

Regarding the article:**Giménez-Roldán S. “Dionisio Nieto (1908-1985), neuropsychologist and neuropathologist: a leading figure in Mexico, but unknown in Spain”****Dear Editor,**

I would like to clarify certain points regarding statements made about Justo Gonzalo (1910-1986) in the final paragraph of p. 56 of the above-cited article.¹ Giménez-Roldán echoes Dionisio Nieto's² reply to a study published by Gonzalo³ in 1934, in which he discusses whether the study of schizoid personality is part of a well-defined science, or whether this was a debatable assertion and philosophy might also play a role. Only by reading the complete articles, including Gonzalo's⁴ reply to Nieto (which the author does not cite), may we fully understand both positions. Giménez-Roldán borrows certain terms employed by Nieto² in that debate, “erroneous lucubrations” and an “indefensible performance,” which “Gonzalo also applied to people injured in the war.”¹ On this point, Giménez-Roldán refers to his own 2004 article on Gonzalo's research,⁵ in which he had exposed misconceptions about Gonzalo, his patients, his research, and his methods, all of which are refuted and clearly documented in an article published in 2005,⁶ which he also does not cite. Thus, the author discredits Gonzalo's research in patients with brain injuries from the Spanish Civil War, which has nothing to do with psychiatry, and even less to do with the old debate between Nieto and Gonzalo.

Justifying the critique of Gonzalo, Giménez-Roldán¹ also cites a phrase attributed to Nieto: “all that is beyond the scope of natural science in this discipline is pure speculation.” However, the scientific method is precisely what Gonzalo so rigorously applied to his research subject: the pathophysiology of the cerebral cortex in the war-wounded. He did not depart from preconceived philosophical notions, but rather analysed in detail his

patients' perceptual problems, cleaving as closely as possible to what is understood by science and the scientific method: observation and quantitative measurement of phenomena, repeating tests and using different methods to ensure the objectivity of the phenomena observed. All of this research was based on the physiology of the nervous system, as shown in his monograph *Dinámica cerebral*, Vols. 1 (1945) and 2 (1950).⁷ Demonstrating the scientific spirit that guided him, Gonzalo⁷ wrote in the final note to Volume 2 of the work^A that he shared Priestley's view that “physics should be applied to the nervous system.” In the introduction to Gonzalo's 1952 article,⁸ (Suppl. I),⁷ of which Giménez-Roldán is aware (it is cited as reference 67 in his article¹), he includes three quotations from René Descartes, Jacques Loeb (physiologist and biologist), and Lord Kelvin (physicist and mathematician), as trends to be followed in scientific research (they are very demanding with regard to the importance of quantification with numerical data and reduction to physical/chemical processes, etc). In the same article, Gonzalo proposes the concept of functional cortical gradients, based on his analysis of the clinical signs he had observed and quantitatively measured. Shortly thereafter, in the numerical relationships he observed, he recognised the dynamic similarity and allometry (Supplement II)⁷ characteristic of physical and biological dynamic systems, and considered the last part of his research to be a “neurophysics of the cerebral cortex.”^{7(p604)}

We should also underscore the favourable reception that *Brain dynamics*⁷ enjoyed at the time, despite being published in Spanish. As noted by Barraquer-Bordas⁹ and García-Molina,^{10,11} particularly relevant examples are the comments of Piéron, Buscaino, Bing, Bender and Teuber, Ajuriaguerra and Hécaen, and Chritchley; subsequently, the work has been influential in the field of artificial intelligence. Similar findings to those of Gonzalo, related to tilted or inverted vision^{12,13} and multisensorial

^ATranslator's note: this final note is included in the Introduction to the English edition.

integration,¹¹ were subsequently reported by other authors; the concept of cortical gradients is today considered essential in the organisation of the cerebral cortex, and is studied with neuroimaging techniques.¹¹

Conflicts of interest

The author has no conflicts of interest to declare.

I. Gonzalo-Fonrodona

Optics department, Facultad de Ciencias Físicas, Universidad Complutense de Madrid. Madrid, Spain.

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