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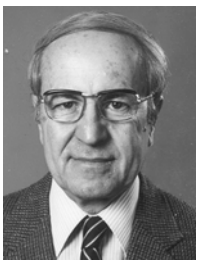
Editorial

Deconstruction and Research



Deconstruction is a special kind of practice in reading or observing any object resulting from human activities. It is a method of criticism and mode of analytical inquiry. It can be considered as a school of philosophy, developed by Jacques Derrida (1930-2004) in France in the late 1960s. Deconstruction is largely a method of particular analysis and philosophical argument to reveal logical incompatibilities disguised and assimilated in a text. Derrida never gave a specific definition of deconstruction. The foregoing definition is based on a number of papers and critical reviews, adequate for our purposes here.

We consider deconstruction here in accordance with phenomenology, logic, and positivism, and we present some arbitrarily selected applications. I begin with the molecular theories of solutions as in a number of outstanding monographs. In any specific theory, there is first a set of assumptions without a clear and explicit explanation of such assumptions. I often had difficulties in understanding or justifying such assumptions early in my profession. This procedure was then followed by a formula and the accompanying mathematical treatment with which I had no difficulty. Then somewhere in the treatment, there might be a normalizing factor, which always impressed me as a fudge factor. The author then might give selected experimental data to favorably justify his equation.

Clearly, no theoretical equation has succeeded in representing thermodynamics of solutions of binary alloys with a reasonable degree of accuracy. Analytical or empirical equations are quite different. And even here, for example, there are more than 100 empirical equations of state for ordinary gases. Evidently, deconstruction of the assumptions, normalizations, and the resulting equations would have made my early professional life considerably easier.

During the heated period of high-temperature superconductivity, I was deeply involved in experimental work and in reading a number of original papers that were very difficult to follow. The papers by Bardeen and Cooper et al. were particularly abstruse for a theoretical metallurgist. Sometime later I read an article by F. Bloch, the discoverer of superconductivity, who stated that "… there is no theory of superconductivity that cannot be refuted." This was quite a relief to me. Thus, Bloch had a keen sense of deconstruction some 30 years prior to Derrida.

About 30 years ago, I was asked to review a paper on polywater; I recommended that the paper was unfit for publication. To my dismay, the paper was published, but a few years later it was found that the polywater did not exist. The presumed polywater was observed in glass fissures as a glass-saturated phase. Further, deconstruction would have shown that the investigators had not produced even 0.1 g of polywater.

A more difficult problem was cold fusion, which was brought about by an unscientific and inexact investigation, published in 1989 in a journal without critical or deconstructive evaluation. The proposed cold fusion was not experimentally repeatable, as I have tried to repeat it without success. No experiment so far convinced the skeptics that cold fusion is real (*Phys. World.,* March 1999; *U.S. Review of Cold Fusion 2004*). Needless to say, during the past 16 years, the world energy production has not been affected in any way or any degree by cold fusion.

Deconstruction is intended to be a positive tool; it does not mean destruction. It should be in the minds of every writer and every researcher as a guide to avoid pitfalls, and to make clear and cogent every human effort.

Finally, I wonder what Derrida would have said, were he alive today, about teaching "Intelligent Design" alongside the "Darwinian Theory of Evolution" as championed by some politicians. I am reasonably sure that he would have said, in his typically French style, "je m'en fous," i.e., "I don't give a damn."

Nev A. Gokcen
Associate Editor
Journal of Phase Equilibria and Diffusion