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230^{th} Anniversary of the birth of **Jan Purkyne** (1787 – 2017)

Nikolay Kyurkchiev[1], Svetoslav Markov[2]
[1] Faculty of Mathematics and Informatics, Paisii Hilendarski University of Plovdiv, Plovdiv, Bulgaria,
nkyurk@math.bas.bg
[2] Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, Sofia, Bulgaria,
smarkov@math.bas.bg

1 General information (from [1])

The present year 2017 marks the 230th Anniversary of the birth of the prominent Czech researcher Jan Purkyne. Below we recount some basic facts about his life and achievements [1].

Jan Evangelista Purkyne was a Czech anatomist and physiologist. He was one of the best known scientists of his time. Such was his fame that when people from outside Europe wrote letters to him, all that they needed to put as the address was "Purkyne, Europe". He is buried in the Czech National Cemetery in Vysehrad, Prague, modern-day Czech Republic.

Purkyne was born in the Kingdom of Bohemia (then part of the Austrian monarchy, now part of the Czech Republic.)

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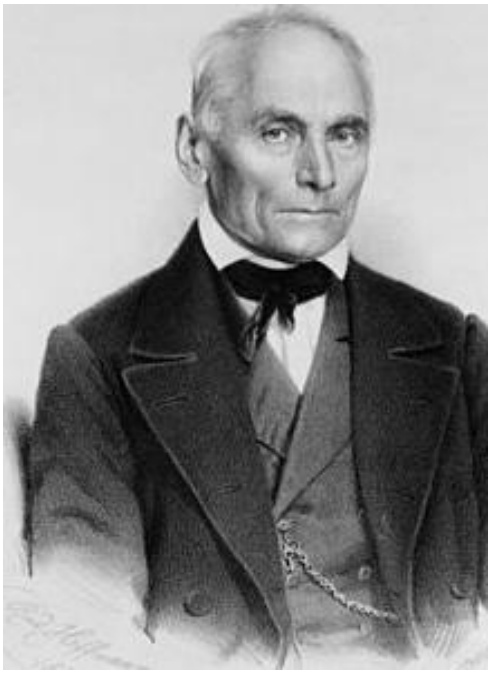

Jan Purkyne (1787 – 2017)

Purkyne graduated in 1818 from Charles University in Prague with a degree in medicine, and he was latter appointed there a Professor of Physiology. He discovered the Purkinje effect, the human eye's much reduced sensitivity to dim red light compared to dim blue light. He published two volumes, Observations and Experiments Investigating the Physiology of Senses and New Subjective Reports about Vision, which contributed to the emergence of the science of experimental psychology.

Purkyne created the world's first Department of Physiology at the University of Breslau in Prussia (now Wroclaw, Poland) in 1839 and the world's first official physiology laboratory in 1842. Here he was a founder of the Literary-Slav Society.

He is best known for his 1837 discovery of Purkinje cells, large neurons with many branching dendrites found in the cerebellum. He

is also known for his discovery in 1839 of Purkinje fibers, the fibrous tissue that conducts electrical impulses from the atrioventricular node to all parts of the ventricles of the heart.

Other of his discoveries include Purkinje images, reflections of objects from structures of the eye, and the Purkinje shift, the change in the brightness of red and blue colors as light intensity decreases gradually at dusk.

In 1839, Purkyne coined the term "protoplasm" for the fluid substance of a cell. He also introduced the scientific terms plasma (for the component of blood left when the suspended cells have been removed) and protoplasm (the substance found inside cells.)

Purkyne was the first to use a microtome to make wafer thin slices of tissue for microscopic examination and he was among the first to use an improved version of the compound microscope.

He described the effects of camphor, opium, belladonna and turpentine on humans in 1829. The scientist also experimented with nutmeg that same year, when he "washed down three ground nutmegs with a glass of wine and experienced headaches, nausea, euphoria, and hallucinations that lasted several days", which remain a good description of today's average nutmeg binge.

Purkyne discovered sweat glands in 1833 and published a thesis that recognized 9 principal configuration groups of fingerprints in 1823.

He was also the first to describe and illustrate in 1838 the intracytoplasmic pigment neuromelanin in the substantia nigra.

Purkyne also recognized the importance of the work of Eadweard Muybridge. He constructed his own version of a stroboscope, which he called forolyt. He put nine photos of himself, shot from various sides, to the disc and entertained his grandchildren by showing them how he, an old and famous professor, is turning around at great speed.

2 Acknowledgement in Philately

For the celebration of the 150^{th} anniversary of Purkyne's birth in 1937 two post stamps have been issued. In the same year the Czech Ministry

VĚSTNÍK

MINISTERSTVA POŠT A TELEGRAFŮ

OSLAVA

STOPADESÁTÉHO VÝROČÍ NAROZENÍ

JANA EVANGELISTY PURKYNĚ

1787 – 1937.

Jubilee newspaper of 1937, devoted to Purkyne's birth.

of Posts and Telegraphs published a Jubilee newspaper, devoted to Purkyne [2].

In 1988 an article devoted to Purkine is published in a Bulgarian journal [3].

Purkyne corresponded actively with many scholars worldwide. His influence on Russian biological research is described in detail in [4].

References [5]-[8] give an idea of the diversity of Purkyne's research interests.

A Purkine post stamp series.

3 Acknowledgments.

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