

Toward a non-teleological account of demonstrative reinforcement*

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Abstract

It has long been debated whether morphosyntactic change is teleological. Jespersen (1917: 4), for instance, maintained that emphatic negative constructions are created in response to the weakening of older negative adverbs. Others have argued that such therapeutic models of change are flawed, since novel grammatical forms do not owe their existence to a deficit (e.g., Haspelmath 2018: 112). This paper takes up the question of teleological change by examining the definiteness cycle of Van Gelderen (2011: 197–244). According to the definiteness cycle, the development of a definite article from a demonstrative (e.g., Latin ILLE ‘that’ > Old French *li* ‘the’) entails feature loss, which is repaired through reinforcement of the demonstrative (e.g., Latin ECCE ILLE ‘that’ > Old French *cel* ‘that’). It is shown that the definiteness cycle is beset by too many problems to be an adequate model of demonstrative reinforcement. Decoupling demonstrative reinforcement from the grammaticalization of definite articles offers two key advantages. First, it accounts for the fact that demonstrative reinforcement occurs before and after definite articles emerge. Second, it allows reinforced demonstratives to exhibit meanings that go beyond spatial deixis.

Keywords: linguistic cycle, definiteness, grammaticalization, reinforcement, demonstrative, Latin, Greek, Indo-European

7.1 Introduction

Von der Gabelentz (1901: 256) characterized language as shaped by the opposing forces of *Bequemlichkeit* ‘economy’ and *Deutlichkeit* ‘expressiveness’:¹

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¹The following abbreviations are used in the glosses: 1: first person, 2: second person, 3: third person, ABL: ablative, ACC: accusative, ACT: active, ADV: adverb, AOR: aorist, ART: article, COMP: complementizer, CONJ: conjunction, DAT: dative, DEF: definite article, DEM: demonstrative, GEN: genitive, IMPV: imperative, MASC: masculine, MED: mediopassive, NEG: negation, NOM: nominative, OBL: oblique, PASS: passive, POSS: possessive, PRF: perfect, PRES: present, PTCL: particle, PTCP: participle, SG: singular.

Nun bewegt sich die Geschichte der Sprachen in der Diagonale zweier Kräfte: des Bequemlichkeitstriebes, der zur Abnutzung der Laute führt, und des Deutlichkeitstriebes, der jene Abnutzung nicht zur Zerstörung der Sprache ausarten lässt. Die Affixe verschleifen sich, verschwinden am Ende spurlos; ihre Funktionen aber oder ähnliche drängen wieder nach Ausdruck. Diesen Ausdruck erhalten sie, nach der Methode der isolierenden Sprachen, durch Wortstellung oder verdeutlichende Wörter. Letztere unterliegen wiederum mit der Zeit dem Agglutinationsprozesse, dem Verschleife und Schwunde, und derweile bereitet sich für das Verderbende neuer Ersatz vor: periphrastische Ausdrücke werden bevorzugt.²

Von der Gabelentz espouses a teleological approach to morphosyntactic change (Reinöhl et al. 2017: 383; Haspelmath 2018: 112): new forms emerge in response to the reduction of older forms. In the early twentieth century, Meillet (1915–1916: 15–17) came to a similar conclusion in his investigation of the diachrony of conjunctions and since then proponents of teleological accounts have not been in short supply (e.g., Lane 1961: 470; Heine et al. 1991; Dahl 2001: 473; Geurts 2000: 783). Teleological accounts have been especially prominent in the literature on linguistic cycles, as witnessed by Jespersen’s own characterization of his eponymous cycle:

The history of negative expressions in various languages makes us witness the following curious fluctuation: the original negative adverb is first weakened, then *found insufficient and therefore strengthened*, generally through some additional word, and this in turn may be felt as the negative proper and may then in the course of time be subject to the same development as the original word. (Jespersen 1917: 4, emphasis mine)

The weakening of an older negative expression leads to the creation of a new negative formation. In a similar vein, van Gelderen (2011, 2016, 2019) has offered teleological explanations for a variety of linguistic cycles within the Minimalist Program, according to which feature economy drives morphosyntactic innovation.

Not all historical linguists have subscribed to a teleological view of linguistic cycles, however. Hopper et al. (2003: 124), for instance, state in no uncertain terms the faults of such an approach:

Some think of the cycle as starting with reduction of a form, in extreme cases to zero, followed by replacement with a more expressive form (e.g.; Heine et al. 1984: 17; Lightfoot 1991: 171). This kind of model is extremely problematic, because it suggests that a stage of language can exist when it is difficult or even impossible to express some concept.

Elaborating on these points, Reinöhl et al. (2017: 384) observe that if an older construction is so important, it is puzzling that it undergoes weakening in the first place. They also note that

²‘The history of languages moves along the diagonal of two forces: the drive toward economy, which leads to the erosion of segments, and the drive toward expressiveness, which keeps erosion in check so that the language is not destroyed. Affixes are worn down (and) in the end vanish without a trace. However, their functions or similar ones strive again for expression. They acquire this expression in the manner of isolating languages through word order or independent words, which in time are in turn subject to agglutination, reduction, and loss. In the meantime a new replacement is prepared for what has been ruined: periphrastic expressions are preferred.’

teleological accounts are problematic for constructions or categories that are not universal. If they are important enough that they have to be renewed, why are they not found in all languages? Haspelmath (1999, 2000, 2018) has also lodged arguments against teleological accounts of linguistic change.

In this article, I critically review the teleological account of demonstrative reinforcement proposed by Van Gelderen (2011: 197–244),³ who contends that the grammaticalization of a definite article from a demonstrative entails feature loss that is repaired through reinforcement. Examination of the evidence reveals her account to be empirically inadequate (cf. Vindenes 2017: 170). The grammaticalization of a definite article is neither necessary nor sufficient for demonstrative reinforcement. Decoupling demonstrative reinforcement from the grammaticalization of definite articles offers two key advantages. First, it allows demonstrative reinforcement to both precede and follow the emergence of definite articles. Second, it does not restrict the semantics of reinforced forms to spatial deixis.

The remainder of this paper is structured as follows. Section 7.2 introduces the definiteness cycle, which is shown in section 7.3 to be beset by a range of empirical problems. Section 7.4 presents a non-teleological account of demonstrative reinforcement. Section 7.5 summarizes the main argument of the paper and highlights its broader consequences.

7.2 The definiteness cycle

The definiteness cycle (also known as the DP-cycle) comprises two constituent changes: the grammaticalization of a definite article from a demonstrative and the subsequent reinforcement of the demonstrative (van Gelderen 2007: 275; Egedi 2014: 56, 68).⁴ One of the parade examples of this cycle comes from Romance languages in which the Latin demonstrative *ille* ‘that’ first gave rise to a definite article and then underwent reinforcement, such as Old French (van Gelderen 2011: 220–221):

- (1) *The definiteness cycle in Latin and Old French*
 - a. *Grammaticalization of definite article*
Latin ILLE⁵ ‘that’ > Old French *li* ‘the’
 - b. *Demonstrative reinforcement*
Latin ECCE ILLE ‘that’ > Old French *cel* ‘that’⁶

Van Gelderen subscribes to the common view that an absence of deictic semantics distinguishes definite articles from demonstratives (e.g., Lyons 1977: 647, Lyons 1999: 331–332; Müth 2011:

³Van Gelderen (2011: 197–244) herself typically uses the term *renewal* instead of *reinforcement*. I avoid the latter here since it is used in multiple senses in the literature (on which see Reinöhl et al. 2017).

⁴Van Gelderen (2011: 201) offers two different characterizations of the definiteness cycle. The first (in her example 7) involves the series of changes demonstrative > definite article > Case/nongeneric. The second (in her Figure 6.1) involves the change demonstrative > definite article plus reinforcement of the demonstrative. Here I focus on this characterization of the definiteness cycle.

⁵Latin words in small caps refer to the Vulgar Latin ancestral forms of Romance descendants. This representation abstracts away from the segmental properties of the ancestral forms, which are sometimes uncertain. Note in particular that ECCE is used to represent all the various ancestral forms of this adverb, e.g., *ecce*, *eccu*, *akke*, and *akkv* (Ledgeway et al. 2016: 879). When the segmental form is relevant to the discussion, it appears in italics.

⁶The Old French demonstrative itself also underwent reinforcement (Pope 1934: §844).

11; Levinson 2018: 5 challenges this view). On her account, when Latin ILLE became Old French *li*, its interpretable deictic feature was reanalyzed as uninterpretable (i.e., it was lost). This loss then prompted the reinforcement of ILLE with the presentative adverb ECCE ‘look!’ (van Gelderen 2011: 220–221, 244). Demonstrative reinforcement is teleological since it occurs to restore a deictic feature that was eliminated by an earlier change (Alkire et al. 2010: 301 and Manoliu 2011: 478 envision similar processes).

Table 7.1 shows that the cycle in example (1) is not limited to Old French, but occurred throughout Romance. Although all the Romance languages in this table underwent demonstrative reinforcement, the segmental form of the reinforcer varies. In Old French, it appears to be *ecce* (Adams 2013: 465–466) and in Italo-Romance it is *eccu* (which may continue **ecce hom* according to Adams 2013: 469). In Portuguese, Spanish, Catalan, and Romanian, however, it is **accu* (or some variant thereof), whose history is debated (González Ollé 1977; Lloyd 1987: 158; Egido Fernández 2000: 99–102; Sornicola 2011; Adams 2013: 466; Ledgeway et al. 2016). For the present discussion, the crucial point is simply that the Romance demonstratives in Table 7.1 descend from reinforced forms.

<insert Table 7.1 here>

Table 7.1: Romance definite articles, distal demonstratives, and their precursors

Language	Article Source	Article	Demonstrative Source	Demonstrative
Italian	ILLE	<i>il</i>	ECCE ILLE	<i>quello</i>
Old French	ILLE	<i>li</i>	ECCE ILLE	<i>cel</i>
Old Occitan	ILLE	<i>lo</i>	ECCE ILLE	<i>aicel, aquel</i>
Spanish	ILLE	<i>el</i>	ECCE ILLE	<i>aquel</i>
Portuguese	ILLE	<i>o</i>	ECCE ILLE	<i>aquele</i>
Romanian	ILLE	<i>-ul</i>	ECCE ILLE	<i>acel</i>
Ladin	ILLE	<i>el</i>	ECCE ILLE	<i>chël</i>
Catalan	ILLE	<i>el</i>	ECCE ILLE	<i>aquell</i>

The central empirical prediction of the definiteness cycle is that demonstratives and definite articles not be homophonous, since a demonstrative that gives rise to a definite article should undergo reinforcement, which then distinguishes it. The definiteness cycle appears to make no predictions about demonstrative reinforcement in the absence of the grammaticalization of a definite article.

7.3 The empirical inadequacy of the definiteness cycle

In this section, I highlight two critical problems with the definiteness cycle. First, homophony between definite articles and demonstratives is not uncommon cross-linguistically, so the central prediction of van Gelderen’s model is not borne out (section 7.3.1). Second, the definiteness cycle is a parochial model of demonstrative reinforcement since it cannot account for its occurrence in languages in which a demonstrative did not give rise to a definite article (section 7.3.2).

7.3.1 Problem 1: Underapplication of reinforcement

As noted above, the central empirical prediction of the definiteness cycle is an absence of homophony between definite articles and their precursor demonstratives. This prediction is not borne out by cross-linguistic data (e.g., Masica 1986: 134; Dahl 2003; Bashir 2009: 841; Dryer 2013). In a sample of 620 languages, Dryer (2013) identifies 377 as having definite articles. Of these 377 languages, 69 (18.3 percent) have a demonstrative that is also used as a marker of definiteness, one of which is Eastern Ojibwa:

(2) *Article-demonstrative homophony*

mii maanpii wii-bkeyaanh kido giiwenh **wa mko**
but here intend-turn.off.1SG say.3SG it.is.said that bear

‘Well, this is where I turn off, **the bear** said.’ (Nichols 1988: 46)

The determiner *wa* is glossed as a demonstrative ‘that’, but it is translated with a definite article since the bear is discourse-old and the determiner lacks deictic semantics.

Article-demonstrative homophony is also known from Romance. Sornicola (2011: 225–226) observes that descendants of the non-reinforced demonstrative ILLE ‘that’ although rare did survive in Italo-Romance dialects and Old French, as in the following example from Woledge (1979: 70):

(3) *Old French la*

l’ame Uterpandragon son pere,
DEF.NOM.SG.soul.OBL.SG Uterpandragon.OBL.SG 3SG.POSS father.OBL.SG

et **la** son fil et **la** sa
CONJ DEM.OBL.SG 3SG.POSS son.OBL.SG CONJ OBL.SG 3SG.POSS

mere
mother.DEM.OBL.SG

‘(The king swore three oaths on) the soul of Uterpandragon his father and **that** of his son and **that** of his mother.’

Yvain 663–664

The form *la* cannot be the definite article since definite articles cannot be used pronominally. It is instead an anaphoric pronoun that descends from the Latin demonstrative *illa* ‘that’ (see further July 2018: 247–248). Examples such as this are of critical importance because they prove that the emergence of a definite article from a demonstrative did not entail the reinforcement of the demonstrative source (a point that van Gelderen herself seems to recognize on p. 202).

Although article-demonstrative homophony is a well-known phenomenon, Van Gelderen (2011: 197–244) has surprisingly little to say about it. It does, however, come up in her discussion of the Uto-Aztecan language Pima Bajo. Estrada Fernández (1996: 8) describes the Pima Bajo determiners /ig/ and /ik/ as definite articles, but Van Gelderen (2011: 230) challenges this description. Since these forms are homophonous with the demonstrative in Pima Bajo, she reasons that ‘the article stage has not quite been reached.’ Van Gelderen (2011: 197–244) does

not divulge the criteria with which she distinguishes definite articles from other determiners, but this comment at least suggests that a determiner cannot be an article if it is homophonous with a demonstrative. According to such a view, the definiteness cycle would be true by definition, since it would predict that a demonstrative that gives rise to a definite article would undergo reinforcement, but a determiner could only become a definite article once a demonstrative had undergone reinforcement.

7.3.2 Problem 2: Parochial scope

The definiteness cycle is a parochial account of demonstrative reinforcement because it focuses on a single context in which the phenomenon occurs, namely after the grammaticalization of a definite article from a demonstrative. This is not, however, the only context in which the change takes place. Demonstrative reinforcement in Romance, for instance, also occurred in languages in which the demonstrative ILLE ‘that’ did not give rise to a definite article, such as Sardinian, where the definite article emerged from the intensifier IPSE ‘self’ (Diez 1878: 182). Despite this, the demonstrative was nevertheless reinforced with the presentative adverb ECCE ‘look!’ (Jones 1993: 34; Da Milano 2015: 61; Putzu 2015: 47):

- (4) *Demonstrative reinforcement in Sardinian*
cuddu ‘that’ < ECCE ILLE ‘that’

Sardinian *cuddu* thus descends from a reinforced demonstrative just as the demonstratives in Table 7.1 above do. If the grammaticalization of a definite article from a demonstrative is a cause of demonstrative reinforcement, it cannot be the only cause.⁷

Van Gelderen (2011: 220–221) claims that the emergence of a definite article from ILLE led to the reinforcement of the demonstrative with ECCE in Vulgar Latin (cf. Roehrs 2010: 239 n. 16). In fact, forms of *eccille* (< *ecce ille*) are already attested in pre-classical Latin, well before the emergence of the definite article (Grandgent 1907: §65; *TLL*: 5.2.25.13–5.2.25.45; Lindsay 1922: 144; Lodge 1924–1933: s.v. *ille*; Cuzzolin 1998; Perdicoyianni-Paléologou 2006: 49–51; Adams 2013: 466–468):

- (5) sed generum nostrum ire **eccillum** uideo
but son.in.law.ACC.SG our.ACC.SG go.INF.PRES.ACT DEM.ACC.SG see.1SG.PRES.ACT
cum adfini suo.
with relative.ABL.SG his.ABL.SG
‘But I see **there** our son-in-law going there with his relative.’

Plaut. *Trin.* 622

The meaning of *eccillum* is difficult to ascertain on account of its scant attestation, but nearly all its forms have exophoric reference. There is some question in the literature as to whether examples of pre-classical *eccillum* are ancestral to the Romance demonstratives in Table 7.1

⁷Van Gelderen (2011: 224) mentions languages with demonstratives that undergo reinforcement in the absence of a definite article, such as Bosnian/Serbian/Croatian, but does not acknowledge the challenges that such data pose for her account. Citing Brown et al. (2004: 80–81), she suggests that the complex roles of Bosnian/Serbian/Croatian demonstratives may be responsible for their reanalysis and subsequent reinforcement. It is unclear if there is evidence for reanalysis aside from reinforcement itself.

above.⁸ Consideration of this question lies beyond the purview of this paper, since for my purposes the crucial point is that *ille* was reinforced centuries before the emergence of a definite article.

It is worth noting that *eccillum* is not the only reinforced form of *ille* in pre-classical Latin. There is also *illic*, which is formed from the demonstrative *ille* and the suffix *-ce* (Schmidt 1875: 66–86; Lindsay 1894: 436–437; Leumann et al. 1972: §372.b, 372.3; Melchert 2009: 155 n. 7; Adams 2013: 454–456; Breunese 2019: 146) and *ellum* (Lindsay 1894: §18; *EDLIL*: 188; *OLD*: s.v.), in which the demonstrative *ille* has been prefixed with *em* (perhaps the imperative ‘take!’):

- (6) a. in **illisce** habitat **aedibus** Amphitruo,
in DEM.ABL.PL live.3SG.PRES.ACT house.ABL.PL Amphitryon.NOM.SG
natus Argis ex Argo patre.
born.PFV.PTCP.NOM.SG. Argos.ABL.PL from Argive.ABL.SG father.ABL.SG
‘Amphitryon lives in **that house**, born in Argos to an Argive father.’
Plaut. *Amph.* 97–98
- b. **parasitum tuom** video currentem
dependent.ACC 2SG.POSS.ACC.SG run.PRES.PTCP.ACC.SG see.1SG.PRES.ACT
ellum usque in platea ultima.
DEM.ACC.SG all.the.way at street.ABL.SG end.ABL.SG
‘I see **that dependent of yours** running all the way at the end of the street.’
Plaut. *Curc.* 278

The existence of reinforced forms of *ille* in pre-classical Latin makes it clear that the grammaticalization of a definite article is not necessary for demonstrative reinforcement. In addition, it shows that it is essential to distinguish between two changes, demonstrative reinforcement on the one hand and the process by which they become the basic demonstratives of a language on the other. For instance, within the history of Latin and Romance, it is possible that *eccille* was created centuries before it came to be used as a basic distal demonstrative. Under van Gelderen’s account, however, these two changes are one and the same.

The definiteness cycle focuses on the reinforcement of demonstratives that have given rise to definite articles, but the remit of reinforcement extends well beyond such demonstratives. In some Romance languages, for instance, entire inventories of demonstratives underwent reinforcement. The demonstratives in Table 7.2 all descend from reinforced forms. Van Gelderen’s account separates the reinforcement of the distal demonstrative from that of the other demonstratives, as a result of which the reinforcement of the demonstratives in Romance cannot be modeled as a more general morphological trend (on which, see, e.g., Haspelmath 2018).

<insert Table 7.2 here>

⁸Adams (2013: 471) argues that the diachronic relationship between *eccillum* and the precursor demonstratives in Table 7.1 is discontinuous: ‘The uses of *ecce*, like those of *eccum*, in comedy are at a considerable remove from those of their pronominal (compounded) reflexes in Romance, and continuity between Latin and Romance cannot be established.’ It is certainly possible that *ecce* and *ille* coalesced more than once in the history of Latin, but Adams does not actually demonstrate discontinuity. On his account, pre-classical *eccillum* is ‘parenthetic’ and ‘exclamatory’ and therefore cannot be a demonstrative determiner. Since *eccillum* in example (5) is neither parenthetic nor exclamatory, Adams’ analysis does not offer much promise. Even if it were correct, it would not support his claim of historical discontinuity. To substantiate that assertion, he would have to show that the changes necessary to map pre-classical *eccillum* onto the Romance demonstratives are either unlikely or impossible.

Table 7.2: The reinforcement of demonstratives in Romance

Language	Proximal precursor	Proximal	Medial Precursor	Medial	Distal Precursor	Distal
Italian	ECCE ISTE	<i>questo</i>	ECCE TIBI ISTE	<i>codesto</i>	ECCE ILLE	<i>quello</i>
Old French	ECCE ISTE	<i>cest</i>			ECCE ILLE	<i>cel</i>
Romanian	ECCE ISTE	<i>acest</i>			ECCE ILLE	<i>acel</i>

7.4 A non-teleological account of demonstrative reinforcement

The previous section demonstrated that the grammaticalization of a definite article is neither necessary nor sufficient for demonstrative reinforcement. In this section, I advance a non-teleological account of demonstrative reinforcement, which makes two predictions. First, demonstrative reinforcement should take place before and after the grammaticalization of definite articles. Van Gelderen (2011: 197–244) shows that demonstrative reinforcement followed the development of a definite article in a number of languages, so I concentrate here on demonstrative reinforcement in languages without definite articles. As we will see, demonstrative reinforcement in Indo-European has occurred at a relatively rapid rate. Indeed, demonstratives have been reinforced more often than definite articles have emerged from demonstratives.⁹ Second, the semantics of reinforced demonstratives should not be restricted to spatial deixis. Since reinforcement is not driven by feature restoration, reinforcement can yield demonstratives whose meanings extend beyond spatial deixis. Reinforced demonstratives in classical Greek bear out this prediction.

7.4.1 Demonstrative reinforcement in archaic Indo-European

One striking fact reveals the speed at which demonstratives have been renewed in the history of Indo-European: among the archaic Indo-European languages, no two languages exhibit homologous demonstrative inventories. Consider, for instance, the data in Table 7.3.¹⁰ Both Hittite and Greek have three main demonstratives: *kāš*, *apāš*, and *aši* in the former, *hóde*, *hoūtos*, and *ekeīnos* in the latter. Although these are two of the earliest attested Indo-European languages, none of their demonstratives are cognate. Comparison of each pair of languages in Table 7.3 will yield similar results. Some demonstrative forms are cognate (e.g., Vedic *tá* and Old Church Slavic *tъ* both descend from **so-/to-*), but no two languages have fully homologous inventories.

⁹There is confusion in the literature about the antiquity of demonstratives cross-linguistically. Diessel (2006: 475) writes that ‘their roots are generally so old that they cannot be traced back to other types of expressions,’ which is true at least for Indo-European. The truth of this statement does not, however, warrant the following assertion of Levinson (2018: 2): ‘Demonstratives like *this* and *that* are ... among the most deeply conserved and ancient words in languages (Pagel et al. 2013); indeed their etymology can rarely be traced.’ As argued in this section, demonstratives in the history of Indo-European have undergone seemingly constant recreation, with the result that they are not ‘the most deeply conserved and ancient words’ of this stock.

¹⁰The term ‘demonstrative’ is understood liberally in this table, as it includes determiners that some do not consider demonstratives (e.g., Latin *is*). My point remains the same even if one opts for a more restrictive view of demonstratives.

<insert Table 7.3 here>

Table 7.3: Demonstrative inventories in archaic Indo-European

Language	Clade	Demonstrative inventory			
Hittite	Anatolian	<i>kāš</i>	<i>apāš</i>	<i>aši</i>	
Classical Greek	Greek	<i>hóde</i>	<i>hoũtos</i>	<i>(e)keĩnos</i>	
		<i>hodí</i>	<i>houtosí</i>	<i>ekeinosí</i>	
Vedic Sanskrit	Indic	<i>ayám</i>	<i>asáu</i>	<i>tá-</i>	<i>etá-</i>
Avestan	Iranian	<i>a-li-/ima-</i>	<i>ana-</i>	<i>auua-</i>	<i>ta-</i> <i>aēta-</i>
Latin	Italic	<i>is</i>	<i>hic</i>	<i>iste</i>	<i>ille</i>
Gothic	Germanic	<i>is</i>	<i>hi-</i>	<i>jáins</i>	<i>sa</i>
Tocharian A	Tocharian	<i>säm</i>	<i>sæs</i>	<i>sam̄</i>	
Tocharian B	Tocharian	<i>su</i>	<i>se</i>	<i>samp</i>	<i>sem̄</i>
Old Prussian	Baltic	<i>schis</i>	<i>stas</i>		
Old Church Slavic	Slavic	<i>s</i>	<i>онъ</i>	<i>овъ</i>	<i>тъ</i>

Non-homologous inventories can be found even within clades, as revealed by the demonstrative inventories of Tocharian A and B in Table 7.4. The only two demonstratives that share a common ancestor are Tocharian A *sam̄* and Tocharian B *sem̄*, which are highlighted (on the semantics of Tocharian B *sem̄*, see Kümmel 2015). The demonstrative inventories of Anatolian (Melchert 2009), Italic (Dupraz 2011), and Romance (Andriani et al. 2020: 358) exhibit similar diachronic trends. The absence of completely homologous demonstrative inventories reflects the quick rate at which innovative forms replaced older forms. Had new demonstratives forms not emerged so often, there would be more cognates both within and between clades.

<insert Table 7.4 here>

Table 7.4: Demonstrative inventories in Tocharian A and B

Language	Anaphoric	Proximal	Distal	?
Tocharian A	<i>säm</i> < *sə-mə	<i>säs</i> < *sə-ʂə	<i>sam̄</i> < *sæ-n(ə)	—
Tocharian B	<i>su</i> < *sə-u	<i>se</i> < sæ	<i>samp</i> < *sə-mp	<i>sem̄</i> < *sæ-n(ə)

As a result of the speed at which new reinforced demonstratives oust older demonstratives, inferences about the demonstrative inventory of Proto-Indo-European cannot be drawn with any confidence (*pace*, e.g., Meier-Brügger 2010: 366–367; de Vaan 2015: 4–6). Since the **so-/to-* demonstrative is absent from Anatolian, for instance, it is unclear whether its existence goes as far back as Proto-Indo-European (Lundquist et al. 2018: 2101). In a similar vein, the uncertainty in the reconstruction of the Proto-Anatolian demonstrative system makes it difficult to ascertain what demonstratives existed in Proto-Indo-European (Melchert 2009: 155).

The speed of innovation among demonstratives is due to the frequency of demonstrative reinforcement. Table 7.5 presents the demonstratives from Table 7.3 above that descend from reinforced precursors. Reinforcement is achieved through one of the following three strategies: iteration, particle affixation, and demonstrative compounding (de Vaan 2015). Iteration is illustrated by Sanskrit *sá-sa*, particle affixation by Greek *ekeinos-í*, and demonstrative compounding perhaps by the ancestor of Latin *ille*. Only one of the languages in Table 7.3 above has a definite article (classical Greek), as definite articles are a relatively recent development in Indo-European. So most of the demonstratives in this table have undergone reinforcement in the absence of a definite article.

<insert Table 7.5 here>

Table 7.5: Demonstrative reinforcement in archaic Indo-European

Language	Clade	Demonstrative	Precursor	Reinforcement
Classical Greek	Greek	<i>hóde</i>	* <i>so-de</i>	Particle
Classical Greek	Greek	<i>hodí</i>	<i>hod-í</i>	Particle
Classical Greek	Greek	<i>hoũtos</i>	* <i>so-u-to-</i>	Particle, Demonstrative compound
Classical Greek	Greek	<i>houtosí</i>	<i>houtos-í</i>	Particle
Classical Greek	Greek	<i>keĩnos</i>	* <i>ke-eno-?</i>	Particle
Classical Greek	Greek	<i>ekeĩnos</i>	* <i>e-keĩnos</i>	Particle
Classical Greek	Greek	<i>ekeinosí</i>	<i>ekeinos-í</i>	Particle
Vedic	Indic	<i>etá-</i>	* <i>ai-tá-</i>	Particle
Vedic	Indic	<i>asáu</i>	* <i>e-so-u</i>	Particle
Vedic	Indic	<i>sá-sa</i>	<i>sá-sa</i>	Iteration
Vedic	Indic	<i>ayám-ayam</i>	<i>ayám-ayam</i>	Iteration
Young Avestan	Iranian	<i>aēta-</i>	* <i>ai-ta-</i>	Particle
Avestan	Iranian	<i>huua-</i>	* <i>so-u-</i>	Particle
Latin	Italic	<i>hic</i>	* <i>g^he-k^je?</i>	Particle
Latin	Italic	<i>iste</i>	* <i>is-to-?</i>	Demonstrative compound?
Latin	Italic	<i>ille</i>	* <i>ol-no-?</i>	Demonstrative compound?
Tocharian A	Tocharian	<i>sæm</i>	* <i>sə-mə</i>	Particle
Tocharian A	Tocharian	<i>sæs</i>	* <i>sə-šə</i>	Iteration
Tocharian A	Tocharian	<i>sam̐</i>	* <i>sæ-n(ə)</i>	Demonstrative compound?
Tocharian B	Tocharian	<i>samp</i>	* <i>sə-mp</i>	Particle
Tocharian B	Tocharian	<i>sem̐</i>	* <i>sæ-n(ə)*</i>	Demonstrative compound?

7.4.2 Reinforced demonstratives in classical Greek

The definiteness cycle predicts that reinforced demonstratives exhibit basic meanings of spatial deixis, such as ‘this’ and ‘that’, since reinforcement serves only to restore a deictic feature. Under

DIKAIOPOLIS ‘**This (treaty)** also smells strongly of the delegates, who go around the towns to chide the allies for their delay.’

Ar. *Ach.* 191–192

In this scene, Amphiheus is presenting Dikaiopolis with treaties in the form of wine skins. (The classical Greek word *spondaí* can mean both ‘treaty’ and ‘libations’.) He has already presented him with one treaty, which was rejected on account of its odor. In the example above, he presents the second with the phrase *tasdì tàs dekéteis* ‘these ten-year (wine skins)’, which contains the reinforced proximal deictic *tasdí*. The proximal demonstrative is used because he is the one carrying the skins, and the reinforced form is used to direct Dikaiopolis’ attention to the second wine skin.

The same attention-directing function is found with the reinforced medial demonstrative *houtosí*:

- (8) STREPSIADES atàr tí pot eis tèn gēn
but WH.NOM.SG ever.ADV into DEF.ACC.SG earth.ACC.SG
blépousin **houtoí?**
look.3PL.PRES.ACT.IND DEM.NOM.PL
STUDENT zētoūsin **hoūtoi** tà katà gēs.
seek.3PL.PRES.ACT.IND MED.NOM.PL DEF.ACC.PL below earth.GEN.SG
STREPSIADES ‘But why ever are **these here** staring at the ground?’
STUDENT ‘**They** are searching for things below ground.’

Ar. *Nub.* 187–188

At this point in the play, a number of students from Socrates’ school have just appeared on stage. Strepsiades draws the attention of his interlocutor to a subset of these students with the reinforced demonstrative pronoun *houtoí*. In his response, the student uses the same medial demonstrative but in its non-reinforced form, *hoūtoi*. The motivation for his selection appears to be that both he and Strepsiades have now coordinated their attention on the earth-gazers.¹¹ In sum, the distribution of reinforced demonstratives suggests that their use is not conditioned solely by spatial deixis, as the status of the interlocutor’s attention also appears to play a role.

7.5 Envoi

The central claim of this paper is that the grammaticalization of a definite article is neither necessary nor sufficient for demonstrative reinforcement. Although the causes of demonstrative remain an open question, ruling out a teleological account is a crucial first step toward an answer. One consequence of the claim advanced in this paper is that the definiteness cycle as proposed by Van Gelderen (2011: 197–244) ceases to exist, since its two constituent changes have been decoupled. The question arises as to whether other linguistic cycles that have been analyzed as teleological will stand up to scrutiny.¹²

¹¹It may well be the case that the Latin reinforced demonstratives presented in section 7.3.2 above also presuppose the absence of joint attention (Bourciez 1956: §127).

¹²I myself have proposed that head-initial conjunctions were created in the history of Indo-European in response to the deficiencies of postposed enclitic conjunction (Goldstein 2019: 19–20). In retrospect, there may well be a better

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