Words and Automata Research Group

UNIVERSITÀ DEGLI STUDI DI PALERMO

Seminar Announcement

Glimpsing at the Complements' Idea

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Tuesday 14th October 2014, 3 p.m.
Room 7, Via Archirafi 34, 90123 Palermo

If 'fuzzy' is a matter of degree, the use of fuzzy sets is actually a matter of design depending upon the context in which the linguistic labels are used, the purpose for its use, and the mathematical armamentarium available for its representation. The concept of a fuzzy set is directly linked with that of meaning, and its genetics lies in the linguistic phenomenon of making collectives, like that of thermodynamics lies in heat's transmission, and it is difficult, if not impossible, to linguistically manage a predicate P without simultaneously managing one of its antonyms or opposites a (P), and its negation n (P).

Usually it is a (P) → n (P), but not n (P) → a (P): negation can be linguistically seen as a kind of inaccessible limit of the opposites and not equivalent with any of them. Such difference is remarked by the fact that if all a (P) are linguistic terms, n (P) is a so rare one that is not in the dictionary. When no a (P) is coincidental with n (P), P is said to be 'regular', and it is taken n (P) instead of a (P) whenever language does not need to create antonyms of P.

The lecture will consist in just giving a glimpse at the linguistic idea of the 'complement' of a fuzzy set μ_P, in the perspectives offered by both $\mu_{a(P)}$ and $\mu_{n(P)}$, under the coherence inequality $\mu_{a(P)} \leq \mu_{n(P)}$, and after looking at the measurability of both a(P) and n(P), provided P is measurable. The classical case of functional expressibility, as well as that of non-functional expressibility, will be considered.

To end the talk, the design of the so-called 'middle term', m (P) = n (P) and n (a (P)), as well as some open problems, will be posed.

For furher information:

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All interested people, in particular students, are invited to participate