

# The Italian publications of Constantin von Economo

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**Abstract.** The present note revisits six works that the pioneer neurologist Constantin von Economo published in Italian press media between 1920 and 1931. The topics dealt with include encephalitis lethargica, the sleep regulatory centers of the brain, and the cellular architecture of the adult human cerebral cortex.

**Keywords:** cerebral cortex, cytoarchitectonics, encephalitis lethargica, sleep regulation, history of neuroscience

## To the Editor,

Constantin (Costantino) von Economo (1876–1931) stands as a brain scientist par excellence of the twentieth century, eponymously remembered in “von Economo encephalitis” (encephalitis lethargica) (1) and “von Economo neurons” (spindle cells of deep cortical layers) (2). A polyglot of Greek descent, Economo was born in Brăila (modern Romania), grew up in multicultural Trieste, and spent most of his life in cosmopolitan Vienna. During his life, he authored more than 160 works, the majority of them published in German, with a small number written in French, English, Spanish, and Italian (3). Economo conducted pioneering research in human and comparative neuroanatomy, neuropathology, and evolutionary neuroscience. The present note highlights his six Italian publications which appeared between 1920 and 1931 in Rome, Milano, Parma, and Bologna (Figure 1).

The first of these papers was an extended monograph on encephalitis lethargica (4). Richly illustrated, it contains 20 figure plates depicting the histopathology of the disease largely based on his first German monograph, *Die Encephalitis lethargica* (Deuticke, 1918). Three years earlier, in April 1917, Economo had officially presented his discovery of “encephalitis lethargica” before the Viennese Society for Psychiatry and Neurology (5). The next Italian paper, titled “epidemic lethargic encephalitis” (6), was a shortened

transcript of a platform presentation made during the Congress of German Internists at Vienna in April 1923, translated by A. Neumann and authorized by Economo. In his third Italian paper on encephalitis lethargica (7), Economo provided the historical and clinico-pathoanatomical background, and also referred to the clinical description of a similar entity under the term “diffuse subacute encephalomyelitis” by the French physician René Cruchet (1875–1959).

Economo penned a further two Italian papers dealing with the sleep centers of the brain and sleep regulation by the human hypothalamus. The first of these was actually printed in German with a summary in Italian (8) as part of the “Festschrift” for Umberto Gabbi (1860–1933), edited by Edoardo Maragliano (1849–1940); it was followed by a sequel chapter on “the diencephalic sleep regulatory center” by neuropathologist Alberto Salmon (1868–1954) of the University of Florence. Economo’s second paper on the sleep center appeared in the June issue of *Giornale di Clinica Medica* (9), four months before his death in October 1931. On the basis of the insomnia or somnolence and the corresponding neuropathological lesions, Economo postulated the existence of a “sleep regulatory center” at the borderzone between the midbrain and the diencephalon, rostrally to the oculomotor nucleus, with distinct parts for wakefulness and for sleep. These predictions were experimentally confirmed in the 1990s (10).



Figure 1. Six works by Constantin von Economo published in Italian.

Two years after the joint publication with Georg N. Koskinas (1885–1975) of the landmark *Atlas and Textbook of cytoarchitectonics of the adult human cerebral cortex* (*Die Cytoarchitektonik der Hirnrinde des erwachsenen Menschen*, Springer, 1925), Economo annotated his views in “ten lectures” organized for neurology residents and simultaneously published in German (*Zellaufbau der Grosshirnrinde des Menschen*, Springer, 1927) and French (*L’architecture cellulaire normale de*

*l’écorce cérébrale*, Masson, 1927, edited by the Belgian neuropathologist Ludo van Bogaert). The Italian edition (11) appeared in print the following year under the supervision of the renowned Italian neurologist Giovanni Mingazzini (1859–1929) in a translation by his assistant, neuropsychiatrist Carlo Arturo Enderle (i.e. Ali Ibn Giafar/Ja’far).

Between 1926 and 1931, Economo was nominated for the Nobel Prize in physiology or medicine

three times for his work on encephalitis lethargica, but his premature death at the age of 55 years prevented him from winning the prestigious award of the Swedish Academy. Economo's achievements were nonetheless recognized through the christening of *Via Giovanni e Demetrio Economo* in Trieste in honor of his father and uncle as community benefactors, and the dedication in 1932 of the *Economogasse*, located in Vienna's 10th district, as a homage to "the greatest Austrian neuroscientist" (12).

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