



Autonomy: the next phase of dialogue between systemic functional linguistics and Legitimation Code Theory

Karl Maton  and Sarah K. Howard 

ABSTRACT

Systemic functional linguistics (SFL) has long enjoyed a close and fruitful dialogue with Legitimation Code Theory (LCT). A growing number of scholars enact both theories together in empirical research to explore how knowledge and language relate together to shape practice. This work both generates greater explanatory power in research and encourages conceptual advances in each of the two theories. In this paper we introduce new concepts from a recently renovated dimension of LCT called Autonomy that may spark a new phase of dialogue between the frameworks. We begin by summarising the existing ongoing phases of dialogue between LCT and SFL. We then introduce the concepts of “autonomy codes”, which explore changing relations among different kinds of practices by tracing “autonomy pathways”. The potential of these concepts for empirical research is illustrated through detailed analyses of classroom practice in which schoolteachers attempt to use everyday knowledge as ways of helping students learn History. These analyses suggest that “one-way trips” from one form of knowledge practice into another constrain knowledge-building while “autonomy tours” that engage with, repurpose and connect other knowledge practices support knowledge-building. Finally, we consider how these concepts might raise questions for SFL research and theory and thereby initiate a new phase in its dialogue with LCT.

ARTICLE HISTORY

Received 29 May 2019

Accepted 18 September 2019

KEYWORDS

Legitimation Code Theory; autonomy codes; autonomy tours; knowledge building; systemic functional linguistics; register

1. Introduction

In this paper we shall discuss new ideas from Legitimation Code Theory (LCT) that may spark dialogue with and theoretical development in systemic functional linguistics (SFL).¹ LCT is a sociological framework for analysing knowledge practices. LCT and SFL have been involved in a close and productive dialogue for many years (Maton and Doran 2017a). A growing number of scholars and students are using both theories together to add greater power to their explanations of social practice. In education, for example, studies often enact LCT to explore the forms of knowledge practices required for knowledge building and use SFL to explore the linguistic resources through which those forms of knowledge are achieved. The theories have also pushed each other forward: each framework highlights issues that the other framework has not addressed, leading to the development of new concepts (Martin and Maton 2017; Martin, Maton, and Doran

2019). Here we shall introduce concepts from LCT that are likely to shape the next phase of this inter-disciplinary dialogue. These concepts are from a dimension of LCT called “Autonomy” that allows research to explore how different forms of knowledge can be brought together productively (Maton and Howard 2018).

We shall discuss these ideas in four main sections. First, we briefly outline how LCT and SFL complement each other. Second, we introduce new concepts from LCT called “autonomy codes”. Third, we illustrate the kinds of issues these concepts reveal, using examples from classroom practice that bring together different kinds of knowledge. Specifically, we discuss how everyday knowledge can be used productively in school classrooms to support student learning of academic knowledge. Finally, we conclude by asking how these new concepts might be useful to SFL. We highlight in particular how the LCT concepts raise questions for SFL regarding the nature of consistency in register.

2. An inter-disciplinary dialogue

Legitimation Code Theory (LCT) is a multi-dimensional conceptual framework for researching and changing practice (Maton 2014). Each “dimension” of LCT comprises a set of concepts that examine a different set of organising principles underlying the practices, beliefs and dispositions of actors. LCT builds on a number of sociological, philosophical and scientific frameworks. Most directly, the framework has integrated and extended the sociological approaches of Basil Bernstein (1977, 1990, 2000) and Pierre Bourdieu (1988, 1990, 2004). Key ideas from two dimensions of LCT (Specialization and Semantics) are set out in the book *Knowledge and Knowers* (Maton 2014); how those concepts can be enacted in research is discussed in the book *Knowledge-building* (Maton, Hood, and Shay 2016). Since emerging at the turn of the century, LCT has grown rapidly as the basis of research by an international and multi-disciplinary community into a widening range of issues in education, politics, law and other social fields.² In education, LCT is used to explore and shape practices across the institutional map, from primary schools to universities, and across the disciplinary map, from physics to music.

LCT is often used in research and practice alongside systemic functional linguistics or “SFL”. As discussed in Maton and Doran (2017a), relations between these two approaches can be described as a series of phases, where each phase adds new issues to ongoing conversations. The first phase began in the 1960s with discussions among Basil Bernstein, Michael Halliday and Ruqaiya Hasan, centred on Bernstein’s concept of “coding orientations” (1971) and the social distribution of these orientations to meaning (Hasan 2009). A second phase in the 1990s involved Bernstein’s account of “pedagogic discourse” (1990) and genre-based literacy programmes of the “Sydney School” of SFL (Martin 2000). A third phase in the early 2000s centred on the nature of intellectual fields as “knowledge structures” (Bernstein 2000) and the register category of field (Christie and Martin 2007; Christie and Maton 2011). Phases 1 to 3 were thus focused on Bernstein’s framework, which is foundational to LCT. During the early 2000s LCT extended Bernstein’s ideas to the point of becoming a distinctive theoretical framework of its own. Since the mid 2000s the dialogue with SFL has focused on LCT and extended across a far greater range of concepts in SFL. The fourth phase of dialogue was initiated during the late 2000s by the LCT dimension of “Specialization” and involves many aspects of SFL, including field (Martin,

Maton, and Matruglio 2010) and individuation (Martin 2012). This was complemented during the 2010s by a fifth phase, initiated by the LCT dimension of “Semantics”, which involves concepts from across the metafunctions and strata of SFL (Martin, Maton, and Doran 2019). In this paper we introduce concepts from the LCT dimension of “Autonomy” that are likely to initiate a sixth phase of dialogue.

Since the rise of LCT, dialogues with SFL have not only touched upon more concepts but also become more intensive and closer. Where phases 1 to 3 often comprised engagement by scholars from one approach with ideas from the other approach, from phase 4 onwards the dialogue involves scholars using *both* theories to examine the same object of study. This is not to say that the two theories are mixed together; rather, it means that LCT and SFL are used to offer *complementary* analyses of social phenomena (Maton, Martin, and Matruglio 2016).

To give a brief sense of this complementarity, consider the widely-used LCT idea of “semantic waves” (Maton 2013). Figure 1 shows what is termed a “semantic profile”, which is one way in which analyses using concepts from the LCT dimension of Semantics are displayed. On the x-axis, “SG” signifies “semantic gravity” or the strength of context-dependence of meaning; and “SD” signifies “semantic density” or the degree of complexity of meaning. These are two key concepts from LCT Semantics, which can be used to analyse all kinds of practices. The x-axis charts meanings from stronger semantic gravity (SG+) and weaker semantic density (SD−) at the bottom to weaker semantic gravity (SG−) and stronger semantic density (SD+) at the top. Put simply, the x-axis charts meanings from more context-dependent and simpler at the bottom to less context-dependent and more complex at the top. The y-axis denote time, such as text-time. Using a semantic profile, analysis can show changes over time in the context-dependence and complexity of knowledge. For example, Figure 1 shows a series of movements up and down that represent one form taken by “semantic waves”. In this example, which is based on analysis of student essays (Maton 2014, 106–24), the knowledge being expressed shifts several times between relatively context-independent and complex meanings (SG−, SD+) and more concrete and simpler meanings (SG+, SD−), reaching higher up the semantic profile

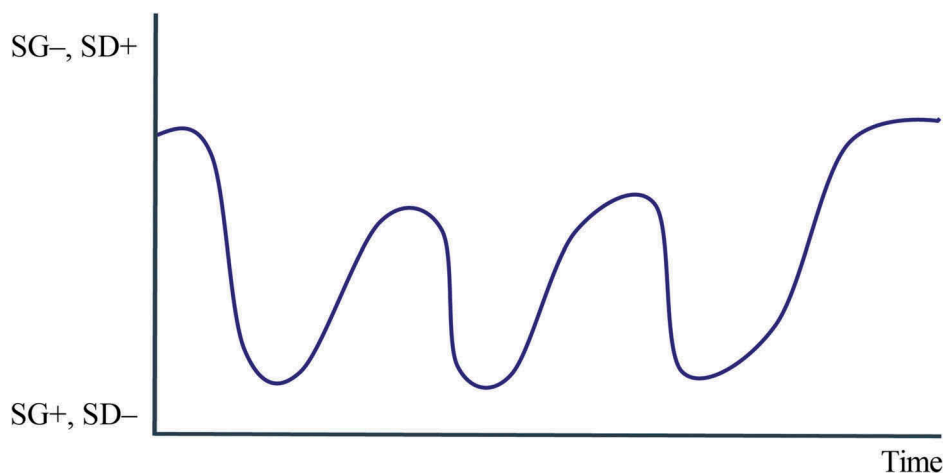


Figure 1. Semantic waves.

at the start and end. This kind of profile is common: in this case the essay begins with general and relatively abstract meanings and then proceeds down to an example and up to how that example is related to the topic, then down and up again twice more with two more examples, before then concluding with relatively general and theoretical meanings. A wide range of studies are showing that semantic waves are key to building knowledge over time and also characteristic of successful student assignments (Blackie 2014; Clarence 2016; Mouton 2019).

Studies are using these LCT concepts to reveal changes in the forms taken by knowledge through a text: in this case, semantic waves or recurrent changes in the strengths of semantic gravity and semantic density. Alongside such analyses, studies use SFL to explore the array of linguistic resources through which these changes in knowledge are expressed. For example, the first upward movement in the profile may be achieved by shifting from an everyday idea to a theoretical concept through employing grammatical metaphor and the final upward movement may be achieved through different linguistic resources shown by analysis of periodicity. This is a simplistic example, but it illustrates how analyses using both LCT and SFL can shed light on complementary features of practice. SFL can show the diverse and often complex sets of linguistic resources used in a text to achieve changes in the forms of knowledge; LCT can show the purpose to which those linguistic resources are being put in terms of changing forms of knowledge. Using SFL on its own, an analysis may struggle to reveal that, in this example, the different linguistic resources of grammatical metaphor and periodicity (and many others) are working towards the same end: creating semantic waves. Using LCT on its own, the analysis may not reveal that a wide range of different linguistic resources are being used to achieve the same effect of an upshift on the semantic profile. Used together, the two frameworks help show more. Thus one outcome of close dialogue between LCT and SFL is the ability for studies to generate greater explanatory power. This can also better support practice; for example, students can be taught both the linguistic resources they need to succeed and when and where they need to employ each resource to achieve the right semantic wave.

A second outcome of dialogue is theoretical advance. This does not happen through abstract discussion of relations between the two theories. It happens through using the two theories to analyse the same real-world data. Analysis with one theory can highlight an issue for the other theory that has yet to be conceptualised. This may then lead to the creation of new or improved concepts. For example, use by Jim Martin of the SFL concepts of “technicality” and “grammatical metaphor” in collaborative analyses of classroom discourse raised the question for Karl Maton of how LCT could address the issue of complexity in knowledge. Complexity is not the specific focus of “grammatical metaphor” or “technicality”, but using those SFL concepts in analysis highlighted empirical phenomena that, when considered in terms of the knowledge practices involved, raised the issue for LCT of how to address complexity in knowledge. This (and other influences) encouraged the creation of the LCT concept of “semantic density”. In turn, Maton’s subsequent use of “semantic density” in collaborative analysis of data raised for Jim Martin the question of how SFL conceptualises complexity of meanings, highlighting how this issue reaches far beyond field to also encompass mode and tenor. This encouraged the creation of the SFL concept of “mass”, which charts the many linguistic resources potentially involved in complexity (see Martin 2017). In short, through working together, each framework stimulated development in the other framework.

Generating greater explanatory power and stimulating conceptual advance has occurred in both phases 4 and 5 of dialogue between LCT and SFL. We believe that a new phase will be added by the emergence of a dimension of LCT called “Autonomy”. Specifically, these new concepts may provide analysis that complements SFL research by helping to reveal what is happening in texts that shift in field, mode or tenor. They may help reveal why some texts are chaotic but others are successful. Moreover, in doing so these LCT concepts may also raise fruitful questions for scholars of SFL, such as the basis of consistency in register.

3. LCT: Autonomy

As mentioned earlier, LCT is a multi-dimensional framework for researching and shaping practice. Each “dimension” includes concepts for analysing a set of organizing principles underlying practices as a species of “legitimation code” (for example, Specialization explores “specialization codes” and Semantics explores “semantic codes”, both of which are species of legitimation code). Which dimensions should be enacted in analysis depends on the object of study and research questions (see Maton, Hood, and Shay 2016). Here we focus on the dimension of Autonomy, which conceptualizes the organizing principles underlying practices as *autonomy codes*. We begin by now discussing “autonomy codes” in order to define the concepts.

3.1. Autonomy codes

Autonomy begins from the simple premise that any set of practices comprises constituents that are related together in particular ways. These may both take many forms. Constituents may be actors, ideas, institutions, machine elements, body movements, etc.; how such constituents are related together may be based on explicit procedures, tacit conventions, mechanisms, formal rules, etc. Autonomy explores the issue of insulation or external boundaries. It asks: how insulated is a set of practices from other practices? To answer this question we explore how insulated are the constituents of those practices and how insulated are the ways those constituents are related together. These two issues are analytically distinguished as:

- *positional autonomy* (PA) between constituents positioned within a context or category and those positioned in other contexts or categories; and
- *relational autonomy* (RA) between relations among constituents of a context or category and relations among constituents of other contexts or categories.

Each may be stronger (+) or weaker (–) along a continuum of strengths, where stronger represents greater insulation and weaker represents lesser insulation.

Stronger positional autonomy (PA+) indicates where constituents positioned in a context or category are relatively strongly insulated from constituents attributed to other contexts or categories. Weaker positional autonomy (PA–) indicates where such distinctions are drawn relatively weakly: constituents may be shared with or drawn from other contexts or categories.

Stronger relational autonomy (RA+) indicates where the principles shaping how constituents are related together are strongly insulated from other ways of relating together

constituents. Put another way, stronger relational autonomy is where the purposes, aims, ways of working, etc. are autonomous: they look inwards to that set of practices – they have their own way of doing things. Weaker relational autonomy (RA–) indicates where the principles shaping how constituents are related together may be drawn from or shared with other sets of practices. In other words, the purposes, aims, ways of working, etc. are heteronomous: they look outwards to other sets of practices.

As shown in [Figure 2](#), the two continua of strengths are visualized as axes of the *autonomy plane*. Varying the two strengths independently (PA+/-, RA+/-) generates four principal *autonomy codes*. As with all species of legitimation code, these concepts explore the basis of legitimacy and thus what practices, dispositions or contexts are attempting to establish as possible and valued.

For *sovereign codes* (PA+, RA+) status is accorded to strongly insulated positions and autonomous principles. What is valued emanates from within the context or category and acts according to its specific ways of working. For example, we stated that the aim of this section is to discuss “autonomy codes” in order to define the concepts; and we are here discussing “autonomy codes” in order to define the concepts. We are not bringing in other constituents (such as examples from everyday discourse) or relating those constituents together for another purpose (such as entertaining the reader). So our constituents embody stronger positional autonomy (PA+) and our purpose embodies stronger relational autonomy (RA+): a sovereign code.

For *exotic codes* (PA–, RA–) legitimacy accrues to weakly insulated positions and heteronomous principles. What is valued are constituents associated with other contexts

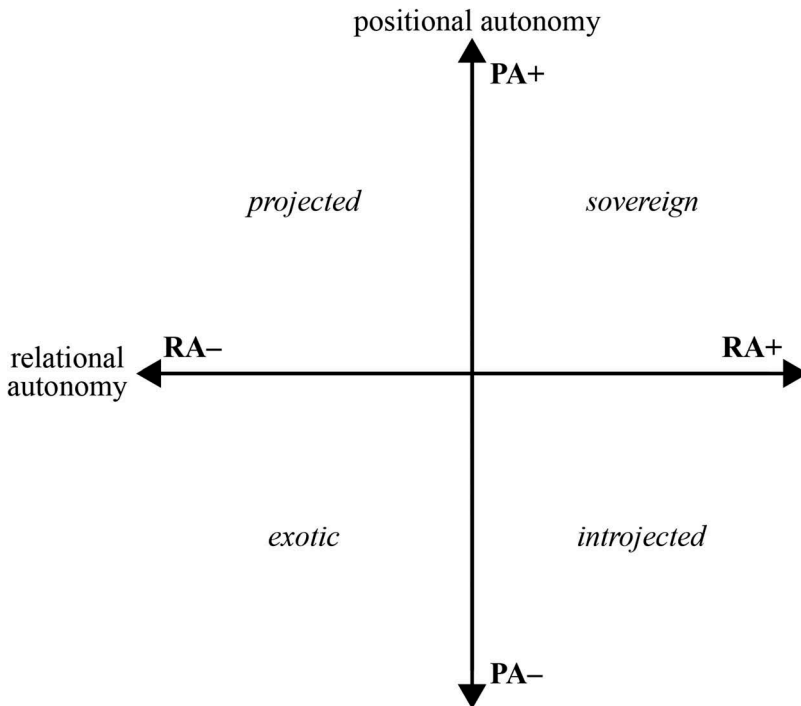


Figure 2. The autonomy plane (Maton and Howard 2018, 6).

or categories and ways of working from other contexts or categories: external constituents for external purposes. Manchester United are the greatest football team the world has ever seen. Given our description of the content and purpose of this section, that incongruous sentence represented weaker insulation around what we are discussing and why. It was not about “autonomy codes” (weaker positional autonomy or PA–) and it was not serving to define the concepts (weaker relational autonomy or RA–): an exotic code.

For *introjected codes* (PA–, RA+) legitimacy resides with weakly insulated positions and autonomous principles. What is valued are constituents associated with other contexts or categories but oriented towards ways of working emanating from within: external constituents turned to internal purposes. An example is the Anglophone proverb “when in Rome, do as the Romans do”: someone entering Rome from elsewhere must follow Roman ways of acting. Moreover, in this context our use of that example itself embodies weaker positional autonomy (PA–) because it is from beyond “autonomy codes”, but stronger relational autonomy (RA+) because it is serving to define the concepts: an introjected code.



For *projected codes* (PA+, RA–) status resides with strongly insulated positions and heteronomous principles. What is valued are constituents from within that are oriented towards ways of working from elsewhere: internal constituents turned to external purposes. Given the intended content and purpose of this section, if we now discussed “autonomy codes” for a purpose other than defining them, we would exemplify this code. For example, a joke suggesting the use of “projected” and “introjected” in the names of autonomy codes shows the authors have ingested too much psychoanalysis would embody stronger positional autonomy (PA+) by discussing the concepts but weaker relational autonomy (RA–) because its purpose is generating humour: a projected code.

The autonomy plane of [Figure 2](#) represents a topology. We have defined four autonomy codes but the plane is not limited to four “settings”. One may identify as many relative strengths of positional autonomy and as many relative strengths of relational autonomy, and so as many different positions on the plane, as required by the analysis. There are not four boxes or types: data may be spread across several codes. To trace change over time one can also trace the *autonomy pathways* taken by practices as their autonomy codes shift over time. There are an unlimited number of potential movements around the autonomy plane. Here we shall focus on only two kinds of pathways: *one-way trips* that begin in one code and end in a second code; and *tours* that begin in one code, move through one or more other codes, and return to where they began. We shall illustrate these two pathways in [section 4](#).

3.2. Translation devices

Tracing pathways raises the question of how to identify positions on the plane. In [section 3.1](#) “autonomy codes” were defined in relatively abstract terms. This distance from specific examples allows the concepts to be enacted in analyses of a very wide range of phenomena. However, for each analysis one needs to make clear how autonomy codes are realized in the specific object of study being analysed. LCT makes this clear through developing “translation devices”.³ [Table 1](#) shows the *generic translation device* for autonomy codes. This sets out a means of dividing up continua of strengths of positional autonomy and relational autonomy, with progressively finer-grained levels of delicacy.



Table 1. Generic translation device for positional autonomy and relational autonomy.

PA/RA	1st level	2nd level	3rd level
+   -	<i>target</i>	<i>core</i>	<i>inner</i>
			<i>outer</i>
		<i>ancillary</i>	<i>inner</i>
			<i>outer</i>
	<i>non-target</i>	<i>associated</i>	<i>near</i>
			<i>remote</i>
		<i>unassociated</i>	<i>near</i>
			<i>remote</i>

One does not always need to use all levels – it depends on the problem being addressed. The generic device provides a framework for individual studies to develop *specific translation devices* that translate between these categories and their data. (We include a simple example as [Table 2](#), in [section 3.3](#)). Together these translation devices enable researchers to identify strengths of positional autonomy and relational autonomy in their data and, conversely, to allocate empirical instances to strengths of positional autonomy and relational autonomy.

To explain the device we first need to highlight a problem. Take, for example, the focus of our analysis in [section 4](#) of this paper: how teachers use non-academic knowledge to teach academic knowledge in school History lessons. This is to analyse how two bodies of knowledge are brought together. However, what is “non-academic” and what is “academic” is not self-evident and unchanging. For example, “History” knowledge differs

Table 2. Specific translation device for this paper.

PA/RA	1st level	In this study:	2nd level	In this study:
+   -	<i>target</i>	New South Wales Stage 4 syllabus for subject area	<i>core</i>	specific unit in target
			<i>ancillary</i>	other topics or years in target
	<i>non-target</i>	other contents or purposes	<i>associated</i>	other educational knowledge
			<i>unassociated</i>	knowledge from beyond education

between classes, years of education, national contexts, etc. – there is no universal definition of “History” content. So, to analyse relations between bodies of knowledge, we need to accept that how each body of knowledge is defined depends on the context. This usually leads to confusion: if it depends on the context, then how can we identify what is, for example, “History” or “everyday” knowledge. The translation device solves this problem by posing the question of what makes the context or category being studied a context or category for the actors involved. It asks: what constituents and what principles of relation (e.g., purposes, aims, ways of working) are considered constitutive of *this* context or category, *here, in this space and time, by these actors*? The result is a “target” that provides a starting point for determining autonomy codes.

As shown in [Table 1](#), target constituents embody stronger positional autonomy and all other, non-target constituents embody weaker positional autonomy; target principles for relating constituents embody stronger relational autonomy and all other, non-target principles of relation embody weaker relational autonomy. For greater delicacy, these categories can be divided by asking which target constituents and principles are considered *core* and which *ancillary* to the context or category, and which non-target constituents and principles are considered closer to (*associated*) or further from (*unassociated*) the target. Asking the same basic questions again generates a third level comprising *inner* and *outer* forms of core and ancillary targets, and *near* and *remote* forms of associated and unassociated non-targets.

You have already encountered a *target* in this article. We stated that [section 3.1](#) would be “discussing ‘autonomy codes’ in order to define the concepts”. That set our target constituents and our target purpose. The examples of each autonomy code we offered in [section 3.1](#) were then related to those targets: stronger positional autonomy when content was “autonomy codes” and weaker positional autonomy for any other content; stronger relational autonomy when relating together constituents to define the concepts and weaker relational autonomy when doing so for any other purpose, such as engaging readers.

How one determines a target depends on the object of study. It may not be explicitly stated, directly asking participants may not be possible or appropriate, and more diffuse markers, such as the unspoken conventions of a social milieu, may be key. A key point is that the target depends on who and what is being analysed, so no specific action, idea, belief, discipline, etc. is always and everywhere a particular code. The target of one person, group or society may be the non-target of another person, group or society. Actors within a social context are likely to possess a number of different targets that may match or clash in different ways. Which targets, if any, are dominant is a matter for empirical research; whose targets form the focus for analysis depends on one’s research questions.

3.3. Enacting autonomy codes in this paper

To illustrate the usefulness of these concepts, we shall analyse pathways traced by classroom practices in secondary schooling. We draw upon a major study of classroom practice.⁴ The project focused on lessons in science and History in Years 7, 8 and 9 at three schools in New South Wales, Australia. Analysis focused on video recordings of lessons across whole units of study (6–8 hours each), interviews with teachers, all teaching materials, and student writing. Here we shall discuss History lessons.

Our focus was on the choice of classroom practices made by teachers. In interviews and their teaching materials teachers described their lessons in terms of engaging with specific content (positional autonomy) for specific purposes (relational autonomy). Table 2 presents in simplified form a *specific translation device* for the analysis we present here. The teachers described their target content (PA+) as the syllabus for Stage 4 of the New South Wales Board of Studies for the subject area of the class, and their target purpose (RA+) as teaching students that content. Their *core* targets (++) for the lessons studied concerned the specific unit being taught, with other units in Stage 4 considered *ancillary* targets (+). (Their *inner-core* targets concerned the content points they created for each specific lesson). In terms of non-targets, teachers viewed other educational knowledge (such as other subjects or other Stages and levels of education in the subject) as *associated* (–) to their target, and knowledge from beyond education as *unassociated* (– –).

Using the specific translation device we analysed the autonomy codes expressed by classroom practice through the lessons. Here we shall illustrate how one-way trips leave different knowledge practices segmented from one another and how tours are a key to bringing together different knowledge practices productively. Put simply, integrating different knowledge practices requires not only leaving one code to engage with others but also bringing knowledge back to that code.

4. Autonomy pathways in history lessons

To illustrate the effects of different pathways we draw on examples that are otherwise similar. Examples in this section are all from History lessons in Year 7 of secondary schools that draw on the same state curriculum. In teaching materials and interviews, both teachers described their target content (PA+) as the History syllabus for Stage 4 of the New South Wales Board of Studies and their target purpose (RA+) as teaching students that content. The lessons are from the same state syllabus content area, “The ancient world”, differing only in whether discussing ancient Rome or ancient Greece and the specific topics of lessons.

4.1. A one-way trip out of history

Our first pathway comprises a distinct phase of a lesson for which the teacher’s (inner-core) target was what she called “today’s question”: “Where was ancient Rome?”. The phase begins after the teacher emphasizes this question to the students. Using several maps she draws on ideas from history, geography, politics and everyday life to describe Rome as like a capital city and modern-day Italy as shaped like a boot. While doing so, the teacher and students embark on a *one-way trip* from her sovereign code into exotic codes, moving away from her target content and purpose. The phase ends with “today’s question” being postponed until another day.

4.1.1. Tracing the pathway

After writing down “today’s question” on the whiteboard, the teacher begins addressing “Where was ancient Rome?” by pointing to a map on the interactive whiteboard (IWB) entitled “The Roman Empire”:

Teacher: Looking? This tells us that the Romans – the people who are from Rome – they didn't just have one city. It expanded – the places where they lived expanded and they had a whole empire, which means a huge area of land where they spread out and they owned it all and they lived. Okay?

The teacher thereby begins by discussing content about the Roman Empire (stronger positional autonomy) for the purpose of teaching about ancient history (stronger relational autonomy): her *sovereign code*.⁵ She then displays a map showing borders of countries in modern Europe, with Italy highlighted:

Teacher: So this is now. Modern. Not ancient, but modern. This [pointing to map] is Rome, the city, and [gesturing more widely] this whole country is Italy, the country. So the capital city is Rome, like our capital city is Canberra, and this whole country is coloured in orange. If you see the map I just put on your desk, [holds up handout] this side, you can see they've written "Italia" because that's how the Italians said the name of their country.

Students: Italia!

The modern map, notion of capital cities, and examples of Canberra and the modern nation-state of Italy, introduce content from beyond her target of the History syllabus. Analysis of teacher interviews and teaching materials identify their source as the secondary school geography syllabus. This educational knowledge is *associated non-target* content and so embodies weaker positional autonomy (PA–). In terms of relational autonomy, the teacher could have turned the mention of Canberra to her target purpose of explaining relations between the city of Rome and the Roman Empire. However, she does not make this link, so the purpose remains simply teaching the geography content, an *associated non-target* purpose that represents weaker relational autonomy (RA–). Thus, the knowledge being expressed now embodies an *exotic code* (PA–, RA–). As portrayed in Figure 3, the teacher has shifted from deep inside her sovereign code to just within an exotic code. She then continues by moving further into this exotic code:

Teacher: Okay. It's Italy, right? That's Italia – Italy. And you can note Italy – does anyone already know this? Italy is easy to spot because it's the shape of something.

Student: A boot.

Teacher: Yes, a boot. See how this [pointing to handout] is a lady's high-heeled boot? There's the high-heel, there's the toe and it's a big long boot. Can everyone see that?

Student: Yep.

Student: I can.

Teacher: Yep? Okay.

Student: Miss, what's the top then?

Teacher: I don't know. Just pretend. Up until there [pointing to handout] it's a boot.

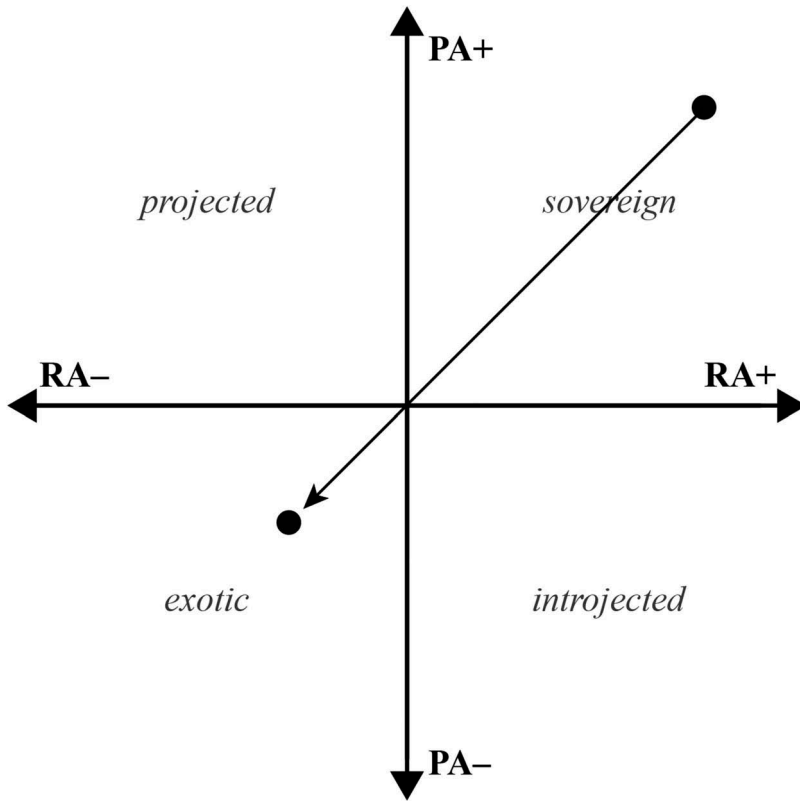


Figure 3. Shift from sovereign code to exotic code.

By discussing the shape of high-heeled boots in order to identify the modern country of Italy on a map, the teacher further weakens both positional autonomy and relational autonomy. Both content and purpose are now from beyond education. As portrayed by [Figure 4](#), this move from *associated* to *unassociated* non-target content and purpose represents a drift deeper into an *exotic code* (PA– –, RA– –).

At this point the teacher tries to return students to her sovereign code. She strengthens positional autonomy by moving back from the boot (PA– –) through the location of modern Italy and notion of a capital city (PA–) to reach the ancient world (PA+) and specifically her core target of ancient Rome (PA++):

Teacher: So the city is Rome, but now in modern day, the whole country is Italy. Do you get it? Okay. But we're talking about *ancient* Rome.

Student: Yeah.

Teacher: Now, the city of Rome has always been in the same place and it's along the river, but where was the Roman Empire? [Returning to first map] Look at this – it's massive. Here's Italy with the boot, but [gestures to map] all of the red part, all of the red parts were owned by the Romans. And their headquarters – their capital or their headquarters was in Rome. But they owned all the red.

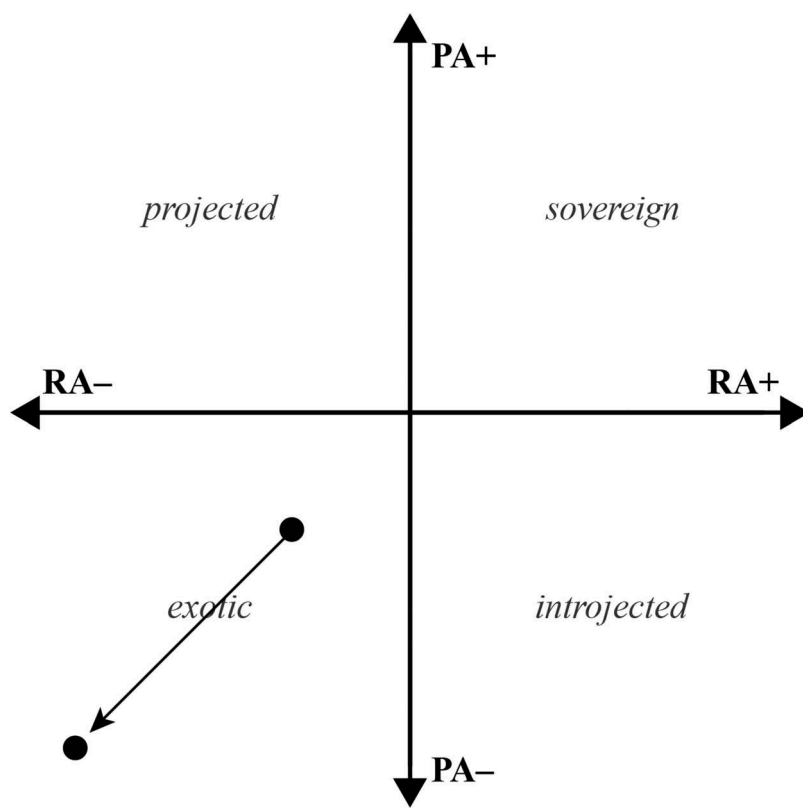


Figure 4. Drifting deeper into an exotic code.

She then attempts to strengthen relational autonomy by reminding students they will need this knowledge to answer the question, “Where was ancient Rome?”. The teacher thereby returns to deep inside her sovereign code. However, the students do not follow her. Instead, classroom practice remains in the exotic code as students attempt to find boots on the map. A series of students ask for her help finding the boot and question whether the shape she indicates resembles a boot; for example:

Student: Miss, I can’t find the boot on the paper.

Teacher: You can’t find the boot on the paper?

Student: I can.

Teacher: Okay.

Student: The boot is the white one.

[...]

Teacher: Okay? So, you found it? Okay. alright. What were you going to say?

Student: Miss ... that was a boot?

Teacher: Yep.

Student: There's lots of them.

Teacher: It's still a boot.

Student: Look, that's where you put your foot in.

After several more minutes of students discussing boots and searching for boot-shapes on the map, the teacher finds she is unable to return students to discussing her target and draws this phase of the lesson to a close. She states that "today's question" will now be addressed another day and turns to a different activity that involves spelling words.

4.1.2. Summary

The autonomy pathway here represents a *one-way trip* out of the teacher's target of secondary school History. As illustrated by '1 → 2 → 3' in Figure 5, the knowledge expressed in classroom practice shifts from (1) her sovereign code to (2) an associated exotic code and then to (3) an unassociated exotic code. We must emphasize that we are *not* criticizing exotic codes or the inclusion of non-academic knowledge in the classroom. As we shall illustrate below, non-target knowledge can support student engagement and understanding. Everyday examples can provide an important way for students to understand academic knowledge. The problem here is that the teacher is unable to bring classroom practice back to her sovereign code. She retraces her steps back to the question of "Where was ancient Rome?" but the students do not

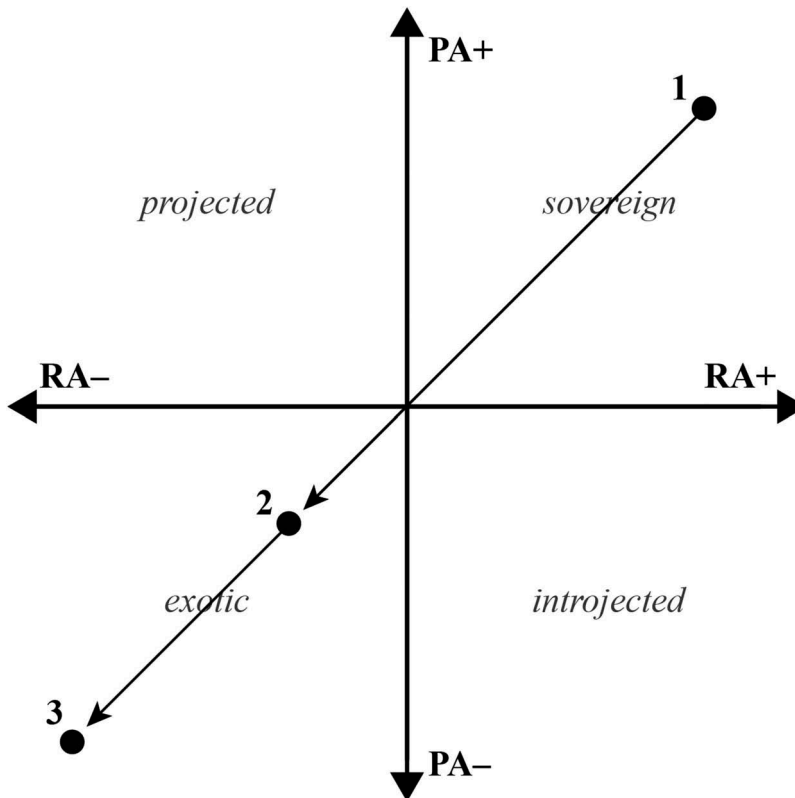


Figure 5. A one-way trip.

follow: most of the class remained in an unassociated exotic code, focused on boot shapes. As a result, whatever lessons could be learned from an excursion into everyday meanings are not bought back to support learning school History, the teacher's target. Rather than integrating different kinds of knowledge, classroom practice has left those knowledge practices separate. The ability to find a boot shape on a map remains strongly segmented from knowledge of ancient Rome.

4.2. *Autonomy tours in history*

We now illustrate *autonomy tours* by a different teacher at a different school but who shares the same target content and target purpose and teaches the same unit ("The ancient world") of the same level (Year 7 secondary school) of the same subject (History). Her core target is also the same – "The ancient world" – though focused on Greece rather than Rome. Our example illustrates a repeated autonomy tour that integrates educational knowledge of ancient Greece government with everyday understandings of modern Australian politics.

4.2.1. *Tracing the pathway*

Through all the lessons of the unit the teacher repeatedly takes a particular autonomy pathway that integrates everyday understandings into educational knowledge. Our examples here are from the third lesson of the unit in which she moves between explaining political arrangements in ancient Sparta and soliciting students' understandings of modern Australian politics. We begin with the teacher discussing how the "Gerosia" (a group determining law and policy in Sparta) made decisions differently to the "ephors", which had been discussed previously:

Teacher: It's not like the ephorate, because the ephors can actually say "yes" or "no" right at the end. ... Do we ever say just "yes" or "no" in Australia?

Student: Sometimes.

Teacher: Sometimes. When sometimes? ... What's it called, do you know?

Student: A referendum?

Teacher: A referendum! Yes! Well done!

This begins deep inside her sovereign code: both content and purpose pertain to "The ancient world" and, indeed, to her inner-core target of government in ancient Greece. As illustrated by [Figure 6](#), the teacher then shifts to deep inside an exotic code by soliciting from students unassociated non-target content (whether yes/no voting occurs in Australia and its name) for an unassociated non-target purpose (clarifying whether such voting occurs today).

The teacher then briefly returns to her sovereign code and repeats this shift to an unassociated exotic code:

Teacher: Some people look at it [the Gerosia] and say, "Well, they're not really having a debate because they can only say 'yes' or 'no'." Well, we have referendums when we want to change our constitution, and in a referendum the government can only ask you a question where you say "yes" or "no".

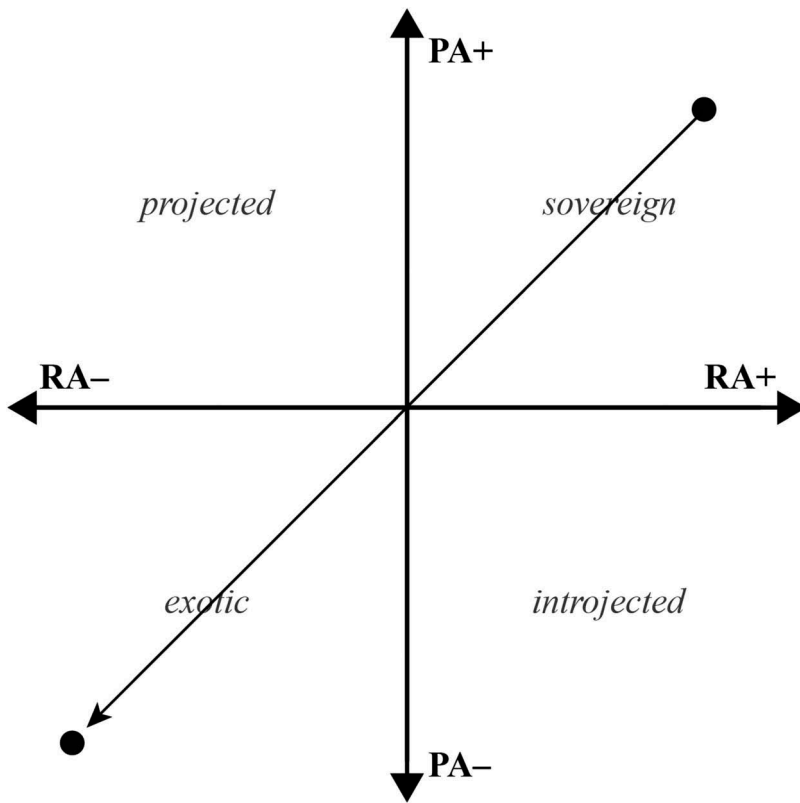


Figure 6. Shift from sovereign code to exotic code.

Thus far the teacher has moved between her sovereign code and exotic codes, swiftly juxtaposing but not explicitly connecting knowledge about ancient Greek government and modern Australian politics. However, at this point she pivots to her target purpose:

Teacher: And that's the exact same thing in Sparta.

This turns discussion of modern referenda (PA- -) to the purpose of teaching about ancient Greece (RA++), strengthening relational autonomy and thereby shifting to an introjected code (PA- -, RA++). From here she proceeds to a sovereign code by returning to her target content and purpose:

Teacher: When the discussion is held, they come and they present things to them at their meeting, and then they say to them: "Do you want this or not?" But they don't stand up and down and yell "yes" or "no" ... What they do is they do it by who gets the loudest clapping.

Students: Whoa! Wow!

As illustrated by [Figure 7](#), this traces a pathway from sovereign code to exotic code, then back and forth again (1 → 2 → 1 → 2) before moving through introjected code (2 → 3) to sovereign code (3 → 4). Indeed, the teacher repeatedly traces the tour represented in [Figure 7](#) by 1 → 2 → 3 → 4. For example, continuing directly on from above:

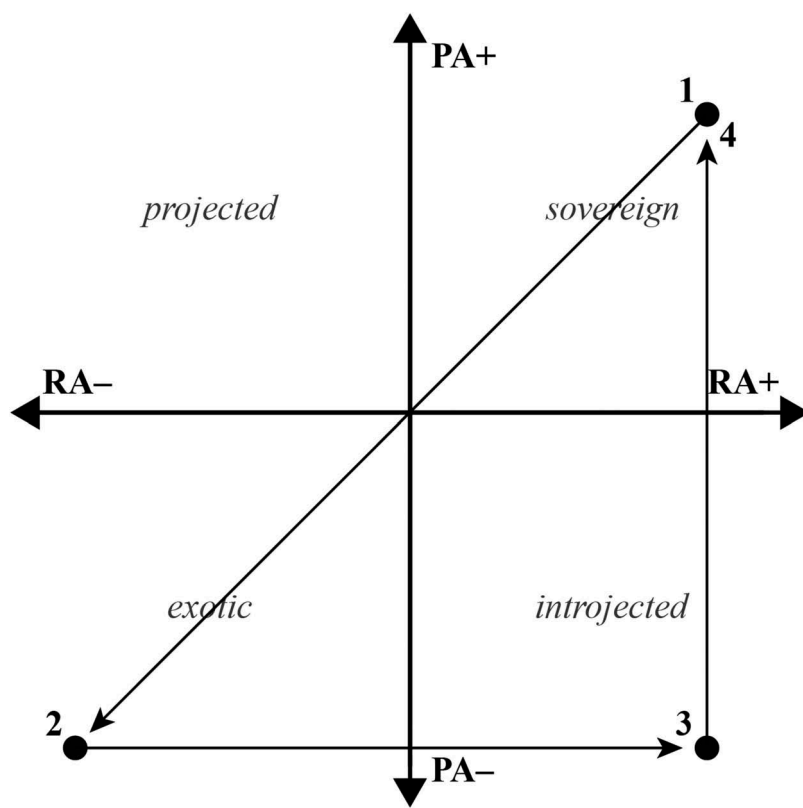


Figure 7. Autonomy tour with “Gerousia”.

Teacher: So, for example, if you want Miss [teacher] to have the happy dance music on after you do your exam: yes?

Students: [Clapping]

Teacher: Stop! And no?

Students: [Clapping]

Teacher: Well, I think we have to say that that bit of legislation went through under the Spartan system, because it was certainly louder for “yes” ...

Student: If it was like really close, by one clap, how could you tell?

Teacher: You couldn’t tell. It keeps going until they can get a clear definition of “yes” or “no”.

Student: But then how would you remember who was louder between “yes” and “no”?

Teacher: Because they do it all the time, sweetie. This is how they vote.

This takes the same tour by moving from (1) the sovereign code ending the previous quote to (2) an exotic code (voting for happy music), then to (3) an introjected code (turning that vote to the purpose of illustrating the Spartan system) and on to (4) her

sovereign code (how Spartiates could determine the result). The teacher repeatedly circles through these codes in this order, taking this tour numerous times through the lesson – it is a well-trodden pathway. For example, here she continues directly on from above into another tour:

Teacher: We think it's really difficult. But if you were to say to them: "Well, you've got to go into this little cardboard box ... " – because that's what you have when you're voting: you go and stand in this little cardboard box and you get a pencil that they give you and a piece of paper, where someone's looked down a great big list and crossed off your name, and then you've got to read the piece of paper and put numbers in every single one of those boxes – they'd be looking at us saying "Are you crazy?" It's the way you get used to. So, they would actually go till there was a clear winner or loser.

Again she shifts from her sovereign code to an exotic code (describing voting practices in modern Australia to ensure everyone in the class knows the details of this example), through an introjected code (imagined Spartan astonishment to make the point they have different expectations), and back to her sovereign code (Spartan voting process).

4.2.2. *Summary*

By leaving her sovereign code the teacher includes knowledge from beyond the History syllabus but, unlike a one-way trip, this does not only lead away from her target. She first discusses non-target content on its own terms (exotic code) before "turning it to purpose" by strengthening relational autonomy (introjected code) and then discussing further target knowledge (sovereign code). She thus selects knowledge from beyond her target, repurposes that knowledge, and integrates the repurposed knowledge into her target. By doing so, the teacher was able to illustrate ideas from educational knowledge in accessible ways (with modern cases, analogies and practical examples) with which the students could engage.

5. Conclusion

The examples analysed here illustrate how the concepts of "autonomy codes" may help shed light on productively bringing together different kinds of knowledge. This analysis (and others presented in Maton and Howard 2018) suggest that to integrate diverse forms of knowledge requires taking autonomy tours: you must leave one form of knowledge practices and engage with other content or other purposes, but you must also return to and connect knowledge with your intended content and purposes. In short, you need to take your readers or students on autonomy tours.

We must emphasize that we have given only a very limited example of the usefulness of "autonomy codes". First, there are many other targets and non-targets: they do not have to be academic knowledge and everyday understandings. For example, Maton and Howard (2018) analyse how science and mathematics are brought together in science lessons: two forms of academic knowledge. The range of potential target contents (art, industrial processes, political beliefs, etc.) and target purposes (selling products, creating laughter, etc.) is enormous. Second, there are more routes for "one-way trips" and "tours"

than the ones we illustrate above. A one-way trip can begin in any code and end in any other code; a tour may start anywhere and move in any direction around the plane. Third, there are more pathways than one-way trips and autonomy tours; for example, Maton and Howard (2018) analyse a “return trip” between two codes and a “stay” inside one code. Fourth, the concepts of “autonomy codes” and the analytic method of tracing pathways are not limited to analysing classroom practices. They can be enacted to explore any form of practice in any social arena. In short, these concepts have very wide applicability to all kinds of practices. Finally, we have presented an analysis but the concepts can also shape practice. For example, we are analysing student assessments which show that different autonomy pathways are valued in different tasks and different subject areas. Having analysed successful pathways, we will be able to teach students how to succeed.

Returning to where we began this paper: what do these concepts mean for SFL? We do not know yet – how new LCT concepts will inspire research and generate new ideas in SFL is not easily predicted. For example, SFL scholars and educators use the notion of “semantic waves” in a wide range of exciting and unexpected ways, such as to structure curriculum and shape assessments. However, it is likely that “autonomy tours” will prove just as valuable for revealing the organizing principles that bring together a diverse array of linguistic resources. Put another way, in research using both frameworks, SFL analyses will help show the linguistic resources that generate different autonomy pathways, and LCT analysis of autonomy pathways will show the purposes to which those complex sets of linguistic resources are being employed.

In terms of stimulating new ideas, one key issue that “autonomy pathways” may raise for SFL concerns consistency in register, particularly in complex texts. In the examples we outlined above, classroom discourse included: History, politics, geography and the everyday (field); diagrams, maps, cartoons and descriptions (mode); and monologues, discussions, students having fun and more (tenor). What brings these together to make one lesson consistent and another lesson not consistent? From ongoing discussions with Jim Martin, it is clear that these complex and shifting arrangements of field, mode and tenor are not easily predicted by genre staging. It is unclear why some arrangements serve the teaching and learning of field and others do not. For example, the analogy between Italy and a boot failed in the example above, but it might succeed in another lesson – why it succeeds or fails is, Martin suggests, not yet clear from an SFL perspective.

The LCT concepts may thus raise questions for SFL. Those questions and their answers are beyond our competence as LCT scholars: we look forward to working with SFL colleagues on the issues they raise. In the meantime, we offer you, as a scholar from beyond LCT, these ideas as an invitation to take an autonomy tour, leading from your sovereign code of SFL (or whatever may be your ‘home’) into the exotic code of LCT and then back home again, hopefully having gained something along the way.

Notes

1. This is based on a keynote paper given by Karl Maton at the *International Forum of Systemic Functional Linguistics*, Peking University, Beijing, China, in October 2018. Parts of this paper draw from analyses first presented in Maton and Howard (2018).
2. For introductions to LCT, information on groups around the world, news about events and access to publications, see www.legitimationcodetheory.com or www.karlmarton.com.

3. On translation devices, see Maton (2014, 136–9), Maton and Chen (2016), and Maton and Doran (2017b).
4. The analyses draw on research funded by the Australian Research Council (DP130100481).
5. The teacher begins within her *inner-core* target, so positional autonomy and relational autonomy are both extremely strong; the Figure 3 pathway thus begins deep inside her sovereign code.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Karl Maton is Professor and Director of the LCT Centre for Knowledge-Building at the University of Sydney, Australia; Visiting Professor at Rhodes University, South Africa; and Visiting Professor at the University of the Witwatersrand, South Africa.

Sarah K. Howard is Associate Professor in the School of Education and Head of SMART Education at the University of Wollongong, Australia.

ORCID

Karl Maton  <http://orcid.org/0000-0001-7805-797X>

Sarah K. Howard  <http://orcid.org/0000-0002-9690-2134>

References

- Bernstein, B. 1971. *Class, Codes and Control, Volume I: Theoretical Studies Towards a Sociology of Language*. London: Routledge and Kegan Paul.
- Bernstein, B. 1977. *Class, Codes and Control, Volume III: Towards a Theory of Educational Transmissions*. second ed. London: Routledge and Kegan Paul.
- Bernstein, B. 1990. *Class, Codes and Control, Volume IV: The Structuring of Pedagogic Discourse*. London: Routledge.
- Bernstein, B. 2000. *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique*. revised ed. Oxford: Rowman and Littlefield.
- Blackie, M. 2014. "Creating Semantic Waves: Using Legitimation Code Theory as a Tool to Aid the Teaching of Chemistry." *Chemistry Education Research and Practice* 15: 462–469. doi:10.1039/C4RP00147H.
- Bourdieu, P. 1988. *Homo Academicus*. Cambridge: Polity Press.
- Bourdieu, P. 1990. *The Logic of Practice*. Cambridge: Polity.
- Bourdieu, P. 2004. *Science of Science and Reflexivity*. Cambridge: Polity.
- Christie, F., and J. R. Martin. eds. 2007. *Language, Knowledge and Pedagogy: Functional Linguistic and Sociological Perspectives*. London: Continuum.
- Christie, F., and K. Maton. eds. 2011. *Disciplinarity: Functional Linguistic and Sociological Perspectives*. London: Continuum.
- Clarence, S. 2016. "Surfing the Waves of Learning: Enacting a Semantics Analysis of Teaching in a First-year Law Course." *Higher Education Research & Development* 36 (5): 920–933. doi:10.1080/07294360.2016.1263831.
- Hasan, R. 2009. *Semantic Variation: Meaning in Society and in Sociolinguistics*. London: Equinox.
- Martin, J. R. 2000. "Grammar Meets Genre: Reflections on the 'Sydney School'." *Arts: the Journal of the Sydney University Arts Association* 22: 47–95.

- Martin, J. R. 2012. *Forensic Linguistics: Volume 8 in the Collected Works of J. R. Martin*. Shanghai: Shanghai Jiao Tong University Press.
- Martin, J. R. 2017. "Revisiting Field: Specialized Knowledge in Secondary School Science and Humanities Discourse." *Onomázein Special Issue* March: 111–148. doi:[10.7764/onomazein.sfl.05](https://doi.org/10.7764/onomazein.sfl.05)
- Martin, J. R., and K. Maton. 2017. "Systemic Functional Linguistics and Legitimation Code Theory on Education: Rethinking Field and Knowledge Structure." *Onomázein Special Issue* March: 12–45. doi:[10.7764/onomazein.sfl.02](https://doi.org/10.7764/onomazein.sfl.02)
- Martin, J. R., K. Maton, and Y. J. Doran, eds. 2019. *Accessing Academic Discourse: Systemic Functional Linguistics and Legitimation Code Theory*. London: Routledge.
- Martin, J. R., K. Maton, and E. Matruglio. 2010. "Historical Cosmologies: Epistemology and Axiology in Australian Secondary School History Discourse." *Revista Signos* 43 (74): 433–463. doi:[10.4067/S0718-09342010000500003](https://doi.org/10.4067/S0718-09342010000500003).
- Maton, K. 2013. "Making Semantic Waves: A Key to Cumulative Knowledge-building." *Linguistics and Education* 24 (1): 8–22. doi:[10.1016/j.linged.2012.11.005](https://doi.org/10.1016/j.linged.2012.11.005).
- Maton, K. 2014. *Knowledge and Knowers: Towards a Realist Sociology of Education*. London: Routledge.
- Maton, K., and R. T.-H. Chen. 2016. "LCT in Qualitative Research: Creating a Translation Device for Studying Constructivist Pedagogy." In *Knowledge-building: Educational Studies in Legitimation Code Theory*, edited by K. Maton, S. Hood, and S. Shay, 27–48. London: Routledge.
- Maton, K., and Y. J. Doran. 2017a. "SFL and Code Theory." In *Routledge Systemic Functional Linguistic Handbook*, edited by T. Bartlett and G. O'Grady, 605–618. London: Routledge.
- Maton, K., and Y. J. Doran. 2017b. "Semantic Density: A Translation Device for Revealing Complexity of Knowledge Practices in Discourse, Part 1 – Wording." *Onomázein Special Issue* March: 46–76. doi:[10.7764/onomazein.sfl.03](https://doi.org/10.7764/onomazein.sfl.03)
- Maton, K., S. Hood, and S. Shay, eds. 2016. *Knowledge-building: Educational Studies in Legitimation Code Theory*. London: Routledge.
- Maton, K., and S. K. Howard. 2018. "Taking Autonomy Tours: A Key to Integrative Knowledge-building." *LCT Centre Occasional Paper* 1 (June): 1–35.
- Maton, K., J. R. Martin, and E. Matruglio. 2016. "LCT and Systemic Functional Linguistics: Enacting Complementary Theories for Explanatory Power." In *Knowledge-building: Educational Studies in Legitimation Code Theory*, edited by K. Maton, S. Hood, and S. Shay, 93–113. London: Routledge.
- Mouton, M. 2019. "A Case for Project Based Learning to Enact Semantic Waves: Towards Cumulative Knowledge Building." *Journal of Biological Education* 1–18. doi:[10.1080/00219266.2019.1585379](https://doi.org/10.1080/00219266.2019.1585379).