▶ GIAN ARTURO MARCO, *The Dynamics of Reference: Symmetry and Semantics*.
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In this paper we outline a mathematical foundation of the notion of reference, ubiquitous to various areas of mathematics, logic, philosophy of language and natural language semantics.

In particular, we introduce the notion of "orbital reference": this rises in the realm of automorphism group actions on the space of interpretations for a given countable language.

In this setting the classical notion of reference unravels its functional structure: namely, it appears as a variety of definable point-re-identification maps within a suitable space of recognition (i.e.: a Polish G-space X, where X is a Polish space and G is a closed group of transformations acting continuosly on X [1]) . The complexity of the orbital reference for a given referring term t heavily depends on the algebraic and topological properties of the group stabilizer of the term t. One of the main consequences of our approach is that the Fregean notion of compositionality, accordingly with the referential variety, spreads out into a variety of patterns of compositionality. Such a variety of patterns rests upon the complexity spectrum of the invariant complete codes reducing the orbital spaces induced by the group actions.

Examples from Model Theory, like coordinatization for relatively categorical theories over a predicate, give evidence for the "independence" of our notion of orbital reference both from the Russellian notion of ostensive denotation and from the Kripkean concept of "rigid designator". It is just on its going beyond the denotational character that our concept of orbital reference turns out to be of crucial interest in the determinacy of semantic games for anaphoric co-reference: as pointed out by G. Sandu [2], the demonstrative, deictic notion of reference is unfit for the determinacy of semantic games on anaphora whenever the anaphoric link occurs within the scope of a negation, We define a point-reidentification game that settles the problem of determinacy of the coreferential anaphoric link in negative contexts.

Last, but not least, we give evidence also for the fact that "rigidity" is not a property intrinsic to the pure denotational "nature" of reference: rather it derives from the complete left invariant metric attribute of the automorphism group of a given structure.

[1] H.Becker, H.S. Kechris, *The Descriptive Set Theory of Polish Group Actions*, **Cambrige Univerity Press**, 1996.

[2] G. Sandu, *On The Theory of Anaphora: Dynamic Predicate Logic vs Game-Theoretical Semantics*, **Linguistic and Philosophy** , vol. 20 (1997).