The 7Row Left-Step Periodic Table

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34 PUBLICATIONS **28** CITATIONS

Letters

Collaborating To Celebrate National Chemistry Week

Communicating the value of chemistry to the community is the primary goal of the Committee on Community Activities, the ACS committee responsible for outreach programs. I would like to thank the *Journal* for the fabulous October 2009 issue that focused on the National Chemistry Week theme, Chemistry—It's Elemental!, celebrating the 140th anniversary of Mendeleev's periodic table. The Committee on Community Activities is extremely appreciative for this collaboration. Your support allows us to reach a much larger audience than we would ever be able to achieve alone. Sincere thanks to all involved.

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An Illustrated Periodic Table Designed in South Africa

In looking at the October 2009 issue of the *Journal of Chemical Education* and its focus on the periodic table, I should like to point out that readers can download a periodic table poster from the South African Agency for Science and Technology Advancement, SAASTA. Besides the atomic number, atomic symbol, element name, and atomic mass, there is an illustration for each element.

The poster is available online from one of SAASTA's Web sites at http://www.saasta.ac.za/downloads/pdfs/poster_periodic_table.pdf (accessed May 2010). The table may be printed for use in any size; it works well at an A4 paper size, although using an A3 paper size is more effective as it is then possible to really appreciate the charming illustrations for each element.

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Polonium and Astatine Are Not Semimetals

Periodic tables in our textbooks often have polonium and astatine shaded or colored as semimetals. This is false. Polonium is unambiguously a metal and astatine is unambiguously a nonmetal. The error arises from a common belief that the elements next to the staircase-shaped line that separates the metals from the nonmetals are always or usually either semimetals or semiconductors or both. It isn't necessarily so.

The chemical and physical evidence for these assertions are given in *(1)* based on the work reported in refs *(2−4)* for polonium, refs *(5, 6)* for astatine, ref *(7)* for history and ref *(8)* for general theory.

Literature Cited

1. Hawkes, S. J. *Chem 13 News* **1999**, *27*, 14.
2. Bagnall, K. W. *Chemistry of the Rare Radioelements*; Academic Press: New York, 1957.
3. *Gmelin Handbook of Inorganic and Organometallic Chemistry*, 8th ed. Supplement 1; Springer-Verlag: Berlin, 1990.
4. Maxwell, C. R. *J. Chem. Phys.* **1949**, *17*, 1288–1292.
5. *Gmelin Handbook of Inorganic Chemistry, At, Astatine*, 8th ed.; Springer-Verlag: Berlin, 1985.
6. Cotton, F. A.; Wilkinson, G. *Advanced Inorganic Chemistry*; Interscience: New York, 1972; p 487.
7. Corson, K. R.; MacKenzie, K. R.; Segre, E. *Phys. Rev.* **1940**, *58*, 672–678.
8. Spencer, J. N.; Moog, R. S.; Gillespie, R. J. *J. Chem. Educ.* **1996**, *73*, 627–631.

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The 7-Row Left-Step Periodic Table

In Eric Scerri's article on the role of triads *(1)*, in Michael Laing's comment *(2)*, and in Scerri's response *(3)*, it is assumed that the left-step table with H and He over F and Ne, respectively, is new. In fact, the left-step table was the first of Charles Janet's three versions *(4)*, published in 1928. He abandoned it later that year for the 8-row version *(5)*. L. M. Simmons reinvented the 7-row version in 1947 *(6)*, but similarly changed his preference to the 8-row form in the following year *(7)*. A fuller treatment of Janet's ideas has recently been published *(8)*; The English-speaking world has hitherto known only the unsatisfactory article published in *Chemical News (9)*.

Literature Cited

1. Scerri, E. R. *J. Chem. Educ.* **2008**, *85*, 585–589.
2. Laing, M. J. *J. Chem. Educ.* **2009**, *86*, 1183–1184.
3. Scerri, E. R. *J. Chem. Educ.* **2009**, *86*, 1185.
4. Janet, C. *Essais de classification hélicodale des éléments chimiques*; Imprimerie Départementale de l'Oise: Beauvais, France, 1928.
5. Janet, C., *La classification hélicodale des éléments chimiques*; Imprimerie Départementale de l'Oise: Beauvais, France, 1928.

6. Simmons, L. M. *J. Chem. Educ.* **1947**, *24*, 588–591.
7. Simmons, L. M. *J. Chem. Educ.* **1948**, *25*, 658–661.
8. Stewart, P. J. Charles Janet: Unrecognized Genius of the Periodic System. *Found. Chem.* **2010**, *12*, 5–15.
9. Janet, C. *Chem. News* **1929**, *138*, 372−374, 388−393.

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Editor's Note

The periodic table plays a critical role in the teaching and learning of chemistry. Since its inception, the *Journal* has documented many aspects of the periodic table, including discussions about its history, characterizations of various representations including an online version (Periodic Table Live), student activities that foster its use, and a host of other applications. The October 2009 issue celebrated National Chemistry Week's theme, Chemistry: It is Elemental with a cover, features, and articles that highlighted elements and the periodic table. Encouraging open discussion and highlighting creativity are certainly two of the roles of the *Journal*. In the absence of a perfect balance between discussion and creativity, I would err on the side of the latter. In that spirit, the *Journal* is implementing a new policy concerning submissions about the periodic table: those that cover new ground will be considered, but continuing arguments on longstanding issues will not be accepted for review.

Norbert J. Pienta
Editor in Chief

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