15

Discourse Particles in LSJ

A Fresh Look at γε

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15.1. INTRODUCTION

The outdated quality of LSJ is more evident in its treatment of discourse particles than perhaps anywhere else.[1] In recent decades, our understanding of natural language meaning has witnessed dramatic advances and reached a level of sophistication and detail that was unimaginable under Queen Victoria. Recent work in formal semantics and pragmatics in particular has shed new light on the heterogeneous class of words known as discourse particles (e.g. Kaplan 1999; Gutzmann 2015; Szabolcsi 2015).[2] The goal of this chapter is to contrast the LSJ account of the particle γε with an approach that takes advantage of some of the conceptual tools of twenty-first-century semantics and pragmatics.

The rest of this article is structured as follows. Section 15.2 discusses the question of why describing the meaning of discourse particles is so challenging. From here I home in on the particle γε, 'one of the subtlest and most

[1] I am indebted to a number of people for comments on earlier versions of this chapter, including Michael Aubrey, Gabriel Bertilson, Nicolas Bertrand, Stephen Carlson, Ben Cartlidge, Carlo DaVia, Marc Greenberg, Dieter Gunkel, Dag Haug, Jesse Lundquist, Pura Nieto Hernández, Tom Recht, Jessica Romney, Brent Vine, Anthony Yates, the audience at the Melpomene Chair Greek Studies Conference, and—last but certainly not least—the editors.

[2] In the interests of making the ideas in this chapter as accessible as possible, I have kept formalism to an absolute minimum. I fully agree with the following view of McReady 2012, 785, however: 'There is an extensive literature on these expressions [viz. discourse particles] in traditional Japanese grammar, much of which is insightful; but in many cases the literature suffers from its lack of formalism. It is difficult to make precise what one takes the meaning of an expression that completely lacks truth-conditional content to be without the requirements and clarity imposed by a formal model.' On the advantages of formal semantics for the classical languages, see Devine and Stephens 2013 with Goldstein 2013a and Goldstein 2016b.

elusive particles', according to Denniston (1954, 115). Section 15.3 critically reviews its article in LSJ. Beginning with section 15.4, I present the results of a fresh examination of the particle in two Platonic dialogues, *Meno* and *Cratylus* (examples from other Platonic dialogues and tragedy will play a supporting role at various places). As constraints of space do not permit a full exposition of the particle even in these two dialogues, I concentrate on the most salient aspects of its meaning, in particular phenomena that LSJ does not mention. I begin by clarifying the relationship between the distribution of γε (i.e. where it occurs in the clause) and its meaning, which is actually more straightforward than the literature would lead one to believe. Section 15.5 provides background information on the semantics of questions and focus, which are crucial for understanding the meaning of γε. In section 15.6, I argue that γε is characterized by two semantic properties, scalar interpretation and non-at issue semantics. Three readings illustrate the first property: that of a superlative modifier 'at least' (section 15.6.2); of a scalar exclusive 'just' (section 15.6.3); and of particularizer 'in fact, in particular' (section 15.6.4). The non-at issue character of γε is presented in section 15.7. Section 15.8 concludes with prospects and directions for future research.

15.2. THE CHALLENGES OF PARTICLE MEANING

Elucidating the meanings of discourse particles, both in Greek and cross-linguistically, is notoriously challenging (Krifka 1993; McReady 2012). Trying to specify the meanings of a discourse particle in a corpus-bound language such as Ancient Greek is all the more difficult, as witnessed by the decision of the editors of the *Lexikon des frühgriechischen Epos* (*LfgrE*) not to offer definitions of particles after the first volume (in fact, volumes two through four decline to offer glosses for any function words). But what is it exactly that has led to this *aporia* on the subject of particles?

The study of Greek particles is beset by (at least) the following two fundamental problems. First, we are often at a loss for a suitable English paraphrase. It is not always clear what a discourse particle contributes to an utterance. I have often heard classicists (both linguists and non-linguists alike) say that Greek particles are 'untranslatable'.[3] This is true to an extent: it is quite difficult to describe the meaning of a discourse particle with everyday language. Other scholars have wrongly equated this untranslatable character of discourse particles with meaninglessness, however: Neil (1901, 201) and Reece (2009)

[3] It is in fact an insight that scholars investigating discourse particles in other languages have also come to, e.g. McReady (2012, 779): '[P]articles have a meaning which is, in some sense, ineffable in that it does not admit of any satisfying paraphrase'.

consider certain particles in metrical contexts to be mere prosodic fillers.[4] Worse yet, the view that particles do not mean much of anything in Greek has led to the view that they are unworthy of serious study.[5]

Discourse particles appear not to mean anything because they typically do not affect the truth conditions of a proposition. Truth conditions are the conditions that must hold in the world for a proposition to be true (Lewis 1970). Switching lexical items within a proposition often yields different truth conditions. For instance, one perceives an immediate difference between *It's raining* and *It's snowing*. The former requires that it be raining at the moment of the utterance (in some contextually defined space), while the other requires that it be snowing (again in some contextually defined space). Likewise, when it comes to function words, we can readily characterize the difference in meaning between *It is raining* and *It was raining*. It is precisely this effect that appears to be absent when it comes to discourse particles. That is, we are (often, but certainly not always) hard pressed to say how the appearance of a discourse particle affects the meaning (broadly construed to include both semantics and pragmatics) of an utterance.

While discourse particles typically do not contribute truth-conditional meaning, they certainly do contribute meaning (see recently Soltic 2014 on this very point). Roughly speaking, discourse particles comment on the utterance, or a portion of the utterance, in which they occur (Zimmermann 2011). Their meanings often revolve around the relationship between other propositions in the discourse or the relationship between a proposition and an interlocutor (which can of course also be modelled as relations between propositions, or sets of propositions, in as much as speaker attitude can be formalized as sets of propositions).[6] Consider for instance the Austro-Bavarian discourse particle *eh* (the examples are from Zobel 2015):

[4] This view has been around for millennia. Dionysius Thrax (*Ars grammatica* 96–100 Uhlig) also held this view with the class of particles that he called παραπληρωματικοί 'expletives', of which γε is a member.

[5] The standard reference work, Denniston 1954, is now woefully out of date. Further investigations of Greek particles include Hoogeveen 1788 and 1829; Hartung 1832–3; von Bäumlein 1861; Bakker 1988; Sicking and van Ophuijsen 1993; Rijksbaron 1997; Bonifazi 2009a, 2009b; Revuelta Puigdollers 2009; Bonifazi 2012. Páez (2012) collects more recent bibliography on particles. The landscape has changed dramatically with the publication of Bonifazi, Drummen, and de Kreij 2016. Outside of Classics, discourse particles have been investigated from a number of different perspectives: see e.g. Fraser 1996; Cinque 1999; Blakemore 2002, 2004; McReady 2005; Fraser 2009; Aijmer and Simon-Vandenbergen 2011; McReady 2012; Martín Zorraquino and Portolés Lázaro 1999. This sample does justice to the wealth of literature available. Within Indo-European more broadly, see Berenguer Sánchez 2000; Widmer 2009; Dunkel 2014.

[6] Wakker (1997, 211) argues that particles contribute nothing to the description of an event or action, but rather serve as 'road signs' to help an addressee understand the structure of an utterance.

(1) *Austro-Bavarian* eh
i. Ist dein Katzerl **eh** drinnen?
is your kitten **eh** inside
Your kitten is inside, I hope?
ii. Ist dein Katzerl **eh** nicht drinnen?
is your kitten **eh** not inside
Your kitten is not inside, I hope?

Roughly speaking, the particle *eh* in polar interrogatives contributes a preference for the positive answer (which I have here tried to highlight with 'I hope' at the end of the question). So in (1i), the speaker prefers that the proposition *your kitten is inside* will hold. In (1ii), the expectation is that the proposition *your kitten is not inside* holds. With both examples we see how the meaning concerns the speaker's attitude toward the proposition. With γε, we will see below that it makes crucial reference to the relationship between the host proposition and other propositions in the discourse.

The upshot of all this is that one typically has to look beyond the utterance that contains a discourse particle to understand what the particle contributes. In section 15.7, I further characterize discourse particles as contributing non-at issue meaning (roughly speaking, non-at issue meaning refers to the content of an utterance that is not asserted). We can thus say that discourse particles contribute use-conditional meaning (cf. Gutzmann 2015): discourse particles seem not to affect the truth conditions of their host utterance, but they do affect the conditions under which the host utterance can be observed in use.

The second problem that we face in the investigation of discourse particles is that, even when we have intuitions about the contribution of a discourse particle, which we capture with an English paraphrase, it is difficult to explain what the paraphrase itself means. Consider the classic paraphrase of μέν . . . δέ as 'on the one hand' . . . 'on the other hand'. The paraphrase gives us some sense as to what the meaning of these particles is and when the construction can be used. But this approach also comes with drawbacks. By relying on paraphrases, we shift the question of the meaning(s) of μέν and δέ onto the English paraphrases (which in itself is risky, because they are only partial synonyms). In other words, if μέν and δέ mean 'on the one hand' . . . 'on the other hand', how do we define the meaning of the paraphrases? Without this additional step, we do not have an adequate account of the meanings of μέν and δέ. We have only identified English phrases that we can (sometimes) substitute for Greek particles. The sole way to avoid this problem is with a formal metalanguage. Indeed, discourse particles cross-linguistically often exhibit highly idiosyncratic meanings such that it would be difficult to find any suitable paraphrase. In the account of γε below, paraphrases play only a secondary role.

15.3. *ΓΕ* IN LSJ

Before turning to the lemma for γε in LSJ, I want to provide a few concrete examples of the particle to ground the discussion:

(2) *Declarative*
Socrates οἶσθα οὖν τίνας φησὶν Ἡσίοδος εἶναι τοὺς δαίμονας;
Meno οὐκ ἐννοῶ.
Socrates οὐδὲ ὅτι χρυσοῦν γένος τὸ πρῶτόν φησιν γενέσθαι τῶν ἀνθρώπων;
Meno οἶδα τοῦτό=**γε**.

Do you know who Hesiod says the *daimones* are?
No, I don't.

Do you also not know that he says the first race of men was a golden race?
I know this=γε.

Plat. *Crat.* 397e

(3) *Interrogative*
Cassandra ἔ ἔ παπαῖ παπαῖ, τί τόδε φαίνεται;
ἦ δίκτυόν=τί=**γ**' Ἅιδου;
ἀλλ' ἄρκυς ἡ ξύνευνος, ἡ ξυναιτία.

Ah! Ah! What apparition is this?
Is it a net=γε of death?
No, it is a snare that shares his bed, that shares the guilt of murder.

Aesch. *Ag.* 1114–16 (Denniston 1954, 124–5)

(4) *Directive*
Electra ἔπειθ' ἑλοῦ=**γε** θάτερ', ἢ φρονεῖν κακῶς
ἢ τῶν φίλων φρονοῦσα μὴ μνήμην ἔχειν.

Then choose=γε one or the other: either be imprudent or prudent without regard for your loved ones.

Soph. *El.* 345–6 (Denniston 1954, 125–6)

These three examples establish the ability of γε to occur in declarative, interrogative, and directive contexts. The particle is far more frequent in declaratives than in the other two contexts, however.

The following is the entry for γε in LSJ with the examples removed (for other lexicographic accounts, see Cunliffe 1924, s.v.; Slater 1969, s.v.; Schwyzer 1988, 561; Dunkel 2014, 2.279–83; DGE, s.v.; Denniston 1954, 114–62 remains the most detailed account of the particle to date):

I. with single words, *at least*, *at any rate*, but often only to be rendered by italics in writing, or emphasis in pronunciation

2. with Pronouns

3. after Conjunctions, to emphasize the modification or condition introduced by the subjoined clause

4. after other Particles

5. when preceding other Particles, γε commonly refers to the preceding word, while the Particle retains its own force: but sts. modifies the sense of the following Particle, γε μήν *nevertheless*

II. exercising an influence over the whole clause 1. epexegetic, *namely*, *that is*

2. in dialogue, in answers where something is added to the statement of the previous speaker

3. to heighten a contrast or opposition
   a. after conditional clauses
   b. in disjunctive sentences to emphasize an alternative
4. in exclamations, etc.
5. implying concession

III. γε freq. repeated in protasis and apodosis

IV. POSITION: γε normally follows the word which it limits; but is freq. placed immediately after the Article

Starting from the top, Roman numerals mark the highest-order groupings. Strangely, these first categories do not contain the same type of information. Sections I and II divide the attestations of γε according to their scopal behaviour, that is, whether they modify a single word or a clause. It is not clear where phrases are supposed to fit in: either γε does not scope over phrases, or these examples are contained under I. Headings III and IV, however, have nothing to do with scope. III contains an out-of-the-blue aside about the ability of γε to appear in both a protasis and an apodosis. IV notes a frequent mismatch between surface syntax and semantics: γε can be hosted by a word that it does not modify (more will be said about this in a moment). It is not clear from the above outline whether the meaning of γε is sensitive to scope domain, or whether it has the same meaning when it modifies individual words as it does when it operates on larger units such as clauses. The gloss *at least*, *at any rate* from I does not appear under II.

Working downwards, the Arabic numerals under I group attestations of γε into various co-occurrence classes (such as pronominals and complementizers[7]) and interactions with other particles. Under II, the classes are less uniform: three describe the functions of γε (1 epexegetic, 3 contrast heightening, and 5 concessive), one is based on discourse type (2 dialogue), and the last concerns utterance type (4 exclamations).

The design of this entry is problematic. First, although the distinction between categories I and II is real, it is not acknowledged that it can be difficult

[7] Complementizers are words that introduce clauses, such as *if*, *whether*, and *that*. The meaning of this term overlaps with the traditional term *subordinating conjunction*.

to discern when a particular example belongs to one category and not the other. Consider, for instance, clauses that begin with a sequence of complementizer-γε, such as εἴ γε. Is the scope of the particle the complementizer or the whole clause? This surface ambiguity is not limited to clauses that begin with complementizers, but rather extends to all clauses in which γε occupies second position. Second, to characterize the functions of γε, Liddell and Scott use descriptors such as *emphasize*, *lay stress on*, and *strengthen an assertion*. It is unclear what any of these phrases actually means.[8]

Furthermore, the categories above are not designed to be mutually exclusive. That is, assignment to one category (i.e. meaning) does not mean that it is not also a member of another category. One is then left wondering why a particular example is cited in one category and not another. If users of the dictionary want to know what the meaning space of γε is, and how to fit a particular token into this framework, it is not easy to do this.

Finally, there is a theoretical question lurking in the background: what is a distinction in 'meaning' when it comes to discourse particles? We observed in section 15.2 above that discourse particles typically do not have truth-conditional effects. Truth-conditional effects are, however, one of the surest ways to know that we are dealing with a difference in meaning. To take II above as a concrete example, do meanings 2 ('in dialogue, in answers where something is added to the statement of the previous speaker') and 3 ('to heighten a contrast or opposition') really belong on the same level? Could one not legitimately classify 3 as a subtype of 2? I raise this issue not because I think such an adjustment should be made to the structure of the article, but rather to say that we as readers of dictionaries need to be clear what we are looking at when it comes to the way lexicographers carve up the meaning space of words.[9]

15.4. DISTRIBUTION

Turning to the distribution of the particle in the clause, Liddell and Scott write that '*γε* normally follows the word which it limits; but is freq. placed immediately

[8] It is not clear to me whether these labels refer to prosodic properties in addition to semantic ones. I am unaware of any evidence that would link e.g. sentence stress with the host of γε.

[9] It is worth noting that while the lemma for γε in the *DGE* is much richer and more fine-grained than the above account of LSJ, it too suffers from many of the faults mentioned above. It is unfortunate that the editors of the *DGE* did not take advantage of contemporary methods in corpus linguistics, as have become standard in the lexicography of modern languages (see e.g. Biber 2005; Atkins and Rundell 2008; Hanks 2013).

after the Article'. The use of *but* to open the second part of this description suggests that the appearance of γε after the definite article is somehow unexpected or at odds with the first part of the description. Whichever one was intended, both are incorrect.

The basic distributional generalization is simpler than LSJ (or Denniston 1954, 146–50) would have us believe: γε is hosted by the first word of its argument.[10] If the surface argument of γε is a single word, then that word will host γε (see Ar. *Nub*. 401, with Denniston 1954, 119). If the argument of γε is a complex unit such as a phrase or a clause, then γε will be hosted by its first word (contra Denniston 1954, 146):

(5) ἡ δὲ [θηλὴ]=ᾆρά=**γε**, ὦ Ἑρμόγενες, ὅτι τεθηλέναι ποιεῖ ὥσπερ τὰ ἀρδόμενα;

Hermogenes, is [θηλή]=γε so called because it makes things flourish (τεθηλέναι), like plants wet with showers?

Plat. *Crat*. 414a

(6) ἤδη γάρ σφι [τό=**γε** Δέλτα], ὡς αὐτοὶ λέγουσι Αἰγύπτιοι καὶ ἐμοὶ δοκέει, ἐστὶ κατάρρυτόν τε καὶ νεωστὶ ὡς λόγῳ εἰπεῖν ἀναπεφηνός.

For we have seen that, as the Egyptians themselves claim and I judge, [the Delta]=γε is alluvial land and has only lately (as it were) come into being.

Hdt. 2.15.2

In (5), γε is hosted by the noun θηλή, because this is its argument. By contrast, in (6) the particle is hosted by the determiner τό, because the particle takes as its argument the entire phrase [τό Δέλτα]. Typically the position of γε makes it clear what its argument is.

There is one persistent ambiguity, however: when the host of γε is the first word of a clause, then one has to decide whether its scope is restricted to the host or is in fact the entire clause:

(7) Socrates ἐγώ σοι ἐρῶ. τῇ γάρ που ὑστεραίᾳ δεῖ με ἀποθνήσκειν ἢ ᾗ ἂν ἔλθῃ τὸ πλοῖον.
Crito φασί=**γέ**=τοι δὴ οἱ τούτων κύριοι.

I will tell you. I must die on the day after the ship comes in, must I not?
So those say who have charge of these matters.

Plat. *Crit*. 44a

[10] I use the term *word* here to mean specifically 'morphosyntactic word', that is, a word as a syntactic element. Other clitics in Greek select prosodic words as hosts, so it is important to distinguish this property of γε. We can think of words such as γε as functions (in the mathematical sense) that map inputs to outputs. I use the term *argument* here and below to refer to the input of a word. So γε will take an argument as an input on the basis of which it will return a particular output. If the argument of γε is a phrase composed of multiple words, then it will be hosted by the first word of the argument.

Here one has to decide whether γε takes as its argument the entire clause, or only the verb φασί. On either construal, the same surface position of the particle is predicted.

The particle does not appear to the left of its host because it is a second-position clitic, the distribution of which is governed by 'Wackernagel's Law' (Wackernagel's Law is neither a law nor was it discovered by Wackernagel, as Wackernagel himself acknowledged; see further Goldstein 2010, 2014, 2016a). The precise mechanisms of this phenomenon would take us too far afield. For our purposes, all that is relevant is that γε needs to incorporate phonologically with an element on its left. So we can think of its distribution as the result of two competing constraints: to appear as far to the left within its scope domain as possible while still occurring after its host.

There is one deviation from this generalization. There are cases in which the focus of the utterance is ellipsed but γε is nevertheless present and takes as its argument the ellipsed focus (subscript 'F' abbreviates 'focus'):

(8) Meno εἴπερ [ἕν]$_{F}$=**γέ**=τι ζητεῖς κατὰ πάντων.
Socrates ἀλλὰ μὴν ζητῶ=**γε**.

If you're looking for **just** [one]$_{F}$ definition for all the examples.
In fact I am after **just/precisely** (that).

Plat. *Men*. 72d

In Socrates' response, ζητῶ is the host of γε, although the particle takes as its argument an ellipsed anaphoric expression referring to the single definition of Meno's remark. Since this phenomenon concerns the nature of ellipsis more than the use of γε, I have nothing more to say about it. I wanted to at least call attention to its existence, since the standard handbooks betray no awareness of the phenomenon.

15.5. ALTERNATIVES: QUESTIONS AND FOCUS

As alternatives will play a crucial role in the three readings of γε below, we begin with the semantics of alternatives. Within formal semantics, questions are standardly held to denote sets of propositions (Hamblin 1958, 1973; Groenendijk and Stokhof 1984). The meaning of a question such as *Who did Fatima invite to the party?* is the set of its possible answers[11] (the Oxford brackets ⟦ ⟧ refer to the semantic denotation of the expressions they contain, and the curly braces {} denote a set):

[11] Other analyses restrict the denotation to the set of true answers. This distinction carries no significance for our purposes.

(9) *Propositional Approach to Questions*
⟦Who did Fatima invite to the party?⟧ ⇝ {⟦Fatima invited Henry⟧, ⟦Fatima invited Jack⟧, ⟦Fatima invited Noa⟧, ⟦Fatima invited Wilson⟧, . . . }

The question thus denotes a set. The answers here differ in the value that they supply for the interrogative pronoun *who*. Essentially the question is an open proposition (that is, a proposition with a variable):

(10) Fatima invited *x* to the party.

Here we have swapped out the interrogative pronoun for the variable *x*, which represents the set of values (people, in this case) that makes the sentence true.

The semantics of questions is so important because discourse is thought (under some models at least) to be organized around questions (and sets of questions) that are under discussion (Roberts 2012). According to this view of discourse, focus is then the information that fills in a variable of a question:

(11) A: Who did Fatima invite to the party?
B: Fatima invited $[\text{Henry}]_{\text{F}}$.

The question *Who did Fatima invite to the party?* was answered by picking one of the alternatives that it denotes. *Henry* provides a value for the variable in the open proposition and is thus the focus of the utterance. If we do not pick one of the alternatives, then we end up with discourse incoherence:

(12) *Question-answer incongruence*
A: Who did Fatima invite to the party?
B: I really like $[\text{wine}]_{\text{F}}$.

The response *I really like wine* does not qualify as an answer to the question because it does not lie within its set of alternatives. The set of possible values that could fill in the variable (i.e. the *x* in the open proposition above) is the set of focus alternatives (Rooth 1985, 1992, 1996).[12] Two dimensions of meaning are typically recognized, the so-called ordinary meaning and the focus meaning (superscript 'o' abbreviates 'ordinary meaning'; superscript 'f' abbreviates 'focus meaning'):

(13) *Ordinary meaning*
Fatima invited $[\text{Henry}]_{\text{F}}{}^{\text{o}}$ = Fatima invited Henry

(14) *Focus meaning (unordered)*
Fatima invited $[\text{Henry}]_{\text{F}}{}^{\text{f}}$ = {Fatima invited Henry, Fatima invited Jack, Fatima invited Noa, Fatima invited Wilson, . . . }

[12] The variable-filling approach to focus goes back at least to Kvíčala 1870 and Paul 1920; within Generative Grammar, the *locus classicus* is Jackendoff 1972.

The focus meaning of an utterance is thus very similar to that of questions (Beck and Gergel 2015, 246).

15.6. AN UPDATED LOOK

In this section, I offer an updated look at the meaning and use of γε. In lieu of a complete account of the use of the particle, the discussion will focus on the following three aspects. The first is to delimit the scope of what we should be trying to explain in presenting an account of the meaning of γε (section 6.1). The second is to clarify the relationship between the distribution of γε and its meaning; neither Denniston (1954, 114–62) nor LSJ provides an account of this relationship. Finally, concerning the meaning, I argue that γε is a scalar operator: it imposes a scalar interpretation on the material in its scope domain. That is, the particle serves to rank elements according to a parameter, which will be supplied by context.[13] I offer three examples of this scalar behaviour: superlative modifier 'at least' (6.2); scalar exclusive 'just' (6.3); particularizer 'in fact' (6.4).

15.6.1. Focusing on the Compositional

One reason why γε is 'one of the subtlest and most elusive particles' (Denniston 1954, 115) is its diversity and frequency. Concerning the former, the particle occurs across various speech act types including declaratives, questions, and directives. The number of elements that host γε seems unconstrained, as it includes nouns, adjectives, adverbs, verbs, determiners, and complementizers (we will see below in section 15.6.6, however, that interrogative pronouns do not host γε). Given this diversity, it is important to have a clear target of what should be explained. To my mind, previous accounts of γε have tried to include too much. There are at least three phenomena that should be treated separately: response phrases with γε (e.g. πάνυ γε, σφόδρα γε); particle combinations with γε (e.g. μέντοι=γε, γοῦν, γάρ < *γε=ἄρ; see further Denniston 1954: 119–20, 150–62); and the pronominal forms ἔγωγε and ὅγε (on the latter, see the detailed survey of Bertrand 2015). It is not the case that these issues are unworthy of treatment. But if our goal is to explain the contribution that γε makes to an utterance, we need to set (at least) these three phenomena aside, because they could very well represent non-compositional

[13] Consider the following example: 'John cannot ride a bicycle, let alone a motorcycle.' Here *bicycle* and *motorcycle* are ordered on a scale of difficulty. See further Toosarvandani 2010; Goldstein 2013b.

or lexicalized phenomena. That is, it is no trivial matter to figure out whether *πάνυ γε*, for instance, is built up from its component parts or better viewed as a word-like entity. Likewise, it is not clear with certain particle combinations whether they can be decomposed into the meaning of their parts or whether the two together have an indivisible meaning. One wonders whether it is the non-compositional nature of certain combinations of *γε* that lead to its showing up twice:

(15) *οἶμαι ἔγωγε πάντων=γε μάλιστα φίλον.*
I think that (*τὸ ὅσιον*) is most dear of all.

Plat. *Euthphr.* 15b

(16) *μὴ μέντοι=γε μὴ σπανίσας=γε ἄλλως ἀνοίξῃ.*
With the exception of being in need, do not however open (this tomb) under other circumstances.

Hdt. 1.187.2

Each example contains two instances of *γε* in one clause. While prima facie it looks as if the particle is being iterated, it may be the case that one of the tokens of *γε* is the 'real' one, while the other is simply part of a lexicalized word (*ἔγωγε*, *μέντοι=γε*).[14] Examples such as (15) and (16) are not common, however, and more research would be required to know whether they can all be explained away in this manner (see further Denniston 1954, 144; Smyth 1956, §2822).

15.6.2. Reading 1: Superlative Modifier 'at least'

Alternatives are crucial to the meaning of *γε*, because the particle comments on the status of its argument among alternatives. In its role as a superlative modifier,[15] which can be glossed with 'at least', the particle locates its argument at the lower bound of a scale of alternatives:[16]

(17 [= 2]) Socrates *οἶσθα οὖν τίνας φησὶν Ἡσίοδος εἶναι τοὺς δαίμονας;*
Meno *οὐκ ἐννοῶ.*

[14] Joshua Katz calls my attention to a parallel phenomenon in *γάρ=ῥα* strings (see further Katz 2007).

[15] 'At least' is characterized as 'superlative' because its argument ranks as low as or lower than all its scalar alternatives. If someone is said to be at least forty years old, that statement is true if that person is forty or older, i.e. forty is the minimum age that the person might be. Morphologically, *least* is of course the superlative form of comparative *less*.

[16] Liddell and Scott actually come very close to saying something similar in I.5, where they write of *γε τοι* that it implies 'that the assertion is *the least* that one can say' (italics theirs). (It is not clear to me what role they envisioned for *τοι*.) Space constraints unfortunately preclude a full presentation of scalar models and their principles. I refer the reader to Fillmore, Kay, and O'Connor 1988 and Israel 2011.

Socrates οὐδὲ ὅτι χρυσοῦν γένος τὸ πρῶτόν φησιν γενέσθαι τῶν ἀνθρώπων;
Meno οἶδα [τοῦτό]$_{F=}$***γε***.

Do you know who Hesiod says the *daimones* are?
No, I don't.

Do you also not know that he says the first race of men was a golden race?
[This]$_F$ **at least** I know.

Plat. *Crat*. 397e

Before trying to understand the contribution of γε in Meno's answer, we first have to understand the denotation of Socrates' question:

(18) *The denotation of Socrates' question*
{*You do not know that Hesiod says that the first race of men was a golden race*, *You do know that Hesiod says that the first race of men was a golden race*}

Meno picks the second alternative, but his answer does more than this. It also comments on the position of the answer on a scale of alternatives. Meno locates his answer against the backdrop of the following conceptual scale, which ranks the obscurity of Hesiodic knowledge:

(19) *Scale of Hesiodic knowledge*
⟨Hesiod says the initial race of men was a golden race, who Hesiod says the *daimones* are, . . . ⟩

What Meno is saying is that knowing that Hesiod says that the initial race of men was a golden race is the minimum of what he knows about Hesiod. Here we also have a negated higher bound, namely the identity of the Hesiodic *daimones*.[17]

It need not be the case that a higher scalar value is rejected, however:

(20) Socrates ἦ οὐ μανθάνεις ὅτι λέγω;
Meno [δοκῶ]$_{F=}$***γέ***$_{=}$μοι μανθάνειν.

Or are you not taking in what I am saying?
I **at least** [think]$_F$ I understand.

Plat. *Men*. 72d

Socrates' question presents two alternatives, {*you are not taking in what I am saying*, *you are taking in what I am saying*}. The question divides the answer space into two equivalence classes: either you understand or you do not understand. Meno's answer is not, however, within this answer space. He needs the gradience of a scale, which is what γε affords.

Here γε takes the verb δοκῶ '(I) think' as its argument (that is, δοκῶ is the word to which the particle applies), which I take to be the focus of the

[17] I am grateful to Dieter Gunkel for this insight.

utterance. The effect of the particle is again to locate its value at the lower bound of a scale of alternatives:

(21) *A scalar model*
⟨I do not understand, I think I understand, I understand, . . . ⟩

Here the scale is the degree to which Meno understands what Socrates is saying. The least that can be said is that Meno thinks he understands. The higher value 'I understand' is neither ruled out nor committed to. What Meno excludes with his answer is the lower proposition, *I do not understand*, which is what Socrates seemed to expect was the case.

This reading has two pragmatic effects. The first is that the question that is being discussed remains open. To take example (20) as illustrative, Meno does not offer a specific answer to Socrates' question, but rather a range of answers whose minimum (i.e. thinking that he understands) is the focus of the utterance. The answer does not resolve the questions with the alternatives presented by Socrates' question, however.

The second effect is a suspension of implicatures (Kay 1992). In a typical cooperative conversation, speakers offer as much information as the context requires (this is known as Grice's Maxim of Quantity: see Grice 1975). On the basis of this behaviour, interlocutors routinely draw inferences to the effect that stronger utterances do not obtain. For instance, if someone answers the question *How many children do you have?* with *three*, this is interpreted to mean 'three and no more'. One line of analysis holds that the component 'and no more' is derived by pragmatic inference and not part of the meaning of *three*. Logically speaking, if one actually had five children, the answer *three* would still be true, but insufficiently informative to the point that one would be accused of lying by anyone who knew the true number. To return to γε, with this reading, upper-bound implicatures of the sort just described are not licensed. That is, one is not to infer a meaning 'and no more'.

15.6.3. Reading 2: Scalar Exclusive 'just'

The second reading of γε also positions the host of the particle at the lower bound of a scale. The difference between this reading and the previous one is that higher alternatives are excluded rather than included:

(22) εἴπερ [ἕν]$_{F}$=**γέ**=τι ζητεῖς κατὰ πάντων.
If you're looking for **just** some [one]$_{F}$ definition for all the examples.
Plat. *Men*. 73d

This clause is an extract from Meno and Socrates' discussion of virtue, in which Meno tells Socrates that if he is looking for just one definition of virtue, it is the ability to govern people. As with the 'at least' reading, this use of γε

positions its host at the lower bound of a scale. The natural numbers form a ready scale, so it is easy to see that with the value one we are at the lower bound of a scale in this context. In contrast to the 'at least' reading, however, here γε excludes higher scalar alternatives: Meno's conditional refers to the prospect of finding one and only one definition of virtue, not at least one.

15.6.4. Reading 3: Particularizer 'in fact'

The third reading differs from the preceding two in that it offers a stronger alternative to a proposition that is under discussion. More specifically, the proposition with γε unilaterally entails some proposition active in the discourse:

(23) Socrates *Ἕλλην μέν ἐστι καὶ ἑλληνίζει*;
Meno *πάνυ γε σφόδρα*, [*οἰκογενής*]$_{F=}$***γε***.

Is (he) Greek and able to speak Greek?
Absolutely, (he was born) [in this house]$_F$ **in fact/specifically**.

Plat. *Men*. 82b

Socrates' question sets up the alternatives {*he was born in Greece*, *he was not born in Greece*}. What Meno does in his answer is to offer an informationally stronger answer than either of these alternatives. Meno's answer is informationally stronger because it entails one of the alternatives in the question: 'He was born in this house' entails 'He was born in Greece.' The reverse does not, however, hold.

The following examples further illustrate this reading:

(24) Creon *καὶ ταῦτ' ἐπαινεῖς καὶ δοκεῖς παρεικαθεῖν*;
Chorus [*ὅσον* ***γ***', *ἄναξ*, *τάχιστα*]$_F$ *συντέμνουσι γὰρ*
θεῶν ποδώκεις τοὺς κακόφρονας βλάβαι.

And you recommend this? You think that I should yield?
[As quickly as possible]$_F$ **in fact**, my lord. For harm of the gods makes short work of the misguided.

Soph. *Ant*. 1102–4

(25) Crito *ἄτοπον τὸ ἐνύπνιον, ὦ Σώκρατες*.
Socrates *ἐναργὲς μὲν οὖν, ὥς γέ μοι δοκεῖ, ὦ Κρίτων*.
Crito [*λίαν*]$_{F=}$***γε***, *ὡς ἔοικεν*.

A strange dream, Socrates.
A clear one, Crito, at least as it seems to me.
In fact, [too]$_F$ (clear), as it seems.

Plat. *Crit*. 44b

In both examples, we find not just affirmation, but strengthened affirmation. In (24), the chorus urge Creon not simply to yield, but to yield immediately.

Likewise in (25), Crito's response is affirmation with a narrowing of the reference, as a dream that is too clear entails a dream that is clear.

15.6.5. Non-focal Sets of Alternatives

Thus far the examples we have looked at all involve the set of focal alternatives—that is, the set of alternatives of a question under discussion. Given how common this type is, one can easily take away the impression that γε is a focus quantifier. This description of the particle is too narrow, however, as γε can also operate on non-focal alternatives:

(26) Socrates ἦ ταὐτὸν πανταχοῦ εἶδός ἐστιν, ἐάνπερ ὑγίεια ᾖ, ἐάντε ἐν ἀνδρὶ ἐάντε ἐν ἄλλῳ ὁτῳοῦν ᾖ;
Meno [ἡ αὐτή]$_{F}$ μοι δοκεῖ ὑγίειά=**γε** εἶναι καὶ ἀνδρὸς καὶ γυναικός.

Or, wherever we find health, is it of the same character universally, in a man or in anyone else?
Health **at least** seems to me to be [the same]$_{F}$, both that of a man and that of a woman.

Plat. *Men*. 72d–e

(27) Oedipus τίνων τὸ σεμνὸν ὄνομ᾽ ἂν εὐξαίμην κλύων;
Stranger [τὰς πάνθ᾽ ὁρώσας Εὐμενίδας]$_{F}$ ὅ=**γ᾽** ἐνθάδ᾽ ἂν εἴποι λεώς νιν, ἄλλα δ᾽ ἀλλαχοῦ καλά.

Whose awful name might I hear and invoke in prayer?
[The all-seeing Eumenides]$_{F}$ the people here **at least** would call them: but other names please elsewhere.

Soph. *OC* 41–3

In example (26), Socrates asks whether health is the same everywhere or not, to which Meno replies that it is the same. We thus know that ἡ αὐτή is the focus of his answer. Crucially, γε is hosted not by this phrase but by ὑγίεια 'health'. Example (27) further illustrates this possibility with a constituent question: Oedipus is asking the name of the goddesses to whom the area on which he is treading belongs. The focus is τὰς πάνθ᾽ ὁρώσας Εὐμενίδας, as it supplies a value for the interrogative pronoun of the question. This phrase does not host γε, however. It is hosted later in the clause by ὁ ἐνθάδ᾽ … λεώς.

We established in section 15.5 that questions denote sets of alternative propositions. This set of alternatives appeared to be the source of the alternatives at the lower bound of which γε locates its argument. Examples such as (26) and (27) raise the question of the source of the set of the non-focal alternatives.[18] The

[18] Dieter Gunkel calls my attention to Krifka 2008, 267–8, which defines contrastive topics as containing a focus. On this analysis, if one were to treat examples such as (26) and (27) as contrastive

function of $\gamma\epsilon$ in this context seems to be to indicate that the focus of the utterance does not fully answer the question. So in example (27), Oedipus inquires about a single name for the area, while the stranger's answer suggests that it has more than one designation.[19]

15.6.6. No Interrogative Hosts

Amidst the robust cross-categorial behaviour among the examples in the preceding sections, there is one noticeable gap: interrogative pronouns do not host $\gamma\epsilon$ (Denniston 1954: 124–5 lists some possible exceptions to this generalization but deems them textually suspect; a *TLG* search yielded no hits). On my analysis this is predicted because $\gamma\epsilon$ needs as its input two arguments: the ordinary semantic value of its host and a scale (i.e. an ordered set of alternatives). Interrogative pronouns cannot provide $\gamma\epsilon$ with the first of these arguments.

As we saw above in section 15.5, questions denote sets of alternatives:

(28 [= 9]) *Propositional Approach to Questions*
⟦Who did Fatima invite to the party?⟧ ⇝ {⟦Fatima invited Henry⟧, ⟦Fatima invited Jack⟧, ⟦Fatima invited Noa⟧, ⟦Fatima invited Wilson⟧, . . . }

An interrogative pronoun such as *who* thus denotes a set, and not a member of a set. But the surface argument $\gamma\epsilon$ has to be a member of a set. Thus this syntactic restriction results directly from the meaning of the particle.

15.7. NON-AT ISSUE MEANING

It has become increasingly common to recognize that utterances often correspond to more than one proposition and that these propositions belong to different 'dimensions' of meaning (Bach 1999; Potts 2005). Recent research has focused on the distinction between at-issue meaning and projective content. Roughly speaking, at-issue meaning is the primary, asserted meaning of an utterance (cf. the *proffered content* of Roberts 2012). This content is

topics, they would at heart contain a focus constituent and $\gamma\epsilon$ would associate with focus after all. On this analysis of information structure, it seems that any set of alternatives would have to be analysed as 'focal'. The distinction between (26) and (27) and its use with focal alternatives of constituent questions would then amount to a difference in whether or not the focus is embedded (as it would be with contrastive topics: i.e. $[[\text{argument}]_{\text{Focus}}]_{\text{Topic}}$).

[19] This class is reminiscent of the implicational topics of Büring 1997. But the use of $\gamma\epsilon$ does not seem designed to signal an interest in a different topic, but rather to indicate that more may be relevant than is contained in the speaker's question.

described as at-issue because it addresses the question under discussion (Simons et al. 2011; see also Matos Amaral, Roberts, and Smith 2007 and Tonhauser 2012). Projective content is non-asserted additional content that is communicated by either lexical items or particular syntactic constructions. Presuppositions and conventional implicatures appear to belong to this class. After reviewing a couple of semantic properties of projective meaning, I argue below that γε (with other Greek discourse particles) belongs to this class (cf. Potts 2005, 16; Gutzmann 2015, 41).

While various tests have been developed to distinguish at-issue and projective content, perhaps the central property of the latter is its inability to be directly denied. Consider the appositional relative clause *who stole from the FBI* in the following mini-dialogue (Potts 2005, 13):

(29) A: Ames, who stole from the FBI, is now behind bars.
i. B: No, that's wrong.
ii. B: No, Ames never stole from the FBI.

With the response in example (29i), speaker B can only negate the proposition *Ames is now behind bars*. To negate the appositional relative clause, the speaker has to explicitly mention its content, as in example (29ii).

Certain types of projective content also project beyond logical operators that are part of the at-issue content. In the following example, the appositional relative clause escapes the negation of the main clause (Potts 2005, 114):

(30) It's false that Alonzo, a big-shot executive, is now behind bars.

The predicate *it's false* negates the proposition *Alonzo is now behind bars*. It does not and cannot negate the appositional phrase *a big-shot executive*.

The following example illustrates the inability to directly deny γε:

(31) Socrates εἰ δὲ ἀεὶ ὡσαύτως ἔχει καὶ τὸ αὐτό ἐστι, πῶς ἂν τοῦτό=**γε** μεταβάλλοι ἢ κινοῖτο, μηδὲν ἐξιστάμενον τῆς αὑτοῦ ἰδέας;
Cratylus οὐδαμῶς.

And if it (that which is never in the same state) is always so (i.e. in the same state) and the same, how could this at least change or move and yet not give up its form?
It wouldn't at all.

Plat. *Crat*. 439e

What Cratylus denies is the possibility that something that is never in the same state changes or moves without giving up its form. He is not denying the contribution of γε to the meaning of τοῦτο. This inability to negate γε results from the simple fact that it outscopes the question operator. That is, since γε cannot be questioned, it cannot be denied. On this analysis, we expect that γε also cannot be assented to. This prediction is borne out:

(32) Socrates εἰργάζετο=δέ=**γε** ἡ περιττή;
Cebes ναί.

This was **just** the result of being an odd number?
Yes.

Plat. *Phaed.* 104d

Here Phaedo is agreeing with the proposition 'The result was produced by the concept of the odd' and not to the position on the verb εἰργάζετο on the relevant scale.

The question operator is not the only logical operator that γε outscopes. It exhibits the same behaviour with negation:

(33) Socrates ἦ καὶ ὁμολογοῦσιν, ὦ Εὐθύφρων, ἀδικεῖν, καὶ ὁμολογοῦντες ὅμως οὐ δεῖν φασὶ σφᾶς διδόναι δίκην;
Euthyphro οὐδαμῶς [τοῦτό]=**γε**.

Yes, but do they acknowledge, Euthyphro, that they have done wrong and, although they acknowledge it, nevertheless say that they ought not to pay the penalty?

[That] **at least** they certainly do not do.

Plat. *Euthphr.* 8c

Although negation outscopes (i.e. precedes) γε, semantically the particle outscopes negation. That is, the reading 'That is not the least that they do' is not available. My account predicts that γε will never fall within the scope of logical operators such as negation. In other words, one cannot negate or otherwise modify γε, owing to its background quality. This prediction appears to hold.

15.8. CONCLUSION AND PROSPECTS

This chapter has offered a new analysis of the particle γε as a scalar operator, which has at least the following three readings:

(34) *Semantic dossier*
i. Superlative modifier 'at least'
ii. Scalar exclusive 'just'
iii. Particularizer 'in fact'

In each of these readings γε typically associates with the focus of the utterance, but it need not. Assuming that we are on the right track in identifying this set of meanings, we have a considerable way to go before we can claim to have anything that approaches an adequate account of the meaning of this word.

Perhaps the first and most pressing is the question of a *Gesamtbedeutung*. I have concentrated here on explicating the basic readings of γε with little

attention to the question of whether these three readings are synchronically related, i.e. whether we can set up one single basic meaning from which the individual readings are derived.

Turning from γε to its textual environment, Denniston (1954, 116) observed that γε is most at home in 'lively dialogue'. It is not clear what constitutes 'lively dialogue', but it is true that γε is most frequently attested (among classical authors) in Aristophanes and Plato. I highly doubt that there is a direct relation between the use of the particle and the text type: that is, γε does not make dialogue more 'lively', and Greek speakers did not feel a need to add the particle to contexts that qualified as 'lively'. At this point, I would advance the idea that the frequency of γε correlates specifically with the frequency of (information-seeking) questions.

Looking beyond Greek, there is the question of the comparative and diachronic evidence. And here there are tantalizing possibilities to connect γε with function words elsewhere in Indo-European (Frisk 1960–72, s.v.; Beekes 2010, 263; Dunkel 2014, 2.279–83). One would like to know what kinds of source constructions give rise to scalar operators and, furthermore, why the phonetic erosion that accompanies grammaticalization can lead to irregular sound changes (see e.g. Longobardi 2001).

If nothing else, I hope that I have been able to elevate Greek particles from the troughs of mockery and thereby to demonstrate that they are worthy of (and will repay) serious investigation. Our understanding of natural language meaning has advanced so much since the composition of LSJ, and it is time that our field met twenty-first-century standards (cf. Devine and Stephens 2013, 3).