

Marcin Dolecki

Instytut Historii Nauk PAN (Warszawa)
[Institute for the History of Science PAS]

**Nie-kwantowe teorie budowy atomu dyskutowane na łamach
tygodnika „Wszechświat” w latach 1882-1914**

**Non-quantum theories of atomic structure discussed in the
journal “Wszechświat” in the years 1882-1914**

SUMMARY

The paper gives a brief account of those non-quantum theories of atomic structure which were most frequently discussed in the years 1882-1914 in “Wszechświat” [The Universe], a Warsaw-based weekly devoted to the natural sciences. The paper describes both the works of foreign scientists, and the comments by Polish authors. Now the models are only of a historical significance, which means that many of them remain unknown even to people who are professionally engaged in atomic physics.

A considerable amount of experimental data, such as the complex form of emission and absorption atomic spectra, the periodicity of properties of elements, simple arithmetical interdependences between atomic masses, and finally the discovery of the electron in 1897, led 19th-century naturalists to recognize the complex structure of the atom.

The paper discusses very briefly the following issues: the role of positive and negative particles in the structure of the atom, the ratio of mass to electricity (involved in the discussion on the theory of the electromagnetic origin of mass), and ether (the view of atoms as vortexes in ether, as conceived of by Benjamin Thomson, Gustave Le Bon and Nikolaus Dellinghausen), as well as selected conceptions of atomic structure – non-planetary (by Joseph John Thomson and Philipp Lenard) and planetary (by Ernest Rutherford and John Nicholson).

Analecta – Studia i Materiały z Dziejów Nauki
[**Analecta – Studies and Materials on the History of Science**]
XIV, 2005, 1-2, 167-184