eter was obtained (15×10^{-12}), and a value somewhat too large for the a parameter (6.29×10^{-7}). Primarily because of the unrealistic b value, these data were felt to be erroneous. The data used in this compilation were Bridgman's pre-1940 data,[21] which were then corrected as outlined above.

Niobium. Bridgman[20] found considerable hysteresis between the $\Delta V/V$ values obtained on increasing pressure and those obtained on decreasing pressure. The data given in Tables IV and V are based on the increasing pressure values only.

Palladium. Bridgman[20] found a cusp in the $\Delta V/V$ versus pressure measurements at a pressure of 16,500 kg/cm². Because of this, only the data given up to 15,000 kg/cm² were used in obtaining the data given in Tables IV and V.

Indium. Bridgman has reported compressibility data for indium on four different occasions.[22–25] The earliest results[22] differ considerably from the latter three measurements,[23–25] which are in substantial agreement with each other. Since the former results[22] are in better agreement with the shock wave data from indium,[26] the compressibility data given in that paper were chosen for this compilation.

α and γ-Cerium. Bridgman's compressibility data[27,28] for α- and γ-cerium indicate that the $\gamma \rightarrow \alpha$ transformation occurs substantially above the presently accepted value of 7720 kg/cm² at 298°K.[29–38] (See Section 1

[21] P. W. Bridgman, *Daedalus* **58,** 166 (1923).
[22] P. W. Bridgman, *Daedalus* **74,** 21 (1940).
[23] P. W. Bridgman, *Daedalus* **76,** 1 (1945).
[24] P. W. Bridgman, *Daedalus* **76,** 9 (1945).
[25] P. W. Bridgman, *Daedalus* **84,** 1 (1955).
[26] M. H. Rice, R. G. McQueen, and J. M. Walsh, *Solid State Phys.* **6,** 1 (1958).
[27] P. W. Bridgman, *Daedalus* **76,** 55 (1948).
[28] P. W. Bridgman, *Daedalus* **76,** 71 (1948).
[29] P. W. Bridgman, *Daedalus* **62,** 211 (1927).
[30] P. W. Bridgman, *Daedalus* **79,** 149 (1951).
[31] M. G. Gonikberg, G. P. Shakhovskoi, and V. P. Butuzov, *Zh. Fiz. Khim.* **31,** 350 (1957).
[32] A. I. Likhter, Yu. N. Ryabinin, and L. F. Vereshchagin, *Zh. Eksperim. i Teor. Fiz.* **33,** 610 (1957).
[33] R. Herman and C. A. Swenson, *J. Chem. Phys.* **29,** 398 (1958).
[34] E. G. Ponyatonski, *Dokl. Akad. Nauk SSSR* **120,** 1021 (1958).
[35] L. D. Livshits, Yu. S. Genshaft, and Yu. N. Ryabinin, *Fiz. Metal. i Metalloved.* **9,** 726 (1960).
[36] R. I. Beecroft and C. A. Swenson, *Phys. Chem. Solids* **15,** 234 (1960).
[37] F. F. Voronov, L. F. Vereshchagin, and V. A. Goncharova, *Dokl. Akad. Nauk SSSR* **135,** 1104 (1960).
[38] K. A. Gschneidner, Jr., R. O. Elliott, and R. R. McDonald, *Phys. Chem. Solids* **23,** 555 (1962).

for a description of the α- and γ-cerium phases.) Therefore, the compressibility data of γ-Ce given by Bridgman[27,28] were fitted to Eq. (6.6) up to a maximum pressure of 7720 kg/cm², rather than to the transformation pressure which he gave. The volume change at the $\gamma \rightarrow \alpha$ transformation, 7720 kg/cm², was taken to be 13.0%.[33,36,38] The compressibility data for α-Ce were then extrapolated back to 7720 kg/cm², so that the $\Delta V/V$ point for α-Ce was 13.0% larger than the $\Delta V/V$ point for γ-Ce at this transformation pressure. Because of these modifications of Bridgman's data, care should be exercised in using the cerium data tabulated in Tables IV and V.

Tantalum. Bridgman[20] gave two sets of compressibility data for tantalum. One specimen was reported to be 99.9% pure and the second 99.95% pure. In his paper, however, Bridgman indicated that he believed that the data for the 99.9% specimen were more reliable, and for this reason the parameters given herein are based on his 99.9% pure specimen.

Estimated a and b Values. The data listed in Table IV are for experimentally measured values only. For seven elements only the a parameter is known, and for eleven others none of the compressibility parameters are known. The derivation of the estimated a parameter is described later in this section and that of the estimated b parameter is given in Section 24. For convenience, these estimated values are listed below:

	a	b
Diamond	1.80×10^{-7}	$(0.076) \times 10^{-12}$
White phosphorus	209	(1.39)
Rhombic sulfur	100.8	(197.)
Scandium	(17.1)	(6.43)
Gallium	17.2	(6.80)
Technetium	(3.30)	(0.238)
Gray tin	8.83	(1.83)
Promethium	(27.8)	(13.2)
Terbium	(24.6)	(11.4)
Rhenium	2.64	(0.153)
Osmium	(2.35)	(0.121)
Mercury	34.7	(33.7)
Polonium	(37)	(26.6)
Francium	(500)	(4600)
Radium	(74.1)	(84.6)
Actinium	(40)	(35.5)
Protactinium	(13)	(5.02)
Neptunium	(14.4)	(6.16)

Table V. The isothermal compressibility as the pressure approaches the limit of zero is given in Table V and is taken directly from the a parameter in Table IV. The bulk modulus given in Table V is the reciprocal