vided all the information for the calculation of the σ-α phase relationships (see ref. 1, 9 or 11). When required, one could deal with the system Pt-Fe and similar systems in the same manner, whereas conventional methods would be more cumbersome and lengthy, and probably less reliable.

More examples of past as well as potential applications of chemical thermodynamics to the platinum metals could be found. An early application involved the oxidation of alloys used for electrical contacts which are composed of either platinum or gold with copper or nickel; data for the minimum temperatures above which bulk oxidation ceases were given for various alloys and found to agree closely with observations (14).

However, it is not intended to overload the present article, and the examples given must suffice to indicate the potential practical uses of thermodynamic principles and data.

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Ruthenium – a Compilation of Data

It might be imagined that ruthenium is one of the less-documented metals but its occurrence as a radioactive isotope in products of nuclear fission has stimulated research into its properties and chemistry. A work which demonstrates this point has been published recently by a team working under Dr. André F. LeRoy at the Bureau of Radiological Health, Winchester, Massachusetts. "A Comprehensive Bibliography of Element 44, Ruthenium" cites over 3,000 references dealing with some aspect of this metal and includes an author index, a patent index, a source index, and a computer-generated keyword-in-context (KWIC) English language title index. The bibliography is published by the U.S. Department of Health, Education, and Welfare.

Undoubtedly a remarkable collection of material has been assembled and so it is a pity that two criticisms must be made. First, the work was commenced in 1963 and only titles up to and including that year are indexed. Much labour was expended to produce this volume, which is 10 cm thick, but since it only appears to have reached general distribution this year there is a gap of nearly eight years covering all the most recent work.

The second criticism concerns an assumption on which the work appears to have been based and which is mentioned in the foreword by the Director of the Bureau of Radiological Health. He writes: "Recent estimates of ruthenium production by fission in nuclear power reactors indicate that the present annual yield from this source exceeds today's consumption level in the United States (10,000 troy ounces per year). The ruthenium thus produced includes about 5 per cent ^{106}Ru ($t_{\frac{1}{2}} = 1$ yr). With long-term storage for decay, this source represents a significant supply of useable ruthenium". A recent evaluation of the possible use by industry of platinum metals from nuclear fission was published in this journal (*Platinum Metals Rev.*, 1971, **14**, (3), 88–92) and cast serious doubt on their practical use. F. J. S.