 507.

Nini, A. and Grant, T. (2013) 'Bridging the gap between stylistic and cognitive approaches to authorship analysis using Systemic Functional Linguistics and multidimensional analysis' *International Journal of Speech, Language and the Law* 20 (2):173 – 202.

Police and Criminal Evidence Act 1984
http://www.legislation.gov.uk/ukpga/1984/60/contents

Preece, S. (2016) 'Introduction: Language and identity in applied linguistics' in S. Preece (ed.) *The Routledge Handbook of Language and Identity,* Abingdon: Routledge.

Regulation of Investigatory Powers Act 2000
http://www.legislation.gov.uk/ukpga/2000/23/contents

Searle, J. R. (1969) *Speech Acts: An Essay in the Philosophy of Language,* Cambridge: Cambridge University Press.

Sentencing Council 2013 *Sexual Offences Guideline Consultation.*
https://consult.justice.gov.uk/sentencing-council/indecent-images-

children/supporting_documents/sexual%20offences_Indecent%20images%20of%20children.pdf

Serious Crime Act 2015 http://www.legislation.gov.uk/ukpga/2015/9/contents/enacted

Sexual Offences Act 2003 http://www.legislation.gov.uk/ukpga/2003/42/contents

Tagg, C. (2015) *Exploring Digital Communication: Language in Action,* Abingdon: Routledge.

Wodak, R. (1996) *Disorders of Discourse,* London, Longman.