PART II

Contexts for EAP
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EAP, EMI OR CLIL?

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Introduction

In this chapter I discuss the European-inspired notion of content and language integrated learning (CLIL). What makes CLIL different from English-medium instruction (EMI) on the one hand and English for academic purposes (EAP) on the other? A cursory examination of the acronym itself raises a number of questions. The Ls in CLIL—language and learning—are straightforward enough, but what about the I and the C? The I in CLIL stands for integrated: this signals CLIL’s dual emphasis on disciplinary learning outcomes along with language learning. Which brings us to the C in CLIL—content. More than anything else, it is this focus on the teaching of disciplinary content that makes CLIL unique. Can EAP professionals teach content? Can disciplinary experts teach language? Or does the CLIL approach necessarily imply collaboration between language and content teachers? These are some of the questions I address in this chapter.

Before I start my description of CLIL, I feel I should declare my background. Although I have worked for many years as a teacher and researcher in the EAP sector, I am also a trained physicist. In fact, I have two quite different affiliations—senior lecturer in English at Linnæus University and reader in physics at Uppsala University. As such, I have a built-in bias towards the content teachers that EAP professionals often find themselves cooperating with. My interests in EAP are focused towards disciplinary teaching and learning and the role of language in these processes. It is perhaps unsurprising, then, that in the ensuing description of CLIL I often adopt the stance of a disciplinary insider, focusing on the often-neglected ‘C’ in CLIL.

I start my description by first examining the definition of CLIL. Thereafter I map out the relationship between CLIL, EMI and EAP and discuss the rise of EMI. Then, after summarizing research into the disciplinary learning outcomes of EMI, I focus on who should teach CLIL and the source of difficult relationships between content and language experts. The chapter finishes by suggesting the concept of disciplinary literacy as a way for content teachers to problematize CLIL, and to begin to view themselves as teachers of disciplinary discourse.

What is CLIL?

As the name suggests, content and language integrated learning (CLIL) is a term used to denote an educational approach where the learning of a non-language subject is combined with language learning. Coined in Europe, the term was first used in 1994 by David Marsh and Anne Maljers. Although in theory CLIL can refer to any language, in the majority of
cases the first ‘L’ stands for English (Dalton-Puffer and Smit, 2013). Thus, Graddol gives the following definition of CLIL:

CLIL is an approach to bilingual education in which both curriculum content—such as science or geography—and English are taught together. It differs from simple English-medium education in that the learner is not necessarily expected to have the English proficiency required to cope with the subject before beginning study.

(Graddol, 2006, p.86)

Although there are strong parallels between CLIL and both the Canadian immersion programmes (Genesee, 1987) and the North American term content-based second language instruction (cf. Met, 1998), the approach grew out of a European political integration agenda. As Marsh (2002, p.11) puts it, CLIL ‘[…] has emerged as a pragmatic European solution to a European need’. Rather than uniting Europe linguistically by promoting a lingua franca—which would be seen to unfairly favour English-speaking countries—the long-term European goal is that all citizens should be able to communicate in two languages other than their mother tongue: the so-called MT+2 objective. In this respect, the European Commission contends that:

Content and Language Integrated Learning (CLIL), in which pupils learn a subject through the medium of a foreign language, has a major contribution to make to the Union’s language learning goals. […] It provides exposure to the language without requiring extra time in the curriculum […]

(European Commission, 2003, p.8)

As we will see later, there is some doubt about whether the claim that CLIL does not require extra time for similar content results holds true at higher levels of education (high school and tertiary level).

The teaching of so-called content courses in English at university level has been variously termed: English-medium instruction (EMI), teaching in English (TIE), English-medium education in multilingual university settings (EMEMUS), content and language integrated learning (CLIL), integrating content and language in higher education (ICLHE), etc. Although potentially signalling different interests, these terms are far from mutually exclusive. Moreover, their interpretation changes depending on observer and setting. This proliferation of terms along with a lack of rigorous definitions has at times led to disagreement in the literature about the definitions of CLIL, EMI and immersion (see for example Lasagabaster and Sierra, 2010; Somers and Surmont, 2012).

In an attempt to resolve this debate, Hüttner and Smit (2014) suggest CLIL can best be conceptualized as a series of local responses to the global status of English. They return to Marsh’s (2002, p.58) earlier description of CLIL as an ‘umbrella term’ for a range of diverse pedagogical activities. Drawing on this notion, they suggest that CLIL can best be conceptualized in terms of Wittgenstein’s (1958) family resemblance. Here, the individual members of the CLIL family are unique but share some identifiable features with other members. Clearly then, in order to avoid potential confusion, it is important to be specific about the particular instance of CLIL that is being discussed. For the purposes of this chapter, I suggest that in higher education there is essentially a continuum of approaches to what is termed CLIL (Figure 6.1).
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On the left of the diagram are courses with only language learning outcomes; on the right are courses with only content learning outcomes. CLIL courses are found somewhere between these two extremes, having both language and content learning outcomes.

At one end of the continuum, language is viewed as fairly unproblematic. Such courses have content-related learning outcomes in their syllabuses, but no explicit English language-related learning outcomes. Language is simply viewed as a tool for teaching that may be substituted by another tool as required—the choice of teaching language is pragmatic and not expected to affect the content taught to any great degree. In such situations, English (if referred to at all in the syllabus) is simply mentioned as the language in which the course is taught. For the purposes of this chapter, I have chosen to term this approach EMI.

At the other end of the continuum are courses with mainly language learning outcomes. The aim of such courses is to provide students with the academic reading and writing skills they need to complete their studies. Here, academic language may be viewed as a generic set of skills that can be acquired more or less independently of the content area where they will be used. EAP courses would be placed towards this end of the language/content continuum. Between these two extremes, we find courses with both language and content learning outcomes. In this chapter, I use the term CLIL to denote this type of course. Thus, whilst EAP is largely language focused and EMI is largely content focused, true CLIL would be firmly fixed in the middle, having specific learning outcomes for both content and language (see Coyle, Hood & Marsh, 2010).

This analytical division is purely artificial. In reality, it is a fallacy to think that content and language can be separated in this way—content and language are inextricably entwined. Thus, when describing the role of language in science learning, Halliday and Martin (1993, p.8) claim ‘[…] language is not passively reflecting some pre-existing conceptual structure, on the contrary, it is actively engaged in bringing such structures into being’. Since the other chapters in this handbook are dedicated to the unpacking of EAP in its various forms, I have chosen to focus my description in this chapter on the right-hand side of Figure 6.1—the CLIL/EMI continuum.

CLIL and higher education

Traditionally, the CLIL label has been less favoured in higher education. Here, the term integrating content and language in higher education (ICLHE) has been introduced in order to acknowledge differences in interest between compulsory education and tertiary settings (Smit & Dafouz, 2012). In practice, few courses in higher education meet strict CLIL/ICLHE criteria—that is, courses with both content and language learning outcomes. This is because, in contrast to the compulsory school sector, language learning is seldom part of the officially sanctioned content curriculum at university level. Thus, unlike Graddol’s earlier definition of CLIL where language proficiency was not a prerequisite for participation, it is the norm
in university courses for students to be expected to have acquired the necessary language skills to complete the course prior to entry. This situation is particularly noticeable in the case of exchange students where courses specify entry requirements in terms of international English language testing system (IELTS) or test of English as a foreign language (TOEFL) scores. As such, disciplinary language learning at university level is often relegated in status to a remedial activity carried out in EAP courses outside the standard curriculum (essentially the left-hand side of Figure 6.1).

Clearly then, the role of CLIL is different in higher education. From a disciplinary perspective, we are interested in students developing a grasp of the ways in which language is used to warrant knowledge claims within the discipline. This is a crucial skill, particularly in L1. For this reason, I have argued that all content teachers should view themselves as CLIL teachers, even in L1 monolingual settings (Airey, 2012). However, the argument that students also need to be able to make disciplinary knowledge claims in English can only be made for certain disciplines and settings. This is borne out by research into attitudes to English across disciplines (Kuteeva and Airey, 2014).

In practice, then, there are often a number of more pressing pragmatic reasons that lie behind teaching a content course in English at university level—such as accommodation of overseas exchange students, or the lecturer not speaking the local language (see Airey, 2004, p.99). Such extrinsic factors have little to do with disciplinary language learning goals. Thus, the introduction of EMI has been shown to be relatively unproblematised with programme administrators simply suggesting ‘it will be a useful experience for students’ (Airey and Linder, 2008). In such cases, the decision to teach in English may well be reversed in the next iteration of the course if the extrinsic factors have changed. Thus, generally it is EMI rather than CLIL (or ICLHE) that is widespread in tertiary settings. As such, a brief description of the rise of EMI courses in higher education is warranted.

The growth of EMI

In 1999, European education ministers met in Bologna to discuss the free movement of students across national boundaries. The resulting Bologna Declaration led to a European framework whereby university degree courses could be credited between the different European countries. Following this initiative, a number of other regions took similar steps to align their higher education systems to allow student accreditation across their respective national boundaries (Huisman et al., 2012; see also Chapters 7–9 of this volume). The ratification of the Bologna Declaration in Europe and similar initiatives elsewhere led to an increase in mobility for lecturers and students alike. However, one major question that was left unanswered in the wake of this increased mobility was the language that should be used to teach these exchange students.

As mentioned earlier, one of the driving factors behind the EU push for mobility was the goal that students should learn other EU languages in order to fulfil the MT + 2 objective. It was, thus, probably envisaged that the teaching of exchange students would occur in the local language. However, in the majority of countries the default position for dealing with (and indeed encouraging) an influx of foreign students was to offer courses taught in English, this is particularly true at the second cycle (master) level. Thus, in Europe, the ratification of the Bologna Declaration led to a rapid increase in the number of courses offered in English across a range of disciplines. This expansion of EMI has been documented in successive surveys (Maiworm and Wächter, 2002; Wächter and Maiworm, 2008, 2014). Paradoxically, this increase in EMI can actually work against the European MT + 2 objective, with minority
languages marginalized as the majority language and English ‘fight it out’ for space within the curriculum (Lindström and Sylvin, 2014; Swales, 1997).

Thus far, the focus of this chapter has been on language learning. I now wish to turn my attention to content. Earlier I mentioned the often-repeated claim that research shows that CLIL does not impact negatively on the learning of content. In the next section, I describe the origins of this claim and examine its validity for higher education.

**Research into EMI: lessons from bilingual education**

Teaching academic subjects in an additional language—bilingual education as it is often termed—is carried out for a number of different practical and political reasons throughout the world. In post-colonial countries, for example, bilingual education has traditionally involved teaching the language of a minority ruling class, to a majority with one or more indigenous languages (see for example Tollefson and Tsui, 2003). In contrast, bilingual education in the USA involves teaching the majority language to immigrant minorities (Willig, 1985). In Europe, another aspect of bilingual education can be observed. Here, bilingual education has been implemented to support regional languages (see for example Fortanet-Gomez, 2013). Finally, yet another aspect of bilingual education can be found in the Canadian immersion programmes where English-speaking families have elected to have their children taught in the language of a minority (French). In each of these examples, there are quite different motivations, power relations and differences in status between languages, thus it is not surprising that what may be deemed a successful bilingual intervention is also very different from setting to setting.

On the whole, research is generally favourable to bilingual education. A large number of Canadian longitudinal studies since the late 1950s have shown that pupils with English L1 can achieve a high level of fluency in French, with no noticeable effect on performance in other subjects (see for example Swain and Lapkin, 1982; Genesee, 1987). These immersion pupils achieve similar results on French comprehension tests as native speakers, and their written and spoken language is also highly developed, with only a few lapses of grammar and collocation. Similarly, Willig (1985) carried out a meta-analysis of US bilingual programmes, concluding that participation consistently led to results in favour of bilingual education.

**Research into EMI at high school and tertiary level**

The majority of data on bilingual education relate to compulsory schooling where students are introduced to the target language at an early age. At this early stage of schooling, language will largely deal with concrete, everyday phenomena. In this respect, Met and Lorenz (1997) and Duff (1997) suggested that at higher levels of education limitations in L2 may inhibit students’ ability to explore abstract concepts in non-language subjects. As such, they warned against the unreflected generalization of the positive effects of bilingual education beyond the system in which the research was carried out. Thus, despite the well-documented and generally accepted positive effects of many bilingual education programmes, Marsh, Hau and Kong (2000, 2002) working in Hong Kong, found large negative effects of high school teaching in a second language on non-language subjects. They suggest that the focus of earlier bilingual studies has been on achievement in languages with ‘a remarkable disregard for achievement in non-language subjects’ (Marsh, Hau and Kong, 2000, p.339). As they point out, the majority of research that exists on bilingual immersion programmes deals with early immersion, where pupils are taught in the additional language from the start of formal schooling.
The effects of EMI at higher levels of education are less well-documented, particularly when it comes to learning outcomes in non-language subjects. These negative results for the Hong Kong setting were confirmed by Yip, Tsang and Cheung (2003) who found that English-medium students, despite having initially higher grades in science, performed more poorly on tests than their peers who were taught in Chinese (Mandarin). The EMI students were found to be particularly weak in problems that assessed understanding of abstract concepts, their ability to discriminate between scientific terms and their application of scientific knowledge in new situations. Similar results have been reported from a number of settings.

In New Zealand, researchers found negative correlations between EMI and performance in undergraduate mathematics, with students disadvantaged by 10 per cent when taught in English (Barton and Neville-Barton, 2003, 2004; Neville-Barton and Barton, 2005). In Sweden, Airey and Linder (2006) found that undergraduate physics students who took notes in EMI lectures focused more on the process of note-taking than understanding content. These students had to do more work outside timetabled lectures in order to make sense of their lecture notes. Many of the students in the study adapted to EMI by employing a number of strategies such as reading about a topic before a lecture and asking questions in L1 about content after lectures. Interaction in these EMI lectures was found to be much lower.

Also in Sweden, Hincks (2010) showed that students speak more slowly in English L2 presentations. In a follow-up study, Airey (2010) demonstrated that although speech rate in student disciplinary explanations was indeed much slower in English, the disciplinary accuracy of the explanations was roughly the same in English and in Swedish. Note that this latter finding says nothing about disciplinary learning in EMI, only that the students could give equally good (or bad) disciplinary descriptions of content in both English and Swedish.

In Norway, Hellekjær (2010) found the majority of students could cope with lectures though a considerable number had comprehension difficulties in EMI, and many reported problems with note-taking. Similarly, research in the Netherlands has also shown negative effects for Dutch engineering students’ learning when they are taught in English (Vinke, 1995; Klaassen, 2001). In contrast to the other tertiary level studies, Klaassen’s work suggests that the negative effects might be temporary and limited to the first year of study in a second language. However, it is unclear whether this finding is due to student adaptation or whether students who could not adapt simply dropped out. Thus, Bruton (2013) has raised the issue of whether certain groups might be disadvantaged by CLIL/EMI.

In summary, EMI at tertiary level clearly places greater demands on language as a constructor of knowledge and this seems to have undesirable effects on content learning in certain settings. However, based on the little research that has been carried out, most students appear to adapt, adopting strategies to cope with EMI, although it is very uncertain whether all students have this ability.

Teaching CLIL in higher education.

Having discussed research into student learning outcomes for CLIL/EMI, I now turn the question of how CLIL can be implemented. Essentially there are three basic options if language and content are to be integrated: language teachers could teach both content and language, content teachers could teach language along with their content, or language teachers and content teachers can cooperate and share teaching responsibilities. Thus, Hillyard concludes her review of CLIL and its relation to EAP with the observation that:
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What is different is that the language teacher is also the subject teacher, or that the subject teacher is also able to exploit opportunities for developing language skills.

(cited in Gustafsson et al., 2011)

Commenting on this quote in their introduction to a selection of papers dealing with collaboration in ICLHE, Gustafsson et al. (2011) take issue with Hillyard’s focus on a one-teacher model. For them, collaboration has many benefits for both content and language experts. However, it is not the lack of collaboration that strikes me, but rather the fact that the first part of this quote is just plain wrong with respect to higher education. A language teacher cannot be a content teacher at tertiary level. Disciplinary experts are just that—experts. The idea that language teachers could teach, say, quantum mechanics to future physicists is just as ridiculous as expecting physics lecturers to teach SFL to future linguists. So whilst language teachers might be able to teach certain types of content in the compulsory sector, this is clearly not the case in higher education. This is a good example of the dangers of unreflected transfer of CLIL findings between settings, and an argument for the family resemblance notion put forward by Hüttner and Smit (2014) described earlier in this chapter. Having ruled out the notion of language experts teaching content, then, the next question is whether content lecturers can teach language.

Here the story is quite different. Content teachers are not expected take on the role of language experts, but rather to explain the ways in which language is used to build and share knowledge within their discipline—something that they have first-hand experience of. This is not to say that this task is trivial—far from it. Being an expert user of disciplinary discourse is not the same as being able to explain to others how to use it—more often than not, such knowledge is tacit. As explained in the section on EMI, although the number of content lecturers teaching their subject matter in English is growing rapidly, few of their courses can be said to be CLIL courses since language learning outcomes are seldom specified in the syllabus. In general, it appears that for CLIL to occur in a higher education context, language specialists need to be involved in some way. Before addressing such collaboration, I will present a brief summary of what is known about content lecturers who change to EMI.

Content lecturers changing to EMI

Only a limited amount of work has been done on the effects on the quality of content lectures when the language is changed to English at tertiary level. In the Netherlands, Vinke, Snippe and Jochems (1998) reported reductions in redundancy, speech rate, expressiveness and accuracy of expression in EMI lectures, and similar findings were reported by Lehtonen and Lönnfors (2001). The EMI lecturers in this Finnish study also mentioned problems of pronunciation and suggested that they would feel uncomfortable correcting students’ English. Similar findings have also been reported in Sweden by Airey (2011b). In Denmark, Thøgersen and Airey (2011) found the lecturer in their study spoke more slowly in EMI classes, taking 22 per cent more time to cover the same material.

Despite these findings, Klaassen (2001:176) suggests a threshold level of TOEFL 580, below which language training is necessary for content lecturer to participate in EMI. Above this level, Klaassen claims that pedagogical training is more useful than language training. Thus, Suvinijitty (2010) finds that Finnish students graded lectures with interactive features as generally easier to understand, irrespective of the language competence of the lecturer.
Language training for content lecturers

A number of universities run in-house courses for content lecturers who need to teach in English. In this respect, few have gone as far as the University of Copenhagen. Here, the Centre for Internationalisation and Parallel Language Use (CIP) has developed the test of oral English proficiency for academic staff (TOEPAS) which is used for certification of lecturers for participation in EMI (Dimova and Kling, 2015; Kling and Stæhr, 2011, 2012).

Cooperation between language and content lecturers

Finally, I turn to collaboration. Here, once again, there are three approaches. The first (and most common) approach is to have EMI given by the content lecturer supported by EAP classes. However well lecturers communicate in such circumstances, this is clearly not CLIL. The second approach involves having content and language lecturers in the same classroom. There has been some research into this type of team teaching, but clearly for financial reasons this is never going to be a tenable position in the longer term. Rather, I suggest this type of teaching may be useful for a period of time with the goal of raising the awareness of language issues in content lecturers before moving on to the third option—content lecturers taking responsibility for the development of both content and language. In this respect, Jacobs (2007) claims that language lecturers can help content lecturers uncover the tacit rules that govern their disciplinary discourse by asking the type of questions a novice would. Special issues of Across the Disciplines (Gustafsson, 2011) and The Journal of Academic Writing (Gustafsson, 2013) deal particularly with this type of collaboration between content and language teachers.

Problems of collaboration

Although it is widely acknowledged that collaboration is needed between content and EAP teachers (Arnó-Macià and Mancho-Barés, 2015), such collaboration has the potential to cause serious problems when disciplinary differences in ideas about what counts as knowledge surface (see Chapter 2 of this handbook).

When the collaboration is being undertaken from disciplinary perspectives that are deemed to be quite different—for example between the so-called ‘hard’ and ‘soft’ or pure and applied sciences, such as was the case in our collaboration—the potential for the collaboration to establish a site of conflict is predictable.

(Jacobs, 2007)

If collaboration is to function effectively, both parties need to understand what the other can bring to the table. It is important that both content and language experts do not underestimate the difficulties of crossing disciplinary boundaries in this way. On the one hand, the content lecturer may initially view the language expert as a low-level technician dealing with issues of secondary importance who has been brought in to offer a ‘quick language fix’. On the other hand, it is easy for the language expert to fall into the trap of criticizing what may appear to be undeveloped or naïve approaches to disciplinary discourse on the part of the content lecturer. For example, the following statement—though perfectly reasonable from a linguistic perspective—may sound confrontational to a content lecturer:
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But how far can [CLIL] collaborations go before coming up against a disciplinary politics that emphasizes hard positivist knowledge, rather than its shaping, construction and interpretation through language? This is an argument that has to be engaged with and won within institutions and also in broader policy arenas. (Baynham, 2011)

And it is not just positivism in the natural sciences that can cause problems. Drawing on Bernstein (1999), Kuteeva and Airey (2014) showed that disciplines with more hierarchical knowledge structures such as natural sciences and medicine actually have strong preferences for English language use, whereas disciplines with more horizontal knowledge structures such as the humanities have strong preferences for local languages (see also Bennett, 2010).

As a linguist who has long worked across disciplinary boundaries, Cecilia Jacobs has the following advice for language experts attempting to work with content lecturers:

Finally, another premise that impacts our work in ICLHE is whether we see our approaches as normative or transformative. Lillis and Scott (2007) describe the normative approach as ‘identifying and inducting’ students into academic and disciplinary conventions, while they see transformative approaches as ‘situating and contesting’ academic and disciplinary conventions. Again, these different premises have huge implications for research and pedagogy. My own research (Jacobs, in press) has shown that much of ICLHE practice happens in that grey area between the normative and the transformative. (Jacobs, 2015, p.17)

In an attempt to guide collaboration between content and language experts and to foster discussion of language learning goals within disciplines, I introduced the term disciplinary literacy. I claim that the goal of university education is the production of disciplinary literate graduates, where disciplinary literacy is defined as ‘the ability to appropriately participate in the communicative practices of the discipline’ (Airey, 2011a). This concept has proved to be a useful starting point for the discussion of disciplinary language learning goals in both L1 and English (see also Linder et al., 2014). Drawing on this work, Airey et al. (in press) recommend that programme and course syllabuses should detail language learning outcomes alongside more traditional learning outcomes.

We believe it is not enough to simply incorporate generalized references to the language of instruction of the form ‘in this course students will practice the use of disciplinary English’. Rather we suggest more specific references along the lines of ‘in this course the following skills will be developed in the following language(s)’. There are two consequences of including disciplinary literacy outcomes of this type in the syllabus: first, students will need to be taught these skills and second they must also be assessed. (Airey et al., in press)

Future research

In his description of the origins of CLIL, Marsh (2002) explains that it was originally conceived in order to address perceived problems with second language teaching. Despite rhetoric to the contrary, this focus on language teaching remains to this day, even in higher education...
settings. In her survey of ICLHE research, Jacobs (2015) reports that ‘the overwhelming majority of the published articles […] were authored by language specialists’. Thus in their research agenda for CLIL, Dalton-Puffer and Smit (2013, p.556) suggest that we need more input from content specialists:

The applied linguistic weighting of CLIL research should be counterbalanced with more input from subject education specialists. That is, CLIL researchers from applied linguistics should actively seek collaboration with subject education specialists in order to encourage the transfer of insights and theoretical understandings (e.g. what are core genres, or what is regarded as student centredness within the traditions of a particular content subject and foreign language teaching).

More research also needs to be focused on the following areas:

• methods for including language learning goals into content syllabuses;
• methods for supporting content lecturers;
• the transferability of CLIL research findings across settings.

I conclude this chapter by quoting Dalton-Puffer and Smit:

For the moment, CLIL still has the flavour of being special, but will attitudes, practices and outcomes be the same once it has lost its aura of innovation and become ‘normal practice’?

(Dalton-Puffer and Smit, 2013, p.557)

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Further reading

Bruton (2013); Gustafsson (2011); Smit & Dafouz (2012); Wilkinson & Walsh (2015)

Related chapters

2 General and specific EAP
35 The common core in the United States
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Note

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References


