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### **Editorial on Centennial Features**

To help celebrate the 100<sup>th</sup> Anniversary of the *Journal of the American Ceramic Society*, we will publish a series of “Centennial Features” for Volume 100 on forefront topics in ceramics in 2017, related to the topic of papers published in 1918 in Volume 1. This brief editorial introduces some of these Centennial Features and also reflects on what was important in 1918, how the field of ceramics has changed, and how it is the same.

The American Ceramic Society was 28 years old when it began the *Journal* “dedicated to the silicate industries.” The papers had a strong industrial focus. Now in 2017, the *Journal* addresses a broader range of ceramic materials, with a much stronger emphasis on the science of ceramics. In 1918, the *Journal* focused primarily on issues in the United States, with authors mostly from America. The Ceramic Society and its *Journal* now have a global scope. Volume 1 had a mix of sophisticated scientific papers and papers on practical materials and methods. There also was a very strong sense of urgency, seen in the editorials and the research papers, addressing the industrial needs of the nation during the Great War – World War I.

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Like much of the world in 1918, the dominant issue was the Great War. All the nation's industries were mobilized for the war effort, and ceramics was part of it. The ceramic field had to react to the urgent demand for war material. These included more refractories for steel, more enameled ware for medical equipment and higher performance enamels to prevent corrosion in the reactors used to produce explosives. Editorials dealt with shortages of raw materials and fuels, especially coal. Some papers were about substitutes for embargoed raw materials. Several important papers were on research to replace key ceramic and glass products which had previously been imported from belligerent nations. There was a particular emphasis on optics, as much of the finest optics previously had come from Austria and Germany, and were no longer available. Thus there are many papers on optical glass formulations and optical glass manufacturing issues. Sorey of the National Bureau of Standards, analyzed the fracture of glass "perforated by bullets from a regulation army rifle". There was an Honor Roll for ACerS members serving in the war, and memorials for members killed in the war. With the ending of the war in November, editorials discussed the impact on the ceramic industry of de-mobilization and reconstruction.

The roots of our Society are quite evident in Volume 1. Many of the authors are the people ACerS awards are named for: Ross Coffin Purdy, Edward Orton Jr, Samuel Gijssbeek, A. V. Bleininger. In addition to papers from industry and universities, there were major contributions from research organizations such as the Carnegie Institution of Washington, the National Bureau of Standards (now NIST), and the Bureau of Mines. Volume 1 issue begins with an editorial on "Fuel Curtailment Orders", critical for an industry that consumed a large quantity of coal. The first of the original papers was "Kaolin in Quebec". This was followed by paper on special pots for melting optical glass by Albert Bleininger of Bureau of Standards (he of Bleininger Award). The next paper was on drying by Edward W. Washburn (who would publish the famous "Washburn Equation" for capillary flow in porous bodies in 1921). The next paper dealing with the new topic of gas fired kilns -fired with producer gas made from coal—was presented by C.B. Harrop (as in today's Harrop

Industries). Several papers in later issues were on the innovative new tunnel kilns, which were then just being introduced.

A group of distinguished authors have committed to write Centennial Features on a variety of topics, including the strength of glass, cements, zirconia, optical material, colloidal processing, sintering, microstructure characterization, and cultural ceramics. The Centennial Feature article will be accompanied by a brief note discussing how that topic was addressed in 1918, in the context of the ceramic field a century ago. For technologies that did not exist yet in 1918, the topic will be expanded. For example, the 2017 Centennial Feature on nuclear ceramics will be tied to a 1918 paper on uranium glazes, and a 2017 Centennial Feature on ferroic ceramics will be related to a 1918 paper on resistivity of porcelain.

Our first Centennial Feature is “Viscosity of Glass Forming Systems”, by Quiju Zheng of Quilu University of Technology and John Mauro of Corning Incorporated. There are nine papers about glass in Volume 1, but none explicitly on glass viscosity. However, as Gordon Fulcher of Corning said in his landmark 1925 paper in Volume 8: “to the glassmaker, the viscosity of glass ... is of the greatest importance”. So we will devote our opening Centennial Feature to this issue of greatest importance.