

# The representation of gender and inflectional class in Italian: A reply to Kučerová 2018\*

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## Abstract

In a recent article, Kučerová 2018 (henceforth K18) puts forward a novel theory of the morphology and interpretation of nominal gender in Italian. This paper takes issue with this theory from both empirical and theoretical standpoints. We first show that several generalisations presented as empirical support for it are in fact incorrect. We then point out a series of fundamental challenges for the theory. First, the proposed three-way classification of nouns misrepresents the full range of facts, because it does not take into account plural morphology or the interdependencies of CLASS and GENDER features. Second, the account of gender mismatch in terms of “semiconservativity” fails to capture the Italian data, once the full paradigm is considered. Finally, K18’s use of Phase Theory to model contextual valuation of gender faces an insurmountable lookahead problem.

**Keywords:** gender, inflectional class, Italian, Maximize Presupposition

## 1 Introduction

In a recent article in the present journal, Kučerová 2018 (henceforth K18) puts forward a theory of the morphology and interpretation of nominal gender in (Standard) Italian, which builds on a number of novel theoretical ideas. In this paper, we take issue with this theory from both empirical and theoretical standpoints. First, §2 shows that certain generalisations presented in K18 as crucial empirical support are in fact incorrect. §3 then presents a series of further empirical facts about the interaction of gender, number, and class that pose foundational challenges to K18’s theory. In particular, the proposed three-way classification of nouns misrepresents the full range of facts, because essential data, involving plural morphology and the interdependencies of CLASS and GENDER features. §4 concentrates on two issues arising from the use of Phase Theory in K18. §4.1 argues that, once the full paradigm is brought into view, K18’s account of gender mismatch cannot capture the Italian data, and §4.2 shows that Phase Theory is in fact fundamentally incompatible with another crucial component of K18’s model, namely, contextual valuation of gender.

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Let us begin with a brief review of the theory. K18 identifies three classes of nouns in Italian, each listed differently in the lexicon, as shown below.<sup>1</sup>

1. *Conservative nouns* (e.g. *mano*<sub>F</sub> ‘hand’, *libro*<sub>M</sub> ‘book’) are invariant with respect to gender (as evidenced by agreement) and inflectional class. They are listed with an *n* specifying class and gender features, e.g. [<sub>nP</sub> *n*<sub>[CL:o/i, GEN:F]</sub> √*MAN*-]
2. *Semiconservative nouns* (e.g. *testimone*<sub>M/F</sub> ‘witness’<sup>2</sup>) are invariant with respect to inflectional class but can agree both in feminine and masculine gender. They are listed with an *n* specifying class but not gender, e.g. [<sub>nP</sub> *n*<sub>[CL:e/i]</sub> √*TESTIMON*-]
3. *Liberal nouns* (e.g. *figlio*<sub>M</sub>–*figlia*<sub>F</sub> ‘child’) can bear either gender value, and the choice of gender determines the inflectional ending: *o/i* for masculine, *a/e* for feminine. They are listed as bare roots, e.g. √*FIGLI*-.

The gender of semiconservative and liberal nouns is not determined from the lexicon, but can be valued in two alternative ways: if the noun has an animate referent, it must be ‘valued from the context’ in a way that reflects the noun’s semantics. §4.2 will discuss this idea in detail, and argue that it does not ultimately hold together. On the other hand, if the referent is inanimate, contextual valuation is impossible and default masculine is assigned as a last resort. K18 furthermore proposes that the distinction between lexically vs. contextually valued gender maps onto the divide between “grammatical” and “natural” gender: gender features valued in the lexicon are never semantically interpreted and, conversely, those valued contextually always are.

Lastly, inflectional class can be determined in two ways: in (semi)conservative nouns it comes from the valued [CL] feature on *n*, while in liberal nouns from last resort PF rules that realise [GEN:M] as default *-o/i* and [GEN:F] as default *-a/e*.

Before proceeding further, note that this three-way typology already raises some unanswered questions. First, there are some *inanimate* nouns that can bear either gender (see esp. Acquaviva 2008). In some cases, there are systematic differences in meaning correlating with differences in gender, as with *tree-fruit* noun pairs (e.g. *melo*<sub>M</sub>–*mela*<sub>F</sub> ‘apple (tree)–apple (fruit)’). In others, differences in meaning are idiosyncratic and markedly subtle (e.g. *buco*<sub>M</sub>–*buca*<sub>F</sub> ‘(bi-dimensional) hole–(three-dimensional) hole’, from Acquaviva 2008: 130), so much so that they can often be reduced to frequency, convention, or register (e.g. *mattino*<sub>M</sub>–*mattina*<sub>F</sub> ‘morning’, *orecchio*<sub>M</sub>–*orecchia*<sub>F</sub> ‘ear’). Details aside, it is unclear how these nouns fit within K18’s system. The observed alternations suggest that these roots are stored without a gender specification, but in that case the system always predicts default masculine, because contextual gender valuation is not available for inanimates. Perhaps the model could be augmented with additional feature-valuation mechanisms, or the lexicon expanded to include sets of phonologically

<sup>1</sup>Abbreviations are as follows. CL: inflectional class, F: feminine, GEN: gender, M: masculine, NUM: number, PL: plural, S: singular. K18 uses numerals (1–3) for noun classes. We use instead the notation *x/y*, where *x* is the singular suffix and *y* its plural counterpart (cf. §3 for explicit motivations).

<sup>2</sup>K18 uses the nouns *chirurgo* ‘surgeon’ and *soprano* ‘soprano’ as examples of semiconservativity. However, this raises serious issues, which will be discussed in §4.1. Relatedly, K18 reports inter-speaker variation between conservativity and semiconservativity for *soprano*-type nouns. On the other hand, there is no inter-speaker variation for nouns like *testimone* ‘witness’.

and semantically near-identical nouns listed as separate entries. This remains an open question for K18.

On a similar note, an anonymous reviewer points out a handful of nouns whose inflectional endings alternate freely between two classes (*pace* Kučerová 2018: 818, fn. 17). Examples include *levriere<sub>M</sub>~levriero<sub>M</sub>* ‘sighthound (dog bred to hunt by sight)’, *stratega<sub>M</sub>~stratego<sub>M</sub>* ‘strategist’, and *scolia<sub>M</sub>~scolia<sub>M</sub>* ‘scholiast (author of commentary on ancient manuscripts)’ (differences are stylistic). If these nouns are listed with no class specification, nothing in K18’s model can predict the variation in inflectional ending: the default PF realisation *o/i* would be expected in all cases. In fact, K18’s system predicts no detectable difference between conservative nouns with [CL:*o/i*, GEN:M], hypothetical semiconservative nouns with [GEN:M], inanimate semiconservative nouns with [CL:*o/i*], and inanimate liberal nouns. We leave these as open questions, and proceed with our more directed criticism.

## 2 Purported Empirical Support

We begin by reviewing some of the data presented in K18 as support for the theory, and showing that many of the purported generalisations are empirically problematic. With this out of the way, we will proceed to raise more substantial analytical and theoretical issues, and discuss them at length in §3 and §4. Readers mainly interested in the latter may therefore feel free to skip this section.

### 2.1 Noun-verb pairs

It is remarked in K18 that only liberal nouns can have verbal counterparts with the bare root followed directly by the inflectional suffix *-are* in place of the nominal theme vowel. This is argued to be a good prediction, because only liberal nouns are listed as category-neutral roots in the lexicon so only they can combine directly with verbal inflection in the absence of denominal derivational morphology. However, noun-verb pairs that directly contradict the generalisation can be found in profusion, as demonstrated in Table 1. These examples in Table 1 are doubly problematic. First, although not necessarily incompatible with the theory advanced in K18, noun-verb pairs turn out to provide no support for it and question its empirical rationale. Second, given K18’s own assumptions, the data in Table 1 suggests that the roots of liberal nouns are no more category-neutral than those of (semi)conservative nouns, casting doubt on the suggestion that the latter, but not the former, should be listed in the lexicon *as* nouns, which is one of the fundamental tenets of K18’s theory.

### 2.2 Loanwords

It is assumed throughout K18 that Italian inflectional class must be expounded by a vowel suffix, and that no noun can be lexically specified for gender but not for class. It then follows that any loanword ending in a consonant, lacking a class marker, cannot be associated with any inflectional class and cannot encode gender in the lexicon. As a consequence, the only way for such a loanword to be associated with gender is via contextual

GEN:M – CL:o/i		GEN:F – CL:a/e	
NOUN	VERB	NOUN	VERB
<i>cemento</i> ‘cement’	<i>cementare</i> ‘cement’	<i>scala</i> ‘ladder’	<i>scalare</i> ‘climb’
<i>martello</i> ‘hammer’	<i>martellare</i> ‘hammer’	<i>pianta</i> ‘plant’	<i>piantare</i> ‘plant’
<i>alito</i> ‘breath’	<i>alitare</i> ‘exhale’	<i>spiaggia</i> ‘beach’	<i>spiaggiare</i> ‘beach’
<i>pavimento</i> ‘floor’	<i>pavimentare</i> ‘pave’	<i>macchina</i> ‘machine’	<i>macchinare</i> ‘plot’
<i>ghiaccio</i> ‘ice’	<i>ghiacciare</i> ‘freeze’	<i>multa</i> ‘fine (fee)’	<i>multare</i> ‘fine’
<i>suono</i> ‘sound’	<i>suonare</i> ‘play’	<i>cena</i> ‘dinner’	<i>cenare</i> ‘have dinner’
<i>calcio</i> ‘kick’	<i>calciare</i> ‘kick’	<i>ruota</i> ‘wheel’	<i>ruotare</i> ‘revolve’
GEN:M – CL:e/i		GEN:F – CL:e/i	
NOUN	VERB	NOUN	VERB
<i>sale</i> ‘salt’	<i>salare</i> ‘salt’	<i>stagione</i> ‘season’	<i>stagionare</i> ‘season’
<i>pepe</i> ‘pepper’	<i>pepare</i> ‘pepper’	<i>occasione</i> ‘occasion’	<i>occasionare</i> ‘cause’
<i>colore</i> ‘colour’	<i>colorare</i> ‘colour’	<i>canzone</i> ‘song’	<i>canzonare</i> ‘tease’
<i>odore</i> ‘smell’	<i>odorare</i> ‘smell’	<i>visione</i> ‘vision’	<i>visionare</i> ‘view’
<i>genere</i> ‘gender’	<i>generare</i> ‘generate’	<i>chiave</i> ‘key’	<i>chiavare</i> ‘fuck’
<i>concime</i> ‘manure’	<i>concimare</i> ‘fertilize’	<i>stazione</i> ‘station’	<i>stazionare</i> ‘stay’
<i>regime</i> ‘regime’	<i>regimare</i> ‘regulate’	<i>vernice</i> ‘paint’	<i>verniciare</i> ‘varnish’
GEN:M – CL:a/i			
NOUN	VERB		
<i>sistema</i> ‘system’	<i>sistemare</i> ‘arrange’		
<i>diploma</i> ‘diploma’	<i>diplomare</i> ‘graduate’		
<i>poeta</i> ‘poet’	<i>poetare</i> ‘make poetry’		
<i>pilota</i> ‘pilot’	<i>pilotare</i> ‘pilot’		
<i>programma</i> ‘schedule’	<i>programmare</i> ‘plan’		

Table 1: Examples of noun-verb doublets with conservative nouns.

gender valuation or default masculine as a last resort. Since contextual valuation requires an animate referent, all inanimate loan nouns ending in consonant are predicted to be masculine. This is presented in K18 as a correct prediction.

While a large number of loanwords are indeed masculine, feminine inanimate nouns are also amply attested amongst borrowings, as exemplified below.<sup>3</sup>

(1) Feminine inanimate loans from English

*audience, cache, chat*<sup>4</sup>, *cheesecake, clearance, compilation, cover, escalation,*

<sup>3</sup> Ferrari (2005) observes that in her database of 4,309 nouns there are 266 loanwords, of which 25 (or 9.3%) are feminine. This is not a negligible proportion and it cannot be ignored: K18’s model fails to predict the existence of roughly 1 out of 10 loan nouns (see also Ferrari-Bridgers 2008).

<sup>4</sup>Incidentally, the noun *chat* is mentioned on p. 823 of K18 as an example of a masculine loanword from English. As a matter of fact, *chat* is invariably feminine in Italian. We suspect the inaccuracy may be due to a confusion with the masculine noun *khat* ‘khat (shrub, stimulant)’, a loanword from Arabic that may occasionally be spelled also as *qat/chat*.



‘default’ (cf. Harris 1991, Sauerland 2003, *et seq.*). Nonetheless, the theory of K18, as it stands, does not seem to succeed in developing this intuition into a fully-fledged model capable of making the right predictions in a systematic way.

### 3 Inflectional Classes and Liberal Nouns

As we have just seen, there does not seem to be strong empirical evidence for the theory put forward in K18. On the contrary, several facts turn out to be problematic. In this section, we will focus on inflectional classes, their identity conditions, and their interrelations with gender. We will argue that, once the full complexity of the nominal inflection is considered, the distinction between semiconservative and liberal nouns as proposed in K18 cannot be maintained. We will conclude that class is never listed in the lexicon, thereby collapsing the distinction entirely: there are only nouns with fixed, grammatical gender, and nouns with free, interpreted gender.

#### 3.1 Plurals and the typology of inflectional classes

A crucial limitation of the entire discussion in K18 is that inflectional classes are defined solely in terms of the vowel of the singular noun ending. As a consequence, only three noun classes are identified, as shown below (cf. Kučerová 2018: 816, ex. 1).

(5) [CL:1]	[CL:2]	[CL:3]
singular in <i>-o</i>	singular in <i>-a</i>	singular in <i>-e</i>

At no point in K18 are plural nominal endings discussed, even though they are an essential part of the Italian nominal system. In fact, inflectional classes can only be defined in terms of *pairings* of singular/plural noun endings. Once these are both taken into account, the following typology of six classes comes to light.

1. **a/e-class** (*-a* in the singular, and *-e* in the plural). Only cooccurs with feminine gender, e.g. *nonna/nonne<sub>F</sub>* ‘grandma(s)’, *banana/banane<sub>F</sub>* ‘banana(s)’.
2. **o/i-class** (singular in *-o*, plural in *-i*). Almost exclusively occurs with masculine gender (e.g. *medico/medici<sub>M</sub>* ‘doctor(s)’, *progetto/progetti<sub>M</sub>* ‘project(s)’), but there is a single exception: feminine *mano/mani<sub>F</sub>* ‘hand(s)’.<sup>8</sup>
3. **e/i-class**. Occurs both with masculine (e.g. *padre/padri<sub>M</sub>* ‘father(s)’, *fiume/fiumi<sub>M</sub>* ‘river(s)’) and feminine (e.g. *madre/madri<sub>F</sub>* ‘mother(s)’, *parte/parti<sub>F</sub>* ‘part(s)’).
4. **a/i-class**. Almost exclusively occurs with masculine gender (e.g. *poeta/poeti<sub>M</sub>* ‘poet(s)’, *sistema/sistemi<sub>M</sub>* ‘system(s)’), but there are two feminine exceptions: *arma/armi<sub>F</sub>* ‘weapon(s)’, and *ala/ali<sub>F</sub>* ‘wing(s)’.
5. **∅/∅-class** (invariable or “uninflected” nouns). Occurs both with masculine (e.g. *re<sub>M</sub>* ‘king(s)’, *gorilla<sub>M</sub>* ‘gorilla(s)’) and feminine gender (e.g. *virtù* ‘virtue(s)’, *foto<sub>M</sub>* ‘photo(s)’).

<sup>8</sup>See §4.1 for putative semiconservative nouns in *-o/i* like *soprano/soprani<sub>M/%F</sub>* ‘soprano(s)’.

<i>o</i> -class [CL:1]	<i>a</i> -class [CL:2]	<i>e</i> -class [CL:3]	–
<i>o/i</i> -class (M/F)	<i>a/e</i> -class (F)	<i>e/i</i> -class (M/F)	∅/∅-class (M/F)
<i>o/a</i> -class (MS/FPL)	<i>a/i</i> -class (M/F)		

Table 2: Mapping between Kučerová’s (2018) classes and those we identified.

6. ***o/a*-class.** Gender is sensitive to number and covaries with it<sup>9</sup>, e.g. *uovo*<sub>M</sub>/*uova*<sub>F</sub> ‘egg(s)’, *paio*<sub>M</sub>/*paia*<sub>F</sub> ‘pair(s)’.

That there should be more inflectional classes than the three identified in K18 is not in itself a worrying theoretical issue, because in principle any number of values could be postulated for the feature [CL: \_\_]. However, certain crucial aspects of the theory in K18 are called into question, because the core analytical vocabulary used to formulate its generalisations is empirically inadequate. In light of our discussion, the relevant revisions to the model in (5) would have to be as indicated in Table 2.

Let us consider some important consequences of this shift. First, notice that not all inflectional classes cooccur with both genders. In particular, nouns inflected in the *a/e*-class must be feminine, unlike, for example, those in the *e/i*-class, which can be masculine (e.g. *pesce/pesci*<sub>M</sub> ‘fish’) or feminine (e.g. *vite/viti*<sub>F</sub> ‘grape vine(s)').<sup>10</sup> Therefore, it does not seem to be the case that “any gender feature can combine with any class feature” (Kučerová 2018: 816). This is unexpected and problematic from K18’s perspective, because gender and class are represented as independent formal features capable in principle of occurring in any combination, and their purported combinatorial freedom is expressly used as a rationale behind the architecture of K18’s model. Deriving these patterns as something more than coincidences or mere lexical regularities would require an altogether different approach, where gender and class are not both represented in the syntax as independent features.

### 3.2 Variable class and the typology of liberal nouns

A more significant issue arises from K18’s reliance on post-syntactic default rules to predict the inflectional endings of liberal nouns, which are hypothesised to be stored in the lexicon as bare roots without any gender or class specifications. Depending on the semantics of the referent, liberal nouns can bear either gender value, and this in

<sup>9</sup>*o/a*-nouns are masculine in the singular and feminine in the plural, as evidenced by agreement with determiners, adjectives, and participles (see Acquaviva 2008 and references therein). We have included them for the sake of completeness, even though it is debatable whether they form a simple class. Some of them can also have a masculine plural in *-i* (e.g. *braccio*<sub>MS</sub>/*bracci*<sub>MPL</sub>–*braccia*<sub>FPL</sub> ‘arm(s)'), suggesting that they are masculine *o/i*-nouns whose root also occurs as a feminine pluralia tantum inflected in a hypothetical, hitherto undiscussed *–/a*-class (cf. Baggio 2020).

<sup>10</sup>A possible solution for this problem may be to collapse the *a/e*-class with the *a/i*-class by analysing them as the feminine and masculine variants, respectively, of a single *a/i*<sub>e</sub>-class. However, the *a/i*-class includes two feminine nouns: *ala/ali*<sub>F</sub> ‘wing(s)’, and *arma/armi*<sub>F</sub> ‘weapon(s)’. If these are taken at face value, the solution just sketched becomes unavailable. If they are instead dismissed as mere exceptions, one should also by the same token disregard the feminine noun *mano/mani*<sub>F</sub> ‘hand(s)’ in the *o/i*-class, and thus conclude that the *o/i*-class can only include masculine nouns. In either case, it is hard to maintain the claim that every inflectional class can associate with any gender feature.

		CL if M	CL if F
<i>figlio</i> <sub>M</sub> – <i>figlia</i> <sub>F</sub>	‘child’	<i>o/i</i>	<i>a/e</i>
<i>signore</i> <sub>M</sub> – <i>signora</i> <sub>F</sub>	‘person’	<i>e/i</i>	<i>a/e</i>
<i>collega</i> <sub>M</sub> – <i>collega</i> <sub>F</sub>	‘colleague’	<i>a/i</i>	<i>a/e</i>
<i>testimone</i> <sub>M</sub> – <i>testimone</i> <sub>F</sub>	‘witness’	<i>e/i</i>	

Table 3: Nouns with contextually variable gender (liberal and semiconservative)

turn dictates the inflectional ending in a completely predictable way. According to the Vocabulary Insertion rules postulated in K18, in the absence of a valued [CL] feature nouns with [GEN:M] inflect in the *o/i*-class, and those with [GEN:F] in the *a/e*-class. This approach works correctly for liberal nouns such as *figli-o/i*<sub>M</sub>–*figli-a/e*<sub>F</sub> ‘child(ren)’, as amply discussed in K18, but turns out to be too narrow once we consider that not all liberal nouns inflect in this way. The two sets of problematic cases, *signore*-type nouns and *collega*-type nouns, are now discussed in turn.

First, consider *signore/signori*<sub>M</sub>–*signora/signore*<sub>F</sub> ‘person(s)’, which inflects as expected in *-a/e* when feminine, but takes *e/i*-endings when masculine. K18’s account incorrectly predicts the masculine singular to be \**signoro*.

Second, there are nouns with an invariant gender-insensitive singular form, but a gender-sensitive plural ending. For example, singular *collega*<sub>M/F</sub> ‘colleague’ can be both masculine or feminine, and an agreeing determiner or adjective would be required for disambiguation. Because plural endings are systematically set aside in K18, the approach pursued in K18 will simply stop here and characterize *collega* as a semiconservative noun of the “*a*-class”, predicting a single gender-invariant plural form. This is in fact the position explicitly adopted for e.g. *artista*<sub>M/F</sub> ‘artist’, which inflects in the same way as *collega*. As soon as we broaden our focus, however, it emerges that neither *collega* nor *artista* behave as predicted, because they take inflectional endings of two distinct classes depending on the gender: compare for example *colleghi*<sub>M</sub> (*a/i*-class) vs. *colleghe*<sub>F</sub> (*a/e*-class) ‘colleagues’.<sup>11</sup>

To summarise, in addition to liberal nouns that inflect in *-o/i* and *-a/e* (e.g. *figlio* ‘child’), there are two additional subtypes that are left unaccounted for in K18: those that take masculine *-e/i* and feminine *-a/e* (e.g. *signore* ‘person’), and those that take masculine *-a/i* and feminine *-a/e* (e.g. *collega* ‘colleague’). All these cases contrast with semiconservative nouns in *-e/i*, which have the same inflectional ending regardless of gender, such as *testimon-e/i*<sub>M/F</sub> ‘witness(es)’. Table 3 summarises the empirical landscape (see Acquaviva 2009: 53–54 for more details, and §4.1 below for *soprano*-type nouns).

As it currently stands, the system in K18 both undergenerates, because it predicts the impossibility of *signore*- and *collega*-nouns, and overgenerates, because it predicts the attestation of semiconservative nouns in *-a/e*, in *-o/i*, and in *-a/i*, contrary to fact. Even more problematically, the facts in Table 3 lead K18’s view to run into a timing paradox. On the one hand, it is maintained that semantically interpreted gender (e.g. in

<sup>11</sup>The *h* in the plural forms is purely orthographical, and is used to indicate that the preceding *g* is to be pronounced as velar /g/, rather than palato-alveolar /dʒ/.

*signor-e/i<sub>M</sub>-signor-a/e<sub>F</sub>* ‘person(s)’) is only assigned when the DP phase is Transferred to the CI interface (see §4.2 below for details). On the other, it is claimed that class is only ever assigned in the lexicon: e.g. the information that singular masculine *signore* terminates with *-e* (rather than *-o* or *-a*, cf. *medico<sub>SM</sub>* ‘doctor’ and *poeta<sub>SM</sub>* ‘poet’) must be listed with the root  $\sqrt{\text{SIGNOR-}}$ . What makes these two positions irreconcilable is the fact that the class of  $\sqrt{\text{SIGNOR-}}$  depends *additionally* on contextually assigned gender: *e/i* for masculine, *a/e* for feminine. In other words, information supposedly encoded in the lexicon (*presyntactically*) turns out to be defined only parasitically on information that is created at the interface level (*postsyntactically*).

In order to maintain at least the outlines of K18’s theory, one could stipulate more abstract inflectional classes that specify a different ending for each gender/number combination, e.g. a hypothetical  $\begin{smallmatrix} e/i \\ a/e \end{smallmatrix}$  class for *signore*, and  $\begin{smallmatrix} a/i \\ a/e \end{smallmatrix}$  for *collega*. Concretely, these could be formalised as non-decomposable or “atomic” values of [CL]. In this case, however, almost any combination of inflectional endings would be predicted to be possible, and there would be no principled way to rule out, e.g., a hypothetical noun *\*colleda* of class  $\begin{smallmatrix} a/i \\ i/o \end{smallmatrix}$  that inflects like *collega/i<sub>M</sub>* when masculine, but as *\*colledi<sub>FS</sub>/\*colledo<sub>FPL</sub>* when feminine. This is not in itself an issue, but it becomes one as soon as one considers the data in Table 3. As Table 3 indicates, every four-way inflectional paradigm can be reduced to a combination of the familiar two-way classes (namely, *o/i*, *a/e*, *a/i*,...). These considerations speak against a model with atomic four-way inflectional classes, and suggest instead a model where higher-order feature values are decomposed into combinations of simpler ones by way of “conditional feature specifications” of the type exemplified in (6).

$$(6) \quad [ \text{CL: } \left\{ \begin{array}{l} e/i \text{ iff M} \\ a/e \text{ iff F} \end{array} \right\} ] \quad \text{Assign to [CL] the value } e/i \text{ iff [GEN:M] and } a/e \text{ iff [GEN:F]}$$

Aside from methodological worries with the introduction of a novel mechanism of feature valuation, this would raise concerns about overgeneration. In particular, we would still expect to see impossible liberal nouns inflecting in e.g.  $\left\{ \begin{array}{l} o/i \text{ iff M} \\ e/i \text{ iff F} \end{array} \right\}$ , and many other unattested combinations. Admittedly, this issue is by no means unique to K18’s theory, but there are some recent approaches that are able to derive the possible and impossible patterns in a principled fashion (see in particular Lampitelli 2010, 2014). To take stock, the data in Table 3 forces us to either abandon K18’s theory, or to revise it by adopting overly powerful tools that raise familiar concerns about theoretical economy and overgeneration, and arguably miss some important generalisations.

For the sake of the argument, let us momentarily set these concerns aside and assume some version of (6). The variation among liberal nouns reported in Table 3 suggests that these are lexically specified for inflectional class. However, these nouns are modelled in K18 as bare roots, which by definition cannot carry information such as (6). To maintain K18’s view, one could either bite the bullet and stipulate that roots can carry class features, or simply suggest that these roots are listed in the lexicon in combination with a categoriser *n* bearing CL features. Either way, this strategy would collapse the distinction between semiconservative and liberal nouns, because the former are identified as those whose class is encoded as part of their lexical specification (via *n*). If liberal nouns are

also specified for class, the difference between the two evaporates, undermining K18's three-way classification of Italian nouns.

At this point, we can only envisage one possible rescue strategy. With conditional class specifications like (6) one could still choose one of the patterns in Table 3, e.g. *figli-o/i<sub>M</sub>-figli-a/e<sub>F</sub>* 'child(ren)', as representative of true liberal nouns whose ending is determined by default insertion rules applying to an unvalued [CL:{ }] feature, in contrast with e.g. *signor-e/i<sub>M</sub>-signor-a/e<sub>F</sub>* 'person(s)'. The latter would be a semiconservative noun specified in the lexicon with the feature [CL: $\left\{ \begin{smallmatrix} e/i \\ a/e \end{smallmatrix} \right\}$ ] (or [CL: $\left\{ \begin{smallmatrix} e/i \\ \_ \end{smallmatrix} \right\}$ ])<sup>12</sup>, alongside semiconservative nouns that bear non-conditional (i.e. gender-insensitive) class features, such as [CL:*e/i*] in *testimon-e/i<sub>M/F</sub>* 'witness(es)'. An attempt to rescue the liberal vs. semiconservative distinction in this way comes with the high theoretical cost of positing conditional feature values, with the empirical issue of overgeneration arising from the model's power, and with the *ad hoc* stipulation that only one of the patterns of Table 3 involves true bare roots. This is all the more problematic since the phenomenon that they point towards, on the face of it, is exactly the same: i.e. inflectional class depends both on the root and on its gender.

A much more natural approach to the issue of gender-dependent inflectional classes and the ensuing "timing paradox" would be to abandon the idea that inflectional class is encoded in the lexicon, in favour of a postsyntactic approach to the PF interface (as proposed in various guises by e.g. Oltra-Massuet 1999, Oltra-Massuet and Arregi 2005, Embick and Halle 2005, Embick 2010, Lampitelli 2010, 2014, Armelin 2014, Kramer 2015). At this derivational stage, all the relevant information to determine the appropriate inflectional ending is available: the identity of the root, and the value of gender established at Transfer (or determined lexically, for conservative nouns). Reanalysing inflectional class as a postsyntactic matter of the PF interface would also immediately solve an outstanding mystery in K18's system: as Kučerová (2018) herself admits in K18, CL is a *sui generis* syntactic feature unlike any other, because it is completely inert to syntactic operations. Additionally, CL is also invisible to the semantic computation at LF. In other words, the only linguistic module whose computations seem to care about CL features is the PF interface. Needless to say, this alternative approach would also collapse the distinction between liberal and semiconservative nouns, as they would both lack gender and class in the lexicon.

To summarise, however one may wish to approach cases like *signor-e/i<sub>M</sub>-signor-a/e<sub>F</sub>* 'person(s)' and *colleg-a/i<sub>M</sub>-colleg-a/e<sub>F</sub>* 'colleague(s)', the theory put forward in K18 needs substantial revisions to accommodate all the data. In particular, once plural nouns are taken into account and careful attention is paid to (un)attested inflectional patterns, gender and class turn out to be intricately linked in ways that threaten to undermine K18's model, which treats gender and class as completely independent features. Further, it becomes doubtful that the liberal vs. semiconservative distinction can still be upheld, and that the idea of [CL] as a syntactic feature present in the lexicon is tenable. The interested reader is referred in particular to Acquaviva (2009), Passino (2009), and Lampitelli (2010, 2014) for attempts to explain the complex phenomena we have been hinting at. Regrettably, the fact that K18 does not include plural forms within its purview

<sup>12</sup>Note how this approach, like K18's original model, faces the issue of *explanatory overdetermination*, because some endings (e.g. *-a/e*) are both default exponents, and exponents of a [CL] feature.

means, in our view, that the surface of a rich and complex empirical landscape is barely scratched.

## 4 Contextual Gender Valuation at Transfer

Our final set of objections revolves around the use that K18 makes of Phase Theory, according to which semantically interpreted gender values enter the syntactic representation only when a DP phase undergoes Transfer. §4.1 points out several issues of K18's account of gender mismatches in terms of the timing of Transfer. §4.2 then argues that the idea of contextual valuation itself does not hold water, because not enough information about the context is available when the local phase is transferred.

### 4.1 Gender mismatches

Consider the following paradigm, displaying the phenomenon of 'gender mismatch', which features prominently in the discussion in K18.<sup>13</sup>

- (7) a. Il soprano è andato a casa.  
the.MS soprano-*oi*.S is gone-MS at home  
'The (male or female) soprano went home.'
- b. La soprano è andata a casa.  
the.FS soprano-*oi*.S is gone-FS at home  
'The female soprano went home.'
- c. Il soprano è andata a casa.  
the.MS soprano-*oi*.S is gone-FS at home  
'The female soprano went home.'

In the first sentence, (7a), the subject DP is compatible with a male referent and, for most speakers, also with a female referent. According to the model in K18, this is because these speakers list *soprano* as a conservative noun in their lexicon: regardless of the intended referent, its class is fixed as [CL:*o/i*], and its gender as (uninterpretable) [GEN:M]. Speakers who prefer instead option (7b) with female referents store the same noun as a semiconservative entry, with fixed class [CL:*o/i*] but free contextually assignable gender. As a result, in K18's theory the apparent gender mismatch of (7b) is analysed away in terms of semiconservativity: gender features are feminine throughout, even if this can be covered up by the inflectional class of the noun.

The third option, (7c), is surprising, and appears to violate standard rules of subject-verb agreement. In order to explain this, it is proposed that contextual gender valuation can happen either before or after the syntactic representation is sent to the morphology. More specifically, K18 makes a distinction between Spell-Out, the derivational stage at which all narrow syntactic operations within a phase are completed, and Transfer, the subsequent derivational stage at which the phase undergoes labelling, contextual gender valuation, and is sent to the CI interface. Further, it is assumed that the operations

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<sup>13</sup> We gloss theme vowels as CL.NUM on nouns, to be agnostic about the underlying gender value, and as GEN.NUM elsewhere (adjectives, determiners, etc...), where gender is predictable from class.

applying at Transfer are still able to modify the syntactic representation itself. In particular, once a gender feature is valued contextually, its value is visible to any subsequent syntactic operation. With this machinery in place, K18 further proposes that phases, crucially including DPs, can be sent to the PF interface for morphological interpretation either at the stage of Transfer, after labelling and contextual valuation, or before Transfer, at the stage of Spell-Out. In the former case, gender features valued contextually at Transfer will be visible to the morphology, but in the latter case the morphology will only be able to see unvalued gender features, which it realises as default masculine by a last resort rule (cf. e.g. Noyer 1998, and more recently Preminger 2014). If the noun *soprano* can be semiconservative, the second option can now explain the pattern in (7c). Since the DP reaches Spell-Out and is sent to PF before Transfer and contextual valuation, its still unvalued gender feature is spelled out as default masculine. After Transfer and contextual valuation, however, its gender value will be visible to the remaining syntactic computation and morphologically realised, e.g. on the agreeing participle. Once again, this means that for K18 ‘gender mismatch’ is a mere artifact of Spell-Out: gender features in the syntax are uniformly feminine.

The first issue with this account is that it predicts the existence of a near-identical pattern to (7), where semiconservative nouns in the *a/e*-class have a male (or non-female) referent and control masculine agreement. In particular, just as speakers seem to vary in listing the nouns *soprano*<sub>(M)</sub> ‘soprano’ and *chirurgo*<sub>(M)</sub> ‘surgeon’ either with [CL: *o/i*, GEN:M] (conservative) or with [CL: *o/i*] only (semiconservative), we should expect there to be nouns exhibiting a parallel variation between [CL: *a/e*, GEN:F] and [CL: *a/e*], e.g. *sentinella*<sub>(F)</sub> ‘sentinel’ and *spia*<sub>(F)</sub> ‘spy’. In the latter case, we would predict the “mixed” patterns *\*lo*<sub>M</sub> *spia*<sub>a/e</sub> *è andato*<sub>M</sub> *a casa* (‘the (male) spy went home’, intended non-female referent, DP sent to PF at Transfer) and *\*lo*<sub>M</sub> *spia*<sub>a/e</sub> *è andata*<sub>F</sub> *a casa* (‘the female spy went home’, intended female referent, DP sent to PF before Transfer), by analogy with (7b) and (7c) respectively. Interestingly, the prediction is not met, nor can any semiconservative *a/e*-nouns be found at all (cf. §3 above). This data point is in direct contradiction with Kučerová 2019, where feminine *a/e*-nouns are claimed to permit semiconservative variants with contextual masculine gender. As far as we can ascertain, this is factually incorrect (cf. Baggio 2020), and the examples provided (i.e. *\*il*<sub>M</sub> *soprana*<sub>a/e</sub> on p. 129 and *\*sentinella*<sub>a/e</sub> *coraggioso*<sub>M</sub> ‘courageous sentinel’ on p. 131) are sharply rejected by all speakers.<sup>14</sup>

In addition to the aforementioned worries about empirical adequacy and overgeneration, the pattern in (7b)–(7c) is in fact expected to arise with *all* semiconservative nouns, especially the prototypical ones in *-e/i* (e.g. *testimone*<sub>M/F</sub> ‘witness’, cf. §3 above). As a result, the model in K18 also wrongly predicts the grammaticality of (8) by analogy with (7c).

- (8) \*Il            testimon-e   è andat-a a casa.  
           the.MS witness-*e/i*.S is gone-FS at home  
           ‘The female witness went home.’

<sup>14</sup>The paper mentions a Google search as the only evidence for the acceptability of *\*sentinella coraggioso*. Our attempt to replicate this (while taking any misparsings into account) has yielded no results. It is reasonable to conclude that we are dealing with a factual inaccuracy, rather than speaker variation.

A more substantial challenge for K18’s approach comes from DP-internal gender mismatches on agreeing modifiers. As Kučerová (2018: 821) herself notes, there are cases where adjective and noun appear to bear different genders, as in *brava<sub>F</sub> avvocato<sub>M</sub>* ‘good female lawyer’. Essentially the same explanation is given to this example as to (7b) above: speakers who accept it in their grammar have no gender mismatch at all, but rather treat *avvocato* as a semiconservative noun with a lexically fixed [CL:*o/i*] feature in and a free gender feature valuable contextually. However, this cannot be the whole story, given the following paradigm (pace Kučerová 2018: 821, fn. 19. See Baggio 2020: 30 for this paradigm with *primo ministro* ‘prime minister’).

- (9) a. il [ brav-o [ sopran-o legger-o ] ]  
the.MS good-MS soprano-*oi*.S light-MS  
‘the good ((fe)male) coloratura soprano’  
b. la [ brav-a/\*-o [ sopran-o legger-o/\*-a ] ]  
the.FS good-FS/\*-MS soprano-*oi*.S light-MS/\*-FS  
‘the good female coloratura soprano’

(9a) is the baseline case, where *soprano* behaves like a conservative masculine *o/i*-class noun and is accompanied by the structurally high adjective *bravo* ‘good’ and structurally low *leggero* ‘light (lit.)’ (cf. Scott 2002, Cinque 2010). Against that, (9b) provides the crucial data on DP-internal agreement missing from the discussion in K18. It demonstrates that when *soprano* has a female referent and takes a feminine article, high adjectives *must* be feminine, covarying in gender with the article, while low adjective *must* remain masculine (cf. Steriopolo and Wiltschko 2010 and Pesetsky 2013: 35–50 for Russian). First of all, this data shows that the noun *soprano* cannot be semiconservative as proposed in K18. Consider why. If it could be listed as a semiconservative *o/i*-noun with gender valued contextually, the unattested pattern \*D<sub>F</sub> > Adj<sub>F</sub> > Adj<sub>F</sub> > N<sub>*oi*</sub> would be predicted to be grammatical at least to those speakers who accept (7b), contrary to fact. On the other hand, the attested pattern D<sub>F</sub> > Adj<sub>F</sub> > Adj<sub>M</sub> > N<sub>*oi*</sub> would remain entirely unexpected. More generally, this data shows that the notion of semiconservativity as it stands in K18 cannot explain the relevant phenomenon, which may involve instead a real featural mismatch between the lower and the higher layers of the DP (perhaps due to a feminising head *à la* Pesetsky 2013, as suggested in Acquaviva 2019 and Baggio 2020; cf. also Wechsler and Zlatić 2003, Steriopolo and Wiltschko 2010, Matushansky 2013, Landau 2016 for alternatives). In turn, this casts doubt on K18’s claim that there are semiconservative nouns in the *o/i*-class at all, because *o/i*-nouns are all masculine (*mano* ‘hand’ being the sole exception), and those that allow feminine morphology only do so in the form of gender mismatch as discussed for *soprano* here.

Let us briefly consider whether the semiconservativity-based account of K18 can be maintained by postulating an additional phase boundary between the two adjectives in (9b). In particular, K18 proposes that contextual gender valuation targets the phase head D<sup>0</sup>, where determiners are: then, if another phase intervenes “midway” between the article and the noun, the contextually assigned gender value would only “percolate” down to the higher adjective, and the lower adjective and noun would be realised as masculine by default. However, appealing to an additional phase ends up making once again the incorrect predictions. First, it is essential to assume the DP-internal phase

to be optional, or else contextually assigned gender could never percolate down to the noun to affect its morphology, and liberal nouns like *figlio* ‘child’ would be predicted to invariably end in default *-o/i*. However, as soon as the DP-internal phase becomes optional, nothing can rule out the ungrammatical pattern  $*D_F > Adj_F > Adj_F > N_{o/i}$  in (9b), which was the reason for positing an additional phase in the first place.

Finally plural forms present a further problem for K18. While singular cases of gender mismatch are indeed possible, their plural counterparts are not: contrast singular *la\_F soprano\_{o/i}*, as in (7b), with the outrightly ungrammatical plural  $*le_F soprani_{o/i}$  (cf. Acquaviva 2019). This essential data point is overlooked in K18, because of the exclusive focus on singular forms, yet it poses a difficult issue for a view where gender mismatches are analysed in terms of semiconservativity. In this regard, there is once again a stark contrast between nouns like *soprano*, completely disallowing feminine plurals, and the well-behaved semiconservative nouns of the *e/i*-class. The latter show no unexpected paradigm gaps, as evidenced by the contrast between  $*le_F soprani_{o/i}$  and the perfectly grammatical *le\_F testimoni\_{e/i}* ‘the female witnesses’.

Drawing some conclusions, it is clear that the phenomena of gender mismatch and of semiconservativity should be kept completely separate, for two reasons. First, the morphosyntactic behaviour of semiconservative nouns in *-e/i* (e.g. *testimone*) and the behaviour of *o/i*-nouns like *soprano* differ significantly in all the cases discussed. Second, K18’s semiconservativity-based account makes the wrong predictions as soon as one looks beyond its reduced sample of unmodified singular DPs.

#### 4.2 Gender cannot be contextually valued locally

The final issue we wish to raise concerns the proposal in K18 that interpreted gender enters syntax from context when a phase is transferred. We argue that the idea does not work out in the syntactic framework assumed, because contextual gender valuation needs to be able to look far beyond the local domain defined by the relevant phase. This issue, in our view, undermines K18’s contextual valuation model on a fundamental level.

Let us start with reviewing the semantic assumptions K18 makes.

Following Heim 2008, it is assumed that interpretable gender features, which according to K18 always come from contextual valuation, introduce a presupposition on the value of the index. The denotations for masculine and feminine are the following.

- (10) a.  $\llbracket [\text{GEN: M}_i] \rrbracket^{w,g} = \lambda x_e : g(i) \text{ is a person in } w. x$   
 b.  $\llbracket [\text{GEN: F}_i] \rrbracket^{w,g} = \lambda x_e : g(i) \text{ is female in } w. x$   
 (adapted from Kučerová 2018:828)<sup>15</sup>

Notice that the masculine feature only presupposes humanness, a common assumption in the literature (e.g. Heim 2008, Spathas and Sudo 2020, Sudo and Spathas 2020; see also Percus 2011). This is crucial to account for the elsewhere nature of masculine, as exemplified in (11), where the speaker is ignorant about the referent’s gender.

<sup>15</sup>As an anonymous reviewer points out, the notation in K18 is unusual, as the lambda term is followed by ‘.’ and the presupposition is followed by ‘:’. Accordingly, we have revised the formulas (originally ex. (19) of K18) to conform to the standard conventions from Heim and Kratzer (1998).

- (11) Chi è il tu-o figli-o preferit-o?  
 who is the.MS your-MS child-*oi*.S favorite-MS  
 ‘Who is your favorite child? (son or daughter, regardless)’

Contrast this with its feminine counterpart (12) where only daughters are relevant.

- (12) Chi è la tu-a figli-a preferit-a?  
 who is the.FS your-FS child-*ae*.S favorite-FS  
 ‘Who is your favorite daughter?’

To complicate the picture, masculine nouns do not always behave gender-neutrally: when the referent is known to be female, the masculine version of a liberal noun cannot be used, which the semantics in (10) cannot account for by itself. To this end, interpreted masculine and feminine features are commonly assumed to compete with each other: whenever the feminine version of a sentence can be used, it must be used.

In order to formalise this idea, K18 adopts a version of Heim’s (1991) principle of *Maximize Presupposition*, as quoted below. In this characterization, however, some central issues are left liable to equivocation.

‘Heim’s (1991) Maximize Presupposition [...] asserts that if there is a presupposition associated with a structure and if this presupposition can be grammatically realized, it must be realized.’ (Kučerová 2018: 829)

First, Maximize Presupposition (henceforth MP), as standardly formulated, is not about morphosyntactic realisation, but presuppositional strength. For example, if the presence of a suffix is associated with a weaker presupposition than its absence and the relevant conditions are met, the principle will disfavour use of the suffix, as discussed at length in the literature on number (e.g. Sauerland 2003, 2008, Sauerland, Anderssen, and Yatsushiro 2005). Secondly, the principle does not blindly prefer the presuppositionally stronger alternative. Rather, it does so *when the alternative’s presupposition is satisfied*. This is in fact a crucial condition in understanding why the idea of contextual gender valuation at the local phase level is problematic, so let us delve into it.

First, MP is standardly stated as in (13).

- (13) Sentence *S* is infelicitous in context *c* if there is an alternative *S'* such that
- a. the assertive meanings of *S* and *S'* are contextually equivalent in *c*;
  - b. *S'* has a stronger presupposition than *S*; and
  - c. the presupposition of *S'* is satisfied in *c*.

To see how this works concretely, consider (14). Both sentences are expected to be semantically coherent and assert the very same proposition. When the subject refers to an individual who is known in the context to be a girl, then only (14a) is felicitous. This is because, according to the assumption that masculine only presupposes humanness, the presupposition of (14a) is both stronger than (14b) and it satisfied in the context. MP correctly predicts (14b) to be infelicitous.<sup>16</sup>

<sup>16</sup>Note that in K18’s semantic representation, given in (10), we need to understand *is female* as *is a female person* (or alternatively, *is a person as is a gendered creature*) in order for MP to apply.

- (14) a. Mi-a figli-a ha sete.                      b. Mi-o figli-o ha sete.  
           my-FS child-*a/e*.S has thirst            my-MS child-*o/i*.S has thirst  
           ‘My daughter is thirsty.’                ‘My child/son is thirsty.’

Now consider a context where the subject refers to an individual known to be a boy. The presupposition of (14a) would not be satisfied, and (14b) would become felicitous. This creates the impression that masculine gender denotes maleness.

Gender-neutral uses of masculine also follow from this approach. Consider again (11) and its feminine alternative (12), which presupposes the referent of the DP to be female. In a context where the speaker does not know the referent’s gender, this presupposition is not satisfied and (11) is correctly predicted to be felicitous.

Furthermore, crucially for us, MP is not always computed at the DP level, but it may interact with operators higher up in the structure, as demonstrated in (15).

- (15) [Ogni genitore]<sub>i</sub> crede che il propri-o<sub>i</sub> figli-o sia intelligente.  
       every parent believes that the.MS self-MS child-*o/i*.S is intelligent  
       ‘Every parent believes that his child is intelligent.’

In this example, the possessive pronoun inside *il proprio figlio* can be bound by *ogni genitore* in the matrix clause. Under this interpretation, the sentence is acceptable even if some of the parents only have daughters. This is accounted for by applying MP at the matrix level, where (15) competes with the feminine version in (16).

- (16) [Ogni genitore]<sub>i</sub> crede che la propri-a<sub>i</sub> figli-a sia intelligente.  
       every parent believes that the.FS self-FS child-*a/e*.S is intelligent  
       ‘Every parent believes that his daughter is intelligent.’

The sentence in (16) presupposes that every parent has a daughter. According to MP, any context where every parent’s child is known to be a girl satisfies this presupposition and makes the alternative in (15) infelicitous. However, this presupposition fails as soon as even one parent’s child is known to be a boy, rendering (15) felicitous.

Crucially, it is not possible in (15) to decide which gender to use in the context given at the level of the DP *il proprio figlio*. This can only be determined at a global level, as the possessive pronoun *proprio* may or may not be bound when embedded in a larger structure. And if *proprio* is bound by a universal quantifier, as in our example, the DP that contains it does not refer to a single individual at all. Deciding at the DP level whether the context satisfies the femaleness presupposition is impossible.

Further, the structural distance from the binder is in principle unbounded. Whether Transfer occurs as soon as the DP is complete (cf. Chomsky’s 2000 strong PIC), or is delayed until the next phase up (e.g. Chomsky’s 2001 weak PIC), (17) demonstrates that the distance between binder and bindee can extend too far beyond the local phasal domain for any version of Phase Theory to cover within a single round of Transfer.

- (17) [Nessun genitore]<sub>i</sub> ([<sub>v,P</sub>) dubitava [<sub>CP</sub> che l’ indovino [<sub>v,P</sub> possedesse [<sub>DP</sub> la  
       no parent doubted that the soothsayer possessed the  
       capacità [<sub>PP</sub> di [<sub>v,P</sub> sapere [<sub>DP</sub> il nome [<sub>PP</sub> de- [<sub>DP</sub> -lla persona [<sub>CP</sub> che  
       capacity of knowing the name of- -the person that



thorough empirical scrutiny of inflectional classes, which should reasonably be relegated to the postsyntactic (PF) component (cf. Acquaviva 2009, Passino 2009, Lampitelli 2010, 2014). We cast further doubt on semiconservativity in §4.1, where we argue that using this notion to explain away gender mismatch phenomena generates incorrect predictions. Gender mismatch, it seems, *does* involve a true feature discrepancy, formalisable in terms of a feminizer projection (e.g.  $\bar{X}KP$  in Pesetsky 2013, Acquaviva 2019, Baggio 2020), or different feature “flavours” (e.g. INDEX vs. CONCORD features in Landau 2016). Finally, in §4.2 we have rejected K18’s attempt to derive the interpretable vs. uninterpretable gender distinction from the notion of contextual valuation at Transfer. For many competing alternatives we once again refer the reader to the literature (Pesetsky 2013, Kramer 2015, Puškar 2015, Baggio 2020, Spathas and Sudo 2020, Sudo and Spathas 2020). Even though we cannot do justice to the complexity of these issues, we hope to have made a convincing case that the model advanced in K18 is not fit for purpose.

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