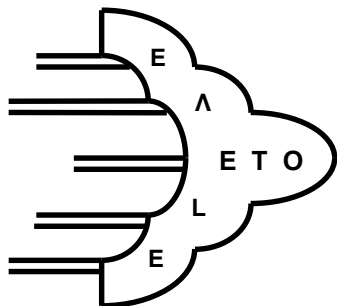




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# ΟΡΟΓΡΑΜΜΑ



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ΣΚΟΠΟΣ ΤΗΣ ΕΛΕΤΟ:

Μελέτη, εκπόνηση, ... και με οποιοδήποτε τρόπο ανάπτυξη της Ελληνικής Ορολογίας... Συμβολή στην ανάπτυξη της Ελληνικής Γλώσσας και προώθηση του ρόλου της στη διεθνή Ορολογία...

(Από το Καταστατικό)

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(Excerpt translated in English)

## Three new mathematical concepts named in **Greek** have found their **English** equivalents – A typical example of **Greek primary naming** –

Doing his thesis at the Computer Science Department of the **Hellenic Open University** (Patras), Mr. **Vasilis Papadinas** encountered a terminology problem for the solution of which he consulted ELETO.

Dealing with his subject, which falls under the *Graph Theory*, **Mr. Papadinas** needed to encounter the *Traveling Salesman Problem* – TSP.

According to the TSP, given a number of cities, a traveling salesman, starting from a certain city, should visit all other cities – each of them once only– and return to the city he started from; i.e. he should make a circular tour. The number of all possible circular tours of the salesman is determined by a mathematical formula involving the number of cities in a factorial form. In case of a large number of cities, the calculation of this formula requires handling natural numbers with prohibitively large number of digits (leading to *factorial explosion*). **Mr. Papadinas** invented a mathematical quantity through which one can avoid the *factorial explosion*, and one need not calculate factorials. He named this quantity **εξωπαραγοντικό άθροισμα** [eksoparayondikó áthrizma] Then, by defining the **εξωπαραγοντικό άθροισμα** he needed to define a complementary quantity, which he named **αντίστροφο εξωπαραγοντικό άθροισμα** [andistrofo eksoparayondikó áthrizma]. Finally, a third concept which Mr. Papadinas defined and used was a quantity named **αθροιστικός γράφος** [athristikós gráfos] by him (exact definitions and calculations of these quantities are not within the scope of Orogramma).

The “help” requested by (the creator of these concepts) **Mr. Papadinas** from ELETO – given the consent of the committee of professors supervising his thesis – was to name the above three concepts in English, i.e. to create the **English equivalent terms**, so that they be used in the English translation of his thesis, in order to submit it for publication at international level. First candidate designations proposed by him were: **out-factorial sum**, **reverse out-factorial sum** και **adding graph**, respectively.

After an analysis of the concepts, the Greek terms proposed by the concept creator were examined by the Scientific Board of ELETO. For the Greek term **αντίστροφο εξωπαραγοντικό άθροισμα** the

synonymous term **συμπληρωματικό εξωπαραγοντικό άθροισμα** was adopted and then an equivalent English term for each concept was coined.

The use of the component **out-** for the first and the second terms was considered improper; the prefix **extra-** was adopted instead.

For the term **αθροιστικός γράφος** there is a corresponding English term, **sum graph**, which designates a certain quite different concept, whereas the words **adding**, **additive** and **additional** are considered improper (since this graph itself neither *adds* nor is it *additional*, but it comprises *summations*). Thus, the derivation proposed for the creation of the English equivalent term was neither from the verb **add** (**προσθέτω**) nor from the word **sum** (**άθροισμα**, **αθροίζω**) but from the word **summation** (**άθροιση**).

Therefore, the final proposal of ELETO, which was adopted both by **Mr. Papadinas** and by the relevant committee of professors was:

<b>εξωπαραγοντικό άθροισμα</b>	<b>extra-factorial sum</b>
<b>αντίστροφο εξωπαραγοντικό άθροισμα, συμπληρωματικό εξωπαραγοντικό άθροισμα</b>	<b>inverse extra-factorial sum, complementary extra-factorial sum</b>
<b>αθροιστικός γράφος</b>	<b>summational graph</b>

Certainly, the creation of new concepts – that is new knowledge – by Greek scientists in their papers is not a rare occurrence. Since the overwhelming majority of these papers is written in English, the new concepts are named primarily in English. Long afterwards, the technical writers concern themselves with their designations in Greek.

The case of **Mr. Papadinas** – which drew attention of the Greek daily press – has the particular (and rare) characteristic that it concerns a thesis. This thesis was initially drafted in Greek and the **primary formation** of the terms for the new concepts was effected in Greek as the source language. The adoption/creation of the English equivalent terms was the **secondary term formation** in English as the target language.

We call to attention that, in the case under consideration, **Mr. Papadinas** used his knowledge of the Graph Theory – and any mathematical or other knowledge he needed for his thesis – **in the Greek language**, because he had been taught and had acquired this knowledge in Greek; this is exactly the proper way we consider that must be followed by the Greek universities, certainly without considering that obtaining “foreign language” knowledge from relevant bibliographic sources is of minor importance. On the contrary, the field of terminology is present and ready to help in establishing interlingual correspondence of terms for the timely and valid interlingual transfer of knowledge.

K.V.<sup>1</sup>

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