

Research Article

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The semantic and syntactic ingredients of Greek dish names: Are compounds a main choice?

<https://doi.org/10.1515/opli-2021-0009>

received September 2, 2020; accepted February 22, 2021

Abstract: The syntactic and semantic analyses of 2,500 dish names retrieved from 112 restaurant, tavern, and patisserie menus in Eastern Macedonia and in Thrace in Northern Greece show that only a small number of concepts are denoted by the heads of these noun phrases (NPs): Main Ingredient (MI) of a dish, Way of preparation, Part or Cuts (for MIs with an animal as a source), and the word “portion.” Seventy percent of the dish names are headed by a noun denoting the MI or the Way of preparation in which case the MI is introduced by a modifier of the head. Syntactically, these are mostly normal Modern Greek NPs, although NPs consisting of adjacent nouns offer fertile grounds for discussing aspects of compound formation in this language. This study has instructed the structuring of a knowledge base aimed to support applications in gastronomic tourism (menu translation, provision of gastronomic, dietary, and cultural information about the foods).

Keywords: dish names, gastronomy terminology, noun compounds, appositive structures, noun multiword expressions, Modern Greek

1 Introduction

The vivid international ongoing research and the rich-related bibliography highlight the relation of food with language studies, culture, history, human psychology, medicine and hygiene, and, of course, economy (Cotter 1997; Jurafsky 2014). Food is thought to comprise a crucial aspect of human identity, which is reflected in menus, meal schedules, and eating habits, among others (Faber and Vidal Claramonte 2017).

Linguistics of food, in particular, has been the topic of considerable research as can be seen in Gerhardt (2013) who provides a comprehensive overview of work on mainly the English language of food. It has been recognized that menus¹ and recipes² form specific genres (Cotter 1997; Zwicky and Zwicky 1980) because the texts belonging to them are defined by common communicative goals, rhetorical structure, and a highly

¹ “Menu” in Cambridge English Dictionary is defined as “a list of the food that you can eat in a restaurant;” while in Merriam-Webster, it is defined as “a list of the dishes that may be ordered (as in a restaurant) or that are to be served (as at a banquet).”

² “Recipe” in Cambridge English Dictionary is defined as “a set of instructions telling you how to prepare and cook food, including a list of what food is needed for this,” while in Merriam-Webster as “a set of instructions for making something from various ingredients.”

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conventionalized language at the lexico-grammar and phraseology level. Dish names, which are the topic of this work, have received special attention especially as regards their communicative and commercial impact.

We will present a detailed semantic and syntactic analyses of the names of the dishes (henceforth “dish names”) in the menus of 112 restaurants, coffee bars, and patisseries in Thrace and Eastern Macedonia, both provinces in Northern Greece, which was the area of study of the project GRE-Taste.³ Menus are written in Modern Greek. This analysis reveals the concepts used in dish names as well as certain interesting syntactic structures featuring in menus. The semantic analysis provided the basis for the development of an ontology (Arp et al. 2015) that underlies the knowledge base of an application promoting gastronomic tourism in the area (Pavlidis and Markantonatou 2020). The application provides a translation of Greek menus into English and Russian and allows for the retrieval of dietary and cultural information about the various dishes and their ingredients.

This article is structured as follows. In Section 2, we briefly present aspects of the international bibliography related to our research and in Section 3, our resources and the editing environment we developed to support our work. The main body of our work is given in Section 4 where the presentation is organized by the semantic and syntactic features of Greek dish names as they were observed in our menu collection. We conclude in Section 5 by presenting the main features of dish names.

2 Aspects of the language of food in the international bibliography

Both recipes and menus have attracted significant linguistic attention mainly from a sociological, etymological, and historical point of view, given the crucial role of food in human life (indicatively, Faber and Vidal Claramonte 2017; Freedman 2010; Jurafsky 2014; Zwicky and Zwicky 1980).

As regards the structure of the lexicon, Lehrer (1972) points out that “cooking vocabularies” define a semantic field. Drawing on an analysis of English, French, German, Mandarin Chinese, Japanese, Yoruba, Navajo, and Amharic cooking vocabularies (mainly terms denoting “manner of cooking” such as boiling and smoking), she claims that they can be described with the semantic relationships of hyponymy, synonymy, and incompatibility; therefore, taxonomic charts are adequate for representing them.

In later work (Lehrer 1991), she notes that the linguistic devices for naming food and drink, as menus do, are ordinary and common. However, it seems that dish names exploit some special structures. Schlücker (2019:93), in a study of German multiword expressions (MWEs), gives the following examples “([N1 von N2], [N1 of N2]): Salat von Flusskrebse (Lit. salad of crayfish), Gratin von Tomaten (Lit. gratin of tomatoes), Suppe von Spinat und Bärlauch (Lit. soup of spinach and wild garlic)” and comments that the pattern “can be described as a register-specific construction for haute cuisine language.” Here N1 must denote a dish and N2 an ingredient. This construction that contains a preposition is used instead of the compounds Flusskrebssalat “crayfish salad,” Tomatengratin “tomato gratin,” and Spinat–Bärlauch–Suppe “spinach and wild garlic soup” that are the usual (and only) way of expressing these concepts in everyday language. We will see that despite the many similarities with Modern Greek as it is used in everyday communication, the language of menus employs some special syntactic structures.

As regards the semantics of dish names, Lehrer (1991) notes that although much of the vocabulary for food is transparent (for example, fish soup is a soup made of fish), a considerable part of it is not. She observes that the meanings attached to the various ethnic dish names depend on ingredients, cooking methods, and finished results; we will add some more concepts to this list, namely “parts” and “cuts” of meats and poultry.

Furthermore, differences in the language used in recipes and menus are attested. A prominent difference is that menus hardly use any verb structures. As a result, recipes use richer linguistic structures than menus and have been studied more intensively from a formal syntactic point of view. For instance, Klenová

3 <https://www.ilsp.gr/projects/meta-net/?view=projecttask=showid=240>

(2010) analyses recipes in English; she gives information on the length of the recipe text, the organization of the recipe, the grammar, and vocabulary used to transmit the message conveyed by a recipe in oral or in written mode. She focuses on the following features that she considers characteristic of the genre: the absence of pronouns, the low use of contracted forms, the use of abbreviations, the use of complex clauses with rich aspect (for written form), ellipsis, vague language, coordination, informal and expressive language and incomplete clauses (for spoken form). Bender (1999), Culy (1996), Massam, and Roberge (1989) have discussed the fact that null objects are frequent in recipe texts while Bender (1999) has provided a Head-driven Phrase Structure Grammar modeling of the phenomenon.

Style differences between menus and recipes have also been reported. Comparisons of dish names in recipes and restaurant menus reveal a differentiation in naming strategies that has to do with the status of the restaurants. Certeau (1998:221) finds that dish names in recipes are more descriptive while dish names in restaurant menus are a matter of policy: “the higher their status, the more the menu proposes mysterious dishes with pompous names whose reading generally provides no information.” In fact, the use of macaronic, mixed language or foreign words (that may sound more exotic) has often been related with restaurant status, for instance, there are works connecting dish names with price and restaurant incomes (Chahuneau *et al.* 2012; Jurafsky 2014; Witchalls 2014; Zwicky and Zwicky 1980). On a similar par, Panaretou (2002) examines the lexicological means used in Modern Greek journalism on gastronomy. She identifies two stances, namely, focusing on Greek cooking versus being the proponent of non-Greek cuisine and discussing the linguistic means used by the proponents of each stance. The latter stance prefers a kind of language used in certain “upgraded” restaurants; menus of this type can be found sporadically in our menu collection as well.

Zwicky and Zwicky (1980) distinguish two conflicting motives in the menus: informativeness and advertising in a small space. They believe that special linguistic conventions of the menu genre serve those purposes as well; after all, it is the nature of a menu to be a catalog, a sort of list, while recipes are not lists.

Grammenidis (2008:222), who adopts a translator’s point of view, offers the following description of the language of Modern Greek menus: “In most cases we have to deal with nominal phrases made by one only term without a determiner, designating things, referentially autonomous and with a cultural load:”

- An isolate common word, either in singular or in plural (e.g., *κουνέλι*, “rabbit” and *τυρόπιτες*, “cheese pies”).
- A substantivized qualifying adjective (e.g., *χωριάτικη* “country” and *χτυπητή* “beaten”).
- An extended nominal group, made up of an attributive adjective and a noun, or the opposite, with the adjective designating either the mode of preparation (e.g., *τηγανητές πατάτες/πατάτες τηγανητές* “fried potatoes/potatoes fried” and *χόρτα βραστά/βραστά χόρτα* “greens boiled/boiled greens”) or one characteristic of the product on which the dish is based (e.g., *μπριζόλα χοιρινή* “pork chops,” *λουκάνικο χωριάτικο* “country sausage”).
- An extended nominal group made up of two substantives (e.g., *μύδια σαγανάκι*, Lit. mussels-small frying pan, *γαρίδες σχάρας*, Lit. prawns-barbecue, and *πιπεριές Φλωρίνης*, Lit. peppers-Florina).

Grammenidis’ typology of Modern Greek dish names leaves out certain noun phrase (NP) structures such as MWEs and compounds; all of them are frequent in menu language and some of them, as we will see, are rare in common language. Furthermore, this typology is not concerned with the semantic intricacies of the field; as a result, for example, *μύδια σαγανάκι*, Lit. mussels-small frying pan, misses the fact that the dish name is not about the small frying pan but about the particular way of cooking/dish type that is achieved by using this particular frying pan and is named after it. These details are important in the development of an ontology, and our analysis takes them into consideration.

A type of food text that is related to both menus and recipes is that of food advertisements. Ramon and Labrador (2018) discuss the key nouns in 150 online English advertisements of cheese. Just like menus, these advertisements have been written by experts in the field but are addressed to the wide audience and try to accommodate a lot of information in a short text. The authors find the most frequent nouns that denote characteristic attributes of the concept “cheese” and classify them into seven categories using semantic criteria. Several of these nouns are MWEs or bilects and the most frequent ones denote “flavor”

or “texture.” Heavy premodification of the key nouns is observed, thus packing a lot of information in a single NP (e.g., a natural, crusty, brownish rind), which is a phenomenon also observed in menus. The most common premodification pattern involves asyndetic coordination. Key nouns very often occur in prepositional phrases (PPs), NPs, or other constructions that do not involve a verb phrase (e.g., creamy yellow with a close but moist texture). This text type often makes use of verbless clauses for a quick description of the main features of the cheese.

3 The resources of this study

We have already said that we draw on a collection of 112 restaurant menus from Thrace and Macedonia. The menus were manually collected from restaurants and taverns that do not specialize in food delivery and, in general, do not publish material on the web; such are precisely the restaurants and taverns that are of interest to the visitor of the area. This collection of menus depicts with some accuracy the particular gastronomic market in the area and is unique in its kind.

Menu texts were manually stored in a web database application developed for the needs of the GRE-Taste project. Care was taken to preserve both the content and the structure of these texts: a dish very often belongs to a category, and it definitely has a name and may be accompanied by an additional description explaining its constituency and how it was prepared. A field for notes (Figure 1) was foreseen for any other information on the menu. Spelling and punctuation particularities were preserved in the encoding. Figure 1 shows the encoding of the metadata for each menu. Figure 2 shows the entries for two dishes, both salads, that were listed in the menu under a dish category called “Fresh salads;” each entry contains the name of the dish and its description as it was given in the menu.

4 The semantic and syntactic structures of dish names in the menus

Historical information is often hidden in dish names (Jurafsky 2014). Literature on menu design discusses dish or menu name creation or selection; for example, Pennete and Keyser (2015) provide instructions on how to cope with issues such as word length and provenance, accuracy, ethnic, and foreign words.

Figure 1: The administrator’s page and the interface for menu encoding in the web database application. Slots from top to bottom: type of text, the restaurant or tavern from which the menu was obtained, geographical area, and the way of encoding in the data base (manual or harvesting the web).

4	κατηγορία	Φρέσκιες σαλάτες
	όνομα	Ταμπουλέ
	περιγραφή	πλιγγούρι, ψιλοκομμένη ντομάτα, φρέσκο κρεμμυδάκι & μαϊντανός
		✖ Remove the item
5	κατηγορία	Φρέσκιες σαλάτες
	όνομα	Τσομπάν
	περιγραφή	ψιλοκομμένη ντομάτα, αγγούρι, κόκκινο λάχανο, μαϊντανός, πράσινη πιπεριά, κρεμμύδι & ελαιόλαδο

Figure 2: The entries for two dishes in the category “fresh salads.” Slots from top to bottom: category, name, and description.

Our analysis of the approximately 2,500 dish names that occur in our menu collection puts emphasis on the names’ semantic and grammatical structure. Koeva *et al.* (2018) offered a semantic and syntactic analyses of named entities in five European languages, including Modern Greek, that is close to our approach from a methodological point of view.

Dish names are NPs headed by nouns which denote elements of a closed set of meanings. The NPs may also include a range of modifiers of the head noun that tend to pick their denotation from the same set although meanings beyond this set are not excluded.

We call the meanings denoted by the components of the dish names in our menu collection Menu Meanings (MMs); the MMs are listed below. Of them, only meanings 1–5 are denoted by the syntactic heads of dish names. Main ingredient (MI) and Way of preparation are the meanings primarily referred to by dish name components: in about 70% of dish names, the MI and the way of preparation are either denoted by the head noun or denoted/entailed by the modifiers.

1. MI. MI is an edible material that characterizes a dish (often in terms of quantity), for instance, “fried cod,” “chicken with okra” where the MI is “cod” and “chicken,” respectively.
2. Way of preparation such as “roasted” and “puréed.”
3. Portion/serving such as “whole.”
4. Part (mainly for meats and poultry) such as “wing.”
5. Cut (for meats and poultry) such as “filet.”
6. Place (specific geographical origins of an ingredient, mainly of the MI or of the dish) such as “feta cheese from Thrace.”
7. State of MI such as “fresh.”
8. Ingredients of a dish (edible materials included in the dish other than the MI) such as “roasted chicken fillet with ham and potatoes.”

The phenomenon of synecdoche by which a part of an object lends its name to the whole is pervasive with food names: very often the name of the MI and the name of the dish are identical, also the name of the MI and the name of the source of the food, for instance, φακή or φακές “lentils” names the plant, the MI of a typical Greek soup and the soup itself. Other speech figures observed in dish names are metonymy (e.g., εξοχικό “food of the countryside”) and metaphor (e.g., παπουτσάκια, Lit. little shoes, “stuffed aubergines which are halved along their long axis so that they resemble shoes”).

Below, in Sections 4.1–4.5, we comment on the semantic and syntactic patterns used for the dish names in the menus we collected. We will pay extra attention to certain NPs of the noun + noun type that are more frequent in the language of the menus than in everyday language.

The following conventions are adopted in Tables 1–10:

- Column “Meanings”: the meanings denoted by the components of the dish name are enclosed in angle brackets (<>).
- Column “Linguistic Form.” The symbols used are N: noun, NMWE: noun multiword expression, Adj: adjective, NPgen/Ngen: noun phrase/noun in the genitive case, PP: prepositional phrase, Conj: conjunction, C: compound noun, *: 0 or more occurrences, +: at least one occurrence.
- The syntactic head of a structure is boldfaced in both the semantic and the syntactic patterns.

4.1 Dish names headed by a noun denoting the MI

Table 1 shows the varieties of dish names that are headed by a noun denoting the MI; modifiers may denote MMs that do not occur as dish name heads or non-MM meanings. All dish names with a head denoting the MI are subject to the phenomenon of synecdoche.

Table 1: Dish names headed by a noun denoting the MI. Modifiers may denote MMs or other meanings

Noun phrases with head noun denoting the MI	Meanings	Linguistic form
MI: λιθρίνια “pandoras” αγινάρες αλα πολίτα Lit. artichokes a la polita	<MI>	N, NMWE
Broader category of MI + MI: φασόλια γίγαντες, Lit. beans giants	<Broader MI><MI>	NN
MI + State: φρέσκα ψάρια ημέρας, Lit. fresh fish of the day, φρέσκο θραψαλάκι, Lit. fresh little broad.tail.short.fin.squid, μπακαλιάρος φρέσκιος υφάλμυρος, Lit. cod fresh brackish	<MI><state>	Adj*NN* N Adj+, N NPgen
MI + Portion: ολόκληρο κοτόπουλο ‘whole chicken’	<MI><portion>	Adj N
MI + Place: πιπεριές Φλωρίνης, Lit. peppers Florina.GEN, Φλωρίνης, Lit. Florinis.GEN, φέτα Θράκης, Lit. feta Thrace.GEN	<MI><place>	N NPgen
MI + ingredients: πιτάκια από μοτσαρέλα & βασιλικό, Lit. little.pies of mozzarella.cheese and basil	<MI><ingredient>*	N (PP)*

The NPs may consist of a nominal head only; the nominal head may be a single word or a NMWE. They may also include an assortment of adjectives and NPs in the genitive case as well as PPs and conjunctions. These are all regular NP structures of Modern Greek and their overall meaning results from the meanings of their parts and their syntactic structure, in other words these dish names have compositional semantics.

The diminutive of the name of an MI may be used (e.g., αρνάκι, Lit. little lamb). Greek diminutives function as mitigators often expressing affection and tenderness (Sifianou 1987:284). With food names, diminutives imply that the edible materials have been obtained from not overgrown animals, fruits, or vegetables, which are considered food sources of higher quality (for instance, the meat of young animals is more tender).

Often an MI is modified by a noun in the genitive case denoting the place of origins (e.g., φέτα Θράκης, Lit. feta Thrace.GEN, “feta cheese from Thrace”). Freedman (2010:130) lists the expression of the origins of a food in a menu as an overused technique that “identifies the source of the ingredients rather than emphasizing the style of preparation” in order to cause “an aura of excitement within a conventional format.” Typically, this type of dish name follows the syntactic rules of Greek and has compositional semantics.

Synecdoche also applies to names that are MWEs, for instance, πιπεριά Φλωρίνης “Florinis pepper” has a noncompositional reading that refers to special kinds of peppers;⁴ these peppers were originally a product of the area of Florina but today they are produced in various places in Greece. The MWE status of the name

⁴ World Intellectual Property Organization (1994). Ministerial Decision No. 315786, Recognition of Protected Designation of Origin (P.D.O) for the Red Pepper of Florina. Retrieved from <http://www.wipo.int/wipolex/en/details.jsp?id=1860> (WIPO Lex).

is further highlighted by the presence of the learned form “Florinis” instead of the form “Florinas” that is normally used in Modern Greek.

Structures involving sequences of nouns (Nakas and Gavriilidou 2005; Stavrou 1983; Tzartanos 1946:65–7) are often used in restaurant menus and deserve some special attention. They consist of at least two adjacent nouns and probably modifying adjectives. None of the nouns is marked with the genitive case. Various relations hold between the denotations of these names. One such relation is the genus–species relation (Tzartanos 1946). In Table 1, a noun + noun structure is listed (see also (1) below) that denotes the genus–species relation and introduces the MI as a species of a broader category of foods. This structure is used when the name of the MI is polysemous and/or idiosyncratic. A set of such names is listed in (1). Out of context, *φέτα* means “slice” and “cheese,” *μπαρμπούνια* “red mullets” and “type of reddish beans,” and *γίγαντες* “giants” and “type of large beans.” In (1), however, the meanings we obtain are only “feta cheese,” “speckled butter beans,” and “giant beans,” respectively.

(1)	τυρί	φέτα,	φασόλια	μπαρμπούνια,	φασόλια	γίγαντες
	cheese	feta,	beans	speckled.butter.beans,	beans	giants
	“feta cheese, speckled butter beans, giant beans”					

The noun + noun structure exemplified in (1) is productive, for instance, it can be found with all types of beans with idiosyncratic names and for many, if not all, types of cheese. Its semantics is compositional, in the sense that it always denotes a genus–species relation between the two nouns. Koliopoulou (2012, 2019) argues that the noun + noun formations of Modern Greek syntactically should be placed between morphological and syntactic formations and proposes a set of diagnostics of syntactic flexibility (Koliopoulou 2012:865, Koliopoulou 2019:236) for their placement in this continuum. The noun + noun structure we discuss here is closer to Koliopoulou’s syntactic formations: (i) word order is rigid in that the genus denoting name is always first,⁵ (ii) the two parts of the structure inflect agreeing in number, for instance, the singular number *φασόλι γίγαντας*, Lit. bean.SG giant.SG is in use along with the plural number shown in (1), (iii) both nouns accept modifiers (2a), but a modifier cannot intervene between two nouns (2a), (iv) the genus denoting noun functions as a head as shown by its agreement with the definite article (2b), and (v) finally, the species denoting noun can be the target of a relative clause (2c).

(2) a.	To	φρέσκο	τυρί	φέτα,	τυρί	φέτα	πιχάντικη,
	the.NEUT	fresh.NEUT	cheese.NEUT	feta.FEM,	cheese.NEUT	feta.FEM	spicy.FEM,
	*τυρί	πιχάντικη	φέτα				
	*cheese.NEUT	spicy.FEM	feta.FEM				
b.	To	τυρί	φέτα,	*η	τυρί	φέτα	
	the.NEUT	cheese.NEUT	feta.FEM,	the.FEM	cheese.NEUT	feta.FEM	
	“the feta cheese”						
c.	Πρόκειται	για	τυρί	φέτα	η	οποία	είναι δουλεμένη ...
	it.is.about	For	cheese.NEUT	feta.FEM	the.FEM	which.FEM	is processed.FEM ...
	“it is feta cheese that has been processed [...]”						

Dish names of the type NN will be discussed in the next sections as well. These structures are frequent in the menus and, in some cases, they seem to violate Greek grammar. Still they characterize the language of menus and serve its goals of brevity and informativeness (Zwicky and Zwicky 1980) in the best way.

⁵ We note in advance that the word order rigidity characterizes all types of noun+noun formations in the menus. This observation is in accordance with Koliopoulou’s (2019) observations on NNAttr(ibutive) expressions. An interesting line of research could consider the semantics of these structures; since morphology does not offer enough clues for the semantic role played by each noun, rigidity of word order could be considered an indication for the semantic interpretation of the structure.

Dish names with spaghetti and risottos are often headed by the nouns μακαρονάδα, Lit. dish with a type of spaghetti and ριζότο “risotto;” very often, they are compounds – it should be noted that compounding is a productive linguistic process in Modern Greek. The compounds listed in Table 2 are all stem-word, right-headed compounds (Koliopoulou 2019), and both their constituents denote ingredients. All the dish names of Table 2 denote dishes containing meat or seafood and are listed as meat/seafood dishes according to an order of ingredient prominence that we postulated for facilitating the development of the ontology. On the other hand, the spaghetti or risotto component is prominent, being the head of the structure. So although the structure of the NPs and the compounds is perfectly regular, we consider that in the framework of dish names they are semantically special in that they denote two MIs (see Table 2⁶).

Table 2: Dish names headed by a noun denoting pasta or rice with modifiers denoting a second MI

Noun phrases with head noun denoting the MI	Meanings	Linguistic form
MI1 [generally spaghettis and risottos] + MI2 + ingredients: μακαρόνια με κιμά, Lit. spaghetti with minced meat (fixed), πένες με φρέσκο σολωμό και βασιλικό “penne with fresh salmon and basil” (creative), μακαρονάδα θαλασσινών, Lit. spaghetti seafood.GEN, ριζότο θαλασσινών, Lit. risotto seafood.GEN, μακαρονάδα με θαλασσινά και σπιτιική σάλτσα ντομάτας, Lit. spaghetti with seafood and homemade sauce tomato.GEN	<spaghetti/risotto><MI><ingredient>*	N PP [Conj N]*, N Ngen
Compound.MI1 + MI2: ασταχομακαρονάδα, Lit. lobster spaghetti, γαριδομακαρονάδα “spaghetti dish with shrimps”	<MI><μακαρονάδα>	[C1C2]

4.2 Dish names headed by a noun denoting the MI with modifiers denoting the Way of preparation

Table 3 shows the varieties of dish names with a head denoting the MI and one or more modifiers denoting the Way of preparation that may be expressed with a range of syntactic structures (adjective, NP in the genitive case or a PP). Noun + noun structures are also common. Any type of modifiers denoting or entailing MM or non-MM meanings may occur as well. Again, the phenomenon of synecdoche is pervasive.

The NPs in Table 3 consist of a nominal head modified by an assortment of modifiers; one or more of which denote the Way of preparation while other MMs may also be denoted by other modifiers. These structures follow the syntax of Modern Greek NPs and have compositional semantics. The modifiers include adjectives, nouns, PPs, and NPs in the genitive case; some of those NPs are named entities often denoting names of restaurants or chefs (3). We understand that modifiers of the type in (3) imply a unique way of preparation/cooking that is characteristic of the restaurant or the chef.

- (3) μανιτάρια “Το χωριό”
“mushrooms ‘The village’”

Noun + noun structures expressing genus–species relations are used to denote the MI and accept modifiers denoting the Way of preparation (e.g., τυρί φέτα ψητή, Lit. cheese.NOUN.NEUT feta.NOUN.FEM baked.ADJ.FEM). The position of the adjective is crucial for the choice of the noun with which it agrees and this is an additional indication that the structure is syntactic as already suggested in Section 4.1.

⁶ The names containing a PP introduced with the preposition με “with” answer to the question “how” as discussed in Section 4.2.

Table 3: NPs headed by a noun denoting the MI. Way of preparation is denoted by modifiers. Other modifiers may denote both MM and non-MM meanings

Noun phrases with MI denoted by the head noun and Way of cooking by modifiers	Meanings	Linguistic form
MI + Way(s) of cooking (ADJ, N, NPgen, PP, NP): χαπαοδάκι ξυδάτο ντόπιο, Lit. little octopus in vinegar local, σουπιά στιφάδο, Lit. cuttlefish stifado, χαπόδι σχάρας, Lit. octopus grill.GEN, μελιτζάνα στη θράνα, Lit. aubergine on the coals, μανιτάρια «Το χωριό» “mushrooms ‘The village’,” ψητή μελιτζάνα καπνιστή, Lit. baked aubergine smoked, μοσχάραι γιουβέτσι στη γάστρα, Lit. beef γιουβέτσι in the casserole, καλαμάρι σχάρας γεμιστό, Lit. calamari on the grill stuffed	<MI><way_cook >* mod	Adj + N Adj*, Adj* N Adj + , N N, [Adj* N Ngen Adj*], N PP
Broader category of MI + MI + Way of cooking (Adj, NPgen, PP): τυρί φέτα ψητή, Lit. cheese feta grilled, μανιτάρια πλευρώτους στη σχάρα, Lit. oyster mushrooms on the grill	<BroaderMI><MI><way_cook>*	N N Adj, N N Ngen, N N PP
MI + Cuts + Way of cooking: καλαμαράκια τηγανητά σε ροδέλες, Lit. small calamari fried in rings	<MI><cut><way_cook>	N Adj PP
MI + Place + Way(s) of cooking (Adj, NPgen, PP): καπνιστό σκουμπρί Φαναρίου, Lit. smoked mackerel Fanari.GEN, ταλαγάνι Μεσσηνίας στην σχάρα, Lit. talagani Messinia.GEN on the grill	<MI><place><way_cook>	[Adj* N Ngen Adj*, NPgen*, PP*]
MI + source of crucial ingredient of the MI + Way of cooking: φέτα βουβαλίσια ψητή, Lit. feta of_buffalo.ADJ baked	<MI><source><way_cook>	N Adj Adj*, PP*, NPGen*

Interestingly, we observe noun + noun structures of the type <MI><way_preparation> in which the relation between the nouns cannot be reduced to one of the relations listed in the literature on noun + noun structures of Modern Greek (Nakas and Gavriilidou 2005; Stavrou 1983; Tzartzanos 1946). Nakas and Gavriilidou (2005) give some examples of noun + noun structures from the food domain and suggest that they are derived with the drop of a preposition, namely, πράσα (με) αυγολέμονο, Lit. leeks (with) egg-and-lemon-sauce, τυρί (σε) κρέμα, Lit. cheese (in) cream “cream cheese.” Most of the noun + noun constructs discussed here cannot be paraphrased with either of these prepositions (see the discussion about the με “with” preposition below). We argue that they stand in a relation that is discussed for the first time here, as far as we can ascertain, namely, “MI X is cooked in Way of preparation Y.”

The application of the diagnostics for syntactic flexibility (Koliopoulou 2012:865; Nakas and Gavriilidou 2005) on the particular noun + noun structures of Modern Greek places them between syntactic formations and morphological ones because: (i) way of preparation denoting nouns do not inflect while the nominal head inflects although not freely,⁷ (ii) way of preparation denoting nouns do not accept adjectival modification and cannot function as the target of a relative NP, (iii) the head noun can accept adjectival modification and the modifier can be placed before or after the noun it modifies (e.g. σουπιές φρέσκες στιφάδο, Lit. cuttlefish.FEM fresh.FEM stifado.NEUT.NOM_OR_ACC, “stifado made with fresh cuttlefish” and φρέσκες σουπιές στιφάδο, and (iv) word order is rigid: the MI denoting noun is always on the left and heads the construction, otherwise, if the Way of preparation denoting noun is placed on the left it becomes the head of a <way_preparation><MI> construction and the relation between the two nouns is “dish X has MI Y” (see Table 6). To exemplify the situation, (4), which is included in Table 3, is an instance of the relation “MI X is cooked in Way of preparation Y” and is headed by the MI denoting name φέτα. On the

7 Both “three feta.SB saganaki!” and “three fetes.PL saganaki!” can be used to order the dish in a taverna.

other hand, (5), which is included in Table 6, is headed by a noun denoting Way of preparation and is an instance of the relation “dish X has MI Y.”

(4) φέτα σαγανάκι <MI><way_preparation>
 feta Saganaki
 “feta cooked in the way of preparation ‘saganaki’”

(5) σαγανάκι φέτα <way_preparation><MI>
 saganaki feta
 “saganaki dish with feta as its main ingredient”

In the noun + noun structures of the type <MI><way_preparation>, the noun denoting the Way of preparation replies to the question “how” (6). These noun + noun sequences may sound as parts of constructions with the resultative verb κάνω “make” that takes the MI denoting noun as its direct argument and the <way_preparation> one as the result denoting complement that is predicated of the direct object (7):

(6) Πώς θα το κάνεις το κουνουπίδι; -Στιφάδο./Βραστό.
 How will it do.2SG the cauliflower? -Stifado./Boiled.
 “In which way/how are you going to cook the cauliflower? -Stifado./Boiled.”

(7) Θα κάνω το κουνουπίδι στιφάδο.
 Will make.1SG the cauliflower.ACC. stifado.ACC
 “I will make a stifado with the cauliflower.”

To the question “how” also answers a PP of the type [με “with”]-<ingredient> (see also the reference above to Nakas and Gavriliidou (2005) regarding the drop of a preposition). We listed these structures in Table 1. Related to the cases studied here is the case where the name of an ingredient appears in the name of an established dish (e.g., χοιρινό με πρασοσέλινο, Lit. pork with leak.and.celery). An established sauce may also appear in the name of a dish as an ingredient (e.g., πράσα με αυγολέμονο, Lit.leeks with egg.and.lemon.sauce) and may allow for preposition drop (Nakas and Gavriliidou 2005:59). In all these cases, the PP or the bare NP can be provided as an answer to the question “how.” We propose that the drop of the preposition signals that the name of the ingredient is on its way to denote or already denotes a “way of preparation.” This is definitely true for αυγολέμονο “egg-and-lemon sauce” which characterises a family of dishes.

In sum, our point is that noun + noun structures of the type <MI><way_preparation> may contain names of established dishes or sauces that have evolved to “ways of preparation” (8) or dishes that are on their way to become “ways of preparation.” These established dishes/sauces may retain the name of an ingredient by synecdoche or have a special name such as “stifado.” Other established dishes, some of which are newcomers to Greek cuisine, are already used in the same way (e.g., carbonara (9)).

(8) κουνουπίδι στιφάδο, σουπιές στιφάδο
 cauliflower stifado, cuttlefish stifado
 “cauliflower cooked in the stifado way,” “cuttlefish cooked in the stifado way”

(9) Πατάτες τηγανητές καρμπονάρα
 Potato fried carbonara
 “French fries cooked in the carbonara way”

Diminutives of the MI may be used as heads (e.g., αρνάκι ψητό, Lit. little lamb roasted “roasted suckling lamb”) as well as structures with place names denoting the origins of the MI (e.g., καπνιστό σκουμπρί Φαναριού, Lit. smoked mackerel Fanari.GEN “smoked mackerel from Fanari”). In the next sections, we present dish names that are not headed by a noun denoting the MI.

4.3 Dish names with a head noun that does not denote the MI

In this section, we present dish names in which the MI is denoted or entailed by a modifier of the nominal head that means “portion/serving” or denotes cuts and/or parts of the Source, or way of preparation. In what follows, we use the label “Substance” to describe the meaning of the modifiers that entail a Source such as αρνίσιος, Lit. of_lamb.ADJ.

4.3.1 Dish names headed by μερίδα “serving”

The word μερίδα “portion/serving” supports structures of the type “μερίδα NP” where NP is the name of the dish. Word order is not fixed (10) and modifiers can be applied freely on both the nouns of the structure (Table 4); therefore, these are clearly syntactic constructions. These sequences are well established in Modern Greek (Tzartanos 1946:66).

(10)	Παίρνουμε	συν	μια	πατάτες	μερίδα	/μερίδα	πατάτες
	take.1st.PL	plus	a.SG	potato.PL	serving.SG	/serving.SG	potato.PL
	“Additionally, we order a serving of potatoes”						

Table 4: The dish name denoting noun is headed by μερίδα “serving.” The MI is denoted by a nominal modifier of the head or entailed by a Substance denoting modifier

Noun phrases headed by μερίδα “portion”	Meanings	Linguistic form
Portion + MI: μικρή μερίδα πατάτες, Lit. small serving potatoes	<portion><MI>	Adj* μερίδα NP
Portion + Substance + Way of cooking: μερίδα μπιφτέκι νοτόπουλο, Lit. serving burger chicken, παϊδάκια αρνίσια σχάρας μερίδα, Lit. little ribs of_lamb.ADJ grill.GEN serving	<portion><Substance><way_cook>	μερίδα NP

4.3.2 Dish names headed by a noun denoting Part or Cuts

When a head noun denotes cuts or parts of an animal,⁸ the MI is introduced by the modifiers of the head noun.

In Tables 5 and 6, nouns denoting the part of an animal and/or cuts feature as heads of the dish name. The MI is denoted or entailed by a modifier of the nominal head (adjective, noun, noun in the genitive case, and prepositional phrase). Ingredients can always appear as conjuncts and/or as PPs introduced with the preposition με “with;” the με-PP functions as a modifier of the dish name head (e.g., καπνιστή χοιρινή μπριζόλα με πατάτες τηγανητές, Lit. smoked pork steak with French fries). Diminutives of the cuts or the parts are used with the semantic effect discussed in Section 4.1, namely, indicating tenderness of the food.

⁸ Vegetables as sources occur in recipes. We have not found an example in our menu data.

Table 5: The dish name denoting NP is headed by a noun denoting cuts or parts of the Source; the MI is entailed from or denoted by the modifiers of the head noun

Noun phrases headed with a noun denoting Part or Cuts. MI is denoted/entailed by a modifier	Meanings	Linguistic form
Part + Substance: παϊδάκι αρνίσιο, Lit. rib of_lamb.ADJ, συκωτάκια πουλιών, Lit. little livers birds.GEN, στήθος (από) κοτόπουλο, Lit. breast (from) chicken, παϊδάκι αρνί, Lit. rib lamb	<part><Substance>	N Adj, Adj N, N N, N Ngen, N apo-PP
Cuts + Substance: μοσχαρίσια μπριζόλα, Lit. of_beef.ADJ steak, φέτα σολωμού, Lit. slice salmon.GEN, φιλέτο μοσχάρι, Lit. filet beef, στήθος κοτόπουλο, Lit. breast chicken	<cuts><Substance>	N Adj, Adj N, N Ngen, N N
Part + Substance + Cuts: μπούτι κοτόπουλο φιλέτο, Lit. drumstick chicken filet, φιλέτο κοτόπουλο μπούτι, Lit. filet chicken drumstick, χοιρινά μπριζολάκια λαιμού, Lit. of_pork.ADJ little steaks neck.GEN	<part>/<cuts><Substance>	N Adj N, Adj N Ngen, N Ngen N, N N N
Compound. Part or Cuts + Substance: κοτομπουτάκι, Lit. chicken.little.drumstick, κοτομπριζολάκια, Lit. chicken.little.steaks	<Substance><part>/<cuts>	[C1 C2]

Noun + noun structures (11a) and (12a) denote a part-whole relationship. Tzartanos (1946, 66) mentions NP + NP structures with this semantics; however, these are NP sequences where nouns are accompanied by determiners while in (11a) and (12a) no determiner is allowed for the noun denoting the “whole.”

The three structures in (11a–c) are synonymous but they differ syntactically. (11a) is a noun + noun structure, (11b) is a structure where a genitive denoting inalienable possession modifies the head noun “filet,” and (11c) is an adjective + noun structure and both word orders are grammatical.

(11)	a.	φιλέτο filet	μοσχάρι beef		
	b.	φιλέτο filet	μόσχου beef.GEN		
	c.	μοσχαρίσιο of.beef.ADJ	φιλέτο, filet,	φιλέτο filet	μοσχαρίσιο of.beef.ADJ
			‘beef filet’		

As regards (11a), it should be mentioned that a structure containing a PP, namely, φιλέτο από μοσχάρι, Lit. filet from beef, is also possible. The preposition από “from” may be dropped with PPs denoting the Source [e.g., στήθος (από) κοτόπουλο, Lit. breast (from) chicken] yielding structures like (11a). We have already encountered the drop of the preposition με “with” in the discussion of Table 3.

The Greek word for “beef” is morphologically related both with nouns that can still be assigned the genitive case without sounding peculiar (11b) and with a “substance” denoting adjective which we represent in the gloss as “of.beef” (11c). Other MIs are not, for instance the colloquial word σκουμπρί “mackerel” sounds peculiar in a structure with the genitive (12b) and there is no “substance” adjective meaning “of_mackerel.” (12a) is normally used and in this structure the “whole” denoting noun behaves like an adjective and not like a noun, let alone a head noun; this is indicated by the fact that only the Cuts denoting noun can appear in the plural (13) while the noun denoting the “whole” can appear in both a pre- and a postnominal positions, as adjectives do (11c).

(12)	a.	σκουμπρί mackerel	φιλέτο, filet,	φιλέτο filet	σκουμπρί mackerel
	b.	φιλέτο filet	σκουμπριού mackerel.GEN		“mackerel filet”

- (13) *δύο σκουμπριά φιλέτα, *δύο σκουμπριά φιλέτο, *δύο φιλέτα σκουμπριά, δύο φιλέτα σκουμπρί
two mackerel filets, two mackerels filet, two filets mackerels, two filets mackerel
“two mackerel filets”

Table 6: The dish name denoting NP is headed by a noun denoting cuts or parts of the Source; the MI is entailed from or denoted by the modifiers of the head noun

Noun phrases headed with a noun denoting Part or Cuts. MI is denoted/entailed by a modifier	Meanings	Linguistic form
Part + Substance + Way of cooking: φτερούγες κοτόπουλο σουβλάκι, Lit. wings chicken souvlaki, κότσι χοιρινό με πατάτες στο φούρνο, Lit. knuckle of_pork.ADJ with potatoes in the oven, συκιάτι μόσχου στη σχάρα, Lit. liver beef.GEN on the grill	<part><Substance><way_cook>	N N N, N Adj PP*, N Ngen PP
Cuts + Substance + Way of cooking: φιλέτο κοτόπουλο σχάρας, Lit. filet chicken grill.GEN, φιλέτο μόσχου Chateaubriand με μυρωδιά[...], Lit. filet beef.GEN Chateaubriand with herbs[...], χοιρινή πανσέτα σιγοψημένη στο φούρνο, Lit. of_pork.ADJ sirloin slowly.roasted in.the oven	<cuts><Substance><way_cook>	N N {NP, NPgen, PP, Adj}
Part + Cuts + Substance + Way of cooking: χοιρινά μπριζολάκια λαιμού στη σχάρα, Lit. of_pork.ADJ little steaks neck.GEN on the grill	<cuts><part><Substance><way_cook>	Adj N NPgen, PP
MI (Substance) + Part or Cuts + Way of cooking: κοτόπουλο σουβλάκι μπούτι, Lit. chicken souvlaki drumstick, σκουμπρί καπνιστό φιλέτο, Lit. mackerel smoked filet, κοτόπουλο μπριζολάκι από μπούτι στη σχάρα, Lit. chicken little steak from drumstick on the grill	<Substance><part>/<cut><way_cook>	N N N, N Adj N, N Adj PP, N N apo-PP

In a nutshell, nouns denoting the animal serving as a source of food (e.g., κοτόπουλο “chicken,” μοσχάρι “beef,” and αρνί “lamb”) are used in the menus as invariable singular accusative forms that assume the role of a genitive case expressing inalienable possession or of an adjective entailing the source of the food (we have used the term “Substance” for the semantics of both nouns and adjectives denoting or entailing the source animal of a food).

The noun + noun formations discussed in this Section could be classified between syntactic and morphological ones because their head inflects for case and number and can be modified, while the Substance denoting noun cannot be modified and cannot be the target of a relative clause. In contrast to other noun + noun structures in Greek menus, word order is not fixed in this case, probably because the Substance denoting noun has taken up the role of an adjective.

Sequences of three nouns such as (14) are rare in our data and even rarer in common language. Most likely they have occurred with a drop of the preposition από “from” that is found in other dish names (15). This type of dish name is (morphologically) invariable and does not accept modifiers. Other word orders seem to be possible but since whole paradigms cannot be found in our data and cannot be detected in the web, it is hard to judge whether they are all acceptable and whether they denote different shades of meaning.

- (14) κοτόπουλο σουβλάκι μπούτι
chicken.NEUT.SG souvlaki.NEUT.SG drumstick.NEUT.SG
“chicken drumstick cooked in souvlaki”

(15)	κοτόπουλο	μπριζολάκι	από	μούτι	στη	σχάρα
	chicken	little.steak	from	drumstick	on.the	grill
	“little chicken steaks from the drumstick on the grill”					

Stem-word, right-headed compounds are also used with the semantic structure <Substance><cuts/parts> (last line of Table 5). The observation of Koliopoulou (2019) that Modern Greek compounds tend to pattern with adjective + noun constructions in that their head is on the right but not with noun + noun constructions, which are left headed, is valid for dish name data as well.

4.3.3 Dish names headed by a noun denoting Way of preparation

When the head noun denotes a way of preparation, the Substance is denoted with a modifier (Adjective, PP, and Ngen) or a noun + noun formation. The MI is entailed from these modifiers/noun + noun formations.

Table 7: The dish name is headed by a noun denoting the way of preparation, the Substance is denoted by a modifier of the head. The MI is entailed from or denoted by the substance

Noun phrases headed with Way of cooking. MI is denoted by a modifier.	Meanings	Linguistic form
Ways of cooking + Substance (Adj, N, Ngen, apo-me PP): γύρος μοσχαρίσιος, Lit. gyros of_beef, τηγανιά χοιρινή λεμονάτη, pan of_pork.ADJ with_lemon.ADJ, σπέσιαλ μπιφτέκι γεμιστό μοσχαρίσιο, Lit. special burger stuffed of_beef.ADJ, τουρσί λάχανο/μελιτζάνα, Lit. pickles cabbage/aubergine, πίτα Club γύρος κοτόπουλο, Lit. pie Club gyros chicken, σουτζουκάκια μόσχου, Lit. soutzoukakia beef.GEN, μπιφτέκι κοτόπουλου, Lit. burger chicken.GEN, σαγανάκι καβουρμά στον ξυλόφουρνο, Lit. saganaki kanourmas.GEN in the wood stove, γύρος από μοσχάρι, Lit. gyros from beef, χειροποίητα πιτάκια με παστουρμά, Lit. handmade little pies with pastrami	<way_cook><way_cook>*<Substance> mod	Adj* N Adj*, N N, N Ngen, N apo/me-PP
Way of cooking + Cuts or Part + Substance: τηγανιά από συκώτι μοσχαρίσιο, Lit. pan from liver of_beef.ADJ, πίτα Club φιλέτο κοτόπουλο, Lit. pie Club filet chicken	<way_cook><cut>/<part><Substance >	N apo-P N Adj N N N
Compound. Way of cooking + MI: κοτοτηγανιά, Lit. chicken-pan, κοτόσουπα, Lit. chicken-soup, λαχανοντολμάδες, Lit. cabbage-ntolmades, ζαμπονοσαλάτα, Lit. ham-salad, ζαμπονοκασερόπιτα, Lit. ham-kasseri-pie, κασεροκροκέττα πικάντικη, Lit. kasseri-croquette spicy, τυρόπιτα κουρού, Lit. cheese-pie kourou, σπανακόπιτα στριφτή, Lit. spinach-pie twisted, τυρόπιτα τρίγωνη, Lit. cheese-pie triangular	<way_cook><MI> + <way_cook>	[C1 + C2] Adj*
Compound. Way of cooking + MI + place of origins (ADJ): τυροσαλάτα θρακιώτικη, Lit. cheese-salad Thracian, πατατοσαλάτα πολιτική, Lit. potato-salad of_Constantinople.ADJ, μελιτζανοσαλάτα η αστική, Lit. aubergine-salad the urban	<way_cook><MI><place>	[C1 C2] Det* Adj

All dish names in Table 7 can be supplemented with a list of ingredients in the form of NP conjuncts or with-PPs (e.g., τηγανιά χοιρινή με πράσο και μανιτάρια, Lit. pan of_pork.ADJ with leek and mushrooms).

Dish names of type <MI><way_preparation> have been discussed in Section 4.2 and are exemplified with Table 3 while dish names of type <way_preparation><MI> are discussed in this Section and exemplified with Table 7. Consider (16) and (17) [also discussed in Section 4.2 as (4) and (5)]: of them, (16) is included in Table 3 because it is an instance of the relation “MI cooked in the Way of preparation X” and is headed by the MI denoting name φέτα “feta cheese.” On the other hand, (17) is included in Table 7 and is an instance of the relation “dish X has MI Y.” These names answer to different needs: the <MI><way_preparation> name answers to the need of having the MI cooked in some way while the <way_preparation><MI> answers to the need for a type of dish rather than for a specified MI.

(16)	φέτα	σαγανάκι	<MI><way_preparation>
	feta	saganaki	
	“feta cooked in the way of preparation ‘saganaki’”		

(17)	σαγανάκι	φέτα	<way_preparation><MI>
	saganaki	feta	
	“saganaki dish with feta as its main ingredient”		

The MI is denoted by/entailed from a modifier that may be an adjective or a prepositional phrase introduced with the prepositions με/από “with/from,” or it may be denoted by an NP in the genitive case or a noun + noun construct. Ways of preparation may be more than one, for instance, σαγανάκι καβουρμά στον ξυλόφουρνο, Lit. saganaki kavourmas.GEN in.the wood-fired oven (where saganaki is a way of frying/baking in a pan called “saganaki,” and kavourmas is a type of cured meat).

(16) and (17) have the same truth conditions because they describe the same dish albeit from a different point of view; (16) is about how a specific MI is prepared/cooked while (17) is about a specific way of preparation exemplified with a certain MI. This is an interesting case of term variation (Kerremans 2013) that reflects different gastronomic needs.

Noun + noun structures (e.g., γιουβέτσι μοσχάρι, Lit. yiouvetsi beef “yiouvetsi cooked with beef,” τουρσιά λάχανο, Lit. pickles cabbage, “pickles made of cabbage” again can be placed between syntactic and morphological formations: they have a rigid word order and they may not incline for number,⁹ both the nouns can be modified and the second noun cannot serve as the target of a relative clause. The semantic relation that holds between the nouns is “Way of preparation X uses MI Y.” Noun + noun + noun sequences are also possible.

Stem-word, right-headed compounds are also used with the semantic structure <MI><way_preparation> (last line of Table 7).

4.4 Dish names with no constituent denoting or entailing the MI

In most cases, the MI is provided explicitly in a dish name; however, formations without the MI can be found in the menus. In these cases, very often the MI can be inferred from

1. The type of the dish, if it typically contains a particular MI, for instance, saganaki is typically made with a thick slice of hard yellow cheese.
2. The context, for instance, in the menu the dish name is placed under a title that denotes the MI such as “Beef” or “Chicken.”

⁹ Some of them pluralise (e.g., τουρσιά λάχανο, Lit. pickled.PL cabbage.SG). In a tavern, a possible order would be “three yiouvetsi.SG beef.SG” although the plural “three yiouvetsia.PL beef.SG” could be used as well.

Otherwise the dish name is not sufficiently informative and the clients have to ask the waiters about the MI. This is usually the case with salads whose constitution often varies with the season and the moods of the cook; therefore, an underspecified description serves a purpose.

Table 8: The dish name is headed by a noun denoting the way of preparation. No MI is supplied

Noun phrases headed by Way of cooking	Meanings	Linguistic form
σουτζουκάκι “soutzoukakí,” λουιάνιο “sausage,” μπιφτέκι “burger” Ways of cooking: σουβλάκι κεμπάπ πολίτιο, Lit. souvlaki kebab of_Constantinople.ADJ, σαγανάκι στο τηγάνι, Lit. saganaki in the frying pan, σπέσιαλ μπιφτέκι γεμιστό, Lit. special burger stuffed, κεμπάπ γεμιστό, Lit. kebab stuffed, σουτζουκάκια σχάρας, Lit. soutzoukakia grill.GEN	<way_cook> <way_cook><way_cook>*	N N NP, N Adj, N PP, N Ngen
Way of cooking + Origins: σαλάτα κρητική, Lit. salad Cretan, σαλάτα πολίτινη, Lit. salad of_Constantinople.ADJ, σουτζουκάκια σμυρνεία, Lit. soutzoukakia of_Smyrna.ADJ, σουτζουκάκια Κομοτηνής τα γνωστά, Lit. soutzoukakia Komotini.GEN the famous	<way_cook><place>	N Adj, N Ngen
Way of cooking + modifier: μπιφτέκια χωριάτικα, Lit. burgers of_village.ADJ, μπουρί αβάπιστο/μπερδεμένο/φτερωτό, Lit. sandwich not christened/confused/with wings.ADJ, σαλάτα Πειναλέων/Αλμύρα/το Κοράλλι/το Χωριό κλπ, salad Pinaleon/Saltness/the Coral/the Village etc., σουτζουκάκια του κυρ-Αντώνη, Lit. soutzoukakia Mr. Antonis.GEN	<way_cook><mod>	N (Adj, NP, NPgen)
Compound: Way of cooking + Origins: σφακιανόπιτα, Lit. Sfakia-pie	<place><way_cook>	[C1 C2]

In Table 8, we classify the terms “sausage” and “soutzoukaki” as ways of preparation. Our reviewers point out that this classification should further be clarified. We have classified these two types of food as a way of preparation, because they are the result of processing meat and other materials into a certain shape–texture and form. Several dish names, such as “purée,” “roll,” “stuffed,” etc., refer to these properties of dishes and not to the thermal and/or chemical processing to which the materials have been subjected. The dish names of this category are NPs with a nominal head and an adjectival, NPgen, or PP modifier. With PPs and NP, conjuncts may be added to denote ingredients. Noun + noun structures are only of the type <cuts><part> probably because a dropped preposition από “from” can be assumed denoting that the <cut> is received from the <part> or a genitive denoting inalienable possession. In these noun + noun structures, word order is rigid, the head is the leftmost noun, only the head inclines and accepts modifiers, and the second noun cannot be the target of a relative clause. The other order (<part><cuts>) is not found on its own probably because no prepositional phrase expressing the intended relation can be construed (the relation would be: the <part> is the source of the <cut>).

4.5 Dish names headed by an MWE or an idiosyncratic name

Established dishes (e.g., the various omelettes or the kebabs) may have either single word or multiword names that do not indicate the ingredients. These dishes have more or less established MIs, which the consumers are assumed to know; and if they do not, they have to ask (for similar observations concerning English dish names see Lehrer (1991)).

Variations of an established dish are specified with a PP introduced with με/από “with/from” (e.g., κεμπάπ γιαουρτλού από μοσχάρι ή αρνί, Lit. kebab giaourtlou from beef or lamb). Several idiosyncratic dish names are MWEs; they may contain cranberry words such as the names of the following dishes that are Turkish in origins and make no sense in Greek: φάμ (μπαϊλντί) “aubergines cooked with lots of onions and tomatoes,” χουνκιάρ μπεγιεντί “beef cooked in red sauce accompanied with a generous portion of aubergine puree.” NMWEs aside, regular syntactic structures are used for this type of dish name.

Table 9: The dish name is headed by “portion” plus a noun denoting <part>. No MI is supplied

Noun phrases headed by Portion	Meanings	Linguistic form
Portion + Part: μερίδα μπούτι χωρίς κόκκαλο, Lit. serving thigh without bone	<portion><part>	μερίδα NP

Table 10: The dish name is headed by a noun denoting <cuts> or <part>. No MI is supplied

Noun phrases headed by cuts and/or part	Meanings	Linguistic form
Cuts: μπριζόλα “steak,” κόντρα μπριζόλα ωρίμανσης 30 ημερών, Lit. boneless strip loin maturation.GEN 30 days	<cuts><state>	Adj* N NPgen*
Cuts + Part: φιλέτο μπούτι, Lit. filet thigh, φιλέτο στήθος, Lit. filet breast	<cuts><part>	N N
Part or Cuts + Way of cooking (ADJ, NPgen, PP): κότσι στο φούρνο, Lit. knuckle in the oven, καπνιστή μπριζόλα “smoked steak”	<part>/<cuts><way_cook>	Adj N, N Ngen, N PP

Table 11: The dish name is headed by a noun or a noun MWE with no transparent meaning

Noun phrases with Dish name as head	Meanings	Linguistic form
Dish name plain: Δροσερή, ειλή ταβά, ελασσονίτικο, χουνιάρ μπεγιεντί, εξοχικό, παπουτσάκι, παστίσιο, πικάντικη, πονηρή, σπετζοφάι, τηγανίτες	<name>	N, NMWE
Dish name with modifier: χωριάτικη παραδοσιακή, Lit. choriatiki traditional, παπουτσάκι νηστίσιμο, Lit. little.shoe for fasting.ADJ, πονηρό παραδοσιακό, Lit. cunning traditional, πονηρό χειροποίητο, Lit. cunning handmade	<name><mod>	N Adj
Dish name + MI: μπεκρή μεζέ με καβουρμά, Lit. bekri meze with kavourmas, μπαλαβά με καρύδι/φιστίκι, Lit. baklava with walnut/peanut, κεμπάπ γιαουρτλού από μοσχάρι ή αρνί, Lit. kebab giaourtlu from beef or lamb	<name><MI>	{N, NMWE} me/ apo-PP
Dish name + place: κουλούρα μετσοβίτικη, Lit. kouloura of_Metsovo.ADJ, κουλούρι Θεσσαλονίκης, Lit. koulouri Salonica.GEN, πικάντικη Καππαδοκίας, Lit. spicy Cappadocia.GEN	<name><place>	N Adj, N Ngen

5 Conclusions of Modern Greek dish name semantic and syntactic structure

On the syntactic front, this study has shown that dish names are formed with a variety of regular syntactic structures employed in Modern Greek NPs, but they also depart from everyday language: structures formed by sequences of nouns none of which is marked with the genitive case are rather frequent in the menus and may include two or three nouns. Structures with three nouns are rarer in the menus and nearly nonexistent in everyday language.

Formations containing sequences of nouns have been studied extensively in Modern Greek (indicatively Koliopoulou 2012, 2019; Nakas and Gavriilidou 2005; Tzartzanos 1946). In this work, we discussed noun + noun formations denoting a set of relations: genus–species, “MI X is cooked in Way of preparation Y,” “dish X has MI Y,” inalienable possession between a part or a cut and the source and “Cut X is from Part Y.” Of them, only the genus–species relation has been discussed before by Tzartzanos (1946) while Nakas and Gavriilidou (2005) have briefly mentioned the noun + noun constructions of the type “MI X is cooked in Way of preparation Y” as examples of a general preposition drop phenomenon; but we have shown that preposition drop does not account for these structures. Of these relations, inalienable possession can be

thought to have a wider application in the language (here we have a subtype of it) while the other four are of a more specific character, in particular the ones that are characteristic of the domain of food.

The analysis of these constructions with syntactic flexibility diagnostics (Koliopoulou 2012, 2019) has placed them between words and syntactic structures. One of the main criteria for this placement is their rigid word order. These structures contain no case markers such as prepositions or the genitive case despite the fact that Modern Greek uses case marking to express a lot of relations. At the same time, in Modern Greek, the opposition “genitive versus other cases” characterizes the nominal morphological paradigm while the formation of the genitive case gradually becomes difficult (Mertyris 2015). In this context, it would perhaps be worth investigating whether a rigid word order ensures that the rather special semantics of certain constructions is transparent. So there might be a point in investigating whether some of the noun + noun formations could be explained by general semantic and syntactic properties and tendencies of the language.

On the semantic front, the major tendencies characterizing the dish names in our menu collection are:

1. The MI should be declared either via the NP head or via its modifiers.
2. Way of preparation is also important information that is most often supplied either as the head of the dish name or as its modifier.
3. Part or cuts denoting nouns may also head a dish name but they are more rarely used and require modification entailing the MI and way of preparation, otherwise they have to be properly contextualized.
4. The word *μερίδα* “portion/serving” may also head a dish name always accompanied with one of the major semantic categories, mainly the MI.

These results are important for defining an ontology that is aimed to model the food domain drawing on a semantic and syntactic analyses of the menus. And they are important because, in fact, the picture emerging from the menus is that of a dynamic linguistic and conceptual domain with no central organization: terminology is only relatively fixed; dishes are not classified in a uniform way across menus; contradictory criteria are probably used for the classification of dishes in the menus. Clearly, the prominence of the MI and the remarkable presence of Way of preparation can guide an effort of defining the conceptual structure of the restaurant menu world.

Abbreviations

C	compound noun
Conj	conjunction
MI	main ingredient
MM	menu meaning
MWE	multiword expression
N	noun
NP	noun phrase
NPgen	noun phrase with a head in the genitive case
PP	prepositional phrase

Acknowledgments: The authors thank Panagiotis Minos for developing the Data Base that supported the overall research.

Funding information: This research has been co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH – CREATE – INNOVATE (project code: T1EDK-02015).

Author contributions: Conceptualization, Stella Markantonatou, Katerina Toraki, George Pavlidis; methodology, Stella Markantonatou, Katerina Toraki; formal analysis, Stella Markantonatou; resources, Stella Markantonatou, Katerina Toraki, Vivian Stamou; data curation, Stella Markantonatou, Katerina Toraki, and Vivian Stamou; writing—original draft preparation, Stella Markantonatou and Vivian Stamou; writing—review and editing, Stella Markantonatou; supervision, Stella Markantonatou; project administration, George Pavlidis; funding acquisition, George Pavlidis and Stella Markantonatou. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

Data availability statement: The data discussed in this study are not available because they are drawn from menus that were kindly provided to the authors. These menus have not been published on the web. The site <http://gre-taste.athenarc.gr/dynpage.php> is open to the public providing encoded information about Greek dishes as a result of the work reported in this article.

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