Greek Dialect Vowel Systems, Vowel Dispersion Theory, and Sociolinguistic Typology

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Abstract
Vowel dispersion theory supposes that vowels are distributed in vowel space so as to maximise contrasts. Using a sociolinguistic-typological approach, this paper hypothesises that this supposition, while supported by a great deal of evidence in general, may be more true of some language varieties than others. In particular it may be more true of standardised varieties. This suggestion is discussed using evidence from nonstandard dialects of Greek which appear to adhere to vowel dispersion theory less well than Standard Greek.

Keywords
Crete; Greek dialects; maximal dispersion; Sfakia; sociolinguistic typology; sufficient dispersion; vowel dispersion theory

The vowel system of Standard Modern Greek is strikingly ordinary, and, as argued below, almost predictable. Nonetheless, there is much of interest in examining Greek vowels, not just in terms of their phonetic properties and positioning relative to one another but for what they tell us about sociolinguistic typology and how it can affect phonological systems, especially when regional dialects are brought into the picture.

The vowels of Standard Greek are usually represented phonologically as /i, e, a, o, u/. Joseph and Philippaki-Warburton (1987: 236) describe these vowels as “high front, mid front, open low, mid back rounded” and “high back rounded” respectively (see also Mackridge 1985; Koutsoudas and

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1 It seems to be agreed that relatively little research has been done on the vowels of Modern Greek. Fourakis et al. (1999) tell us that, when it comes to vowels, “the literature on Greek is limited”.

2 The term ‘Standard Greek’ is not an uncomplicated one, especially as far as phonetics is concerned. For example, the pronunciation of Greek by educated speakers is by no means identical between Athens and Thessaloniki, to take just one obvious example (cf. Trudgill 1999 on Standard English).
Koutsoudas 1962). That is, the system consists of five vowels that are roughly equidistant from one another. We can thus represent the Greek vowel system using the traditional vowel trapezium as in Figure 1.

This is confirmed by acoustic work such as that of Jongman et al. (1989), who show that the five Greek vowels are well separated in vowel space, allowing for maximal contrast. Fourakis et al. (1999), in a follow-up acoustic study, support this. They compare their results with those of Bradlow (1995) for Spanish, which has a very similar 5-vowel system; and the same picture emerges for Greek from Sfakianaki (2002).

When viewed in a cross-linguistic perspective, the 5-vowel system found in Greek turns out to be rather banal and expected. In two papers, Schwartz et al. (1997a; 1997b) examine the vowel systems of the 317 languages in the UCLA Phonological Segment Inventory Database (UPSID), and show that, out of the 100 languages which have five vowels, 97% have /i, e, a, o, u/.

There are various theories of vowel space that would appear to motivate the prevalence of this Modern Greek-type 5-vowel system. In particular, the Vowel Dispersion Theory of Liljencrants and Lindblom (1972) claims that a number of typological trends in the phonetic structure of vowel inventories can be explained on the basis of the assumption that the phonetic realisation of vowel categories is “maximally dispersed in the available auditory space”. As Fourakis et al. (1999) say, in both Greek and Spanish the vowels “occupy positions in the acoustic space that provide for maximal contrast” (40).

Figure 1. Standard Greek vowels.