dominant term in Seitz' expression arises from the second term in his Eq. (25); which can be shown to vanish identically.

On the experimental side, the heat of sublimation can be deduced from the vapor pressure data in the literature,[8] either by using the slope of a vapor pressure plot or by using the third law of thermodynamics together with estimated specific heats for the solid and liquid phases. The two methods do not quite agree, and the second, which gives the lower value, is probably the more accurate. By this method Kelley[9] has obtained a value of 36.1 kcal/mole at 0°K; a more recent but as yet undocumented estimate of 36.5 kcal/mole has been given by the Bureau of Standards.[10]

Table I summarizes the comparison of the theoretical and experimental binding energies. The agreement is closer than the uncertainty in either.

TABLE I. Contributions to the binding energy of lithium.

Theoretical, Silverman and Kohn*	34.5 kcal/mole
Coulomb correction	−0.6
Exchange correction	$-(2._2$ or less)
Correlation correction	+(4.3 or less)
Total	$36._0$
Experiment, 0°K	36.5

* See the accompanying erratum by Silverman and Kohn; following a suggestion of Professor Brooks a correction for zero point energy amounting to −0.9 kcal/mole has been added.

I am indebted to Mr. R. A. Silverman for correspondence relating to these calculations and for communication of the corrected results used in Table I.

---

[1] R. A. Silverman and W. Kohn, Phys. Rev. **80**, 912 (1950).
[2] T. S. Kuhn and J. H. Van Vleck, Phys. Rev. **79**, 382 (1950).
[3] E. Wigner and F. Seitz, Phys. Rev. **43**, 804 (1933); **46**, 509 (1934).
[4] F. Seitz, Phys. Rev. **47**, 400 (1935).
[5] E. Wigner, Phys. Rev. **46**, 1002 (1934), Trans. Faraday Soc. **34**, 678 (1938).
[6] W. Macke, Z. Naturforsch. **5a**, 192 (1950).
[7] C. Herring and A. G. Hill, Phys. Rev. **58**, 132 (1940), Eq. (55).
[8] H. Hartmann and R. Schneider, Z. anorg. u. allgem. Chem. **180**, 275 (1929); M. Maucherat, J. phys. radium **10**, 441 (1939).
[9] K. K. Kelley, U. S. Bureau of Mines Bulletin 383 (1935).
[10] National Bureau of Standards, *Selected Values of Chemical Thermodynamic Properties* (1950).

Erratum: On the Cohesive Energy of Metallic Lithium

[Phys. Rev. **80**, 912 (1950)]

R. A. Silverman
Physics Department, Harvard University, Cambridge, Massachusetts
AND
W. Kohn
Carnegie Institute of Technology, Pittsburgh, Pennsylvania

(Received March 5, 1951)

THE calculations of the letter referred to above were found to contain a numerical error. The corrected Table I of values for the cohesive energy of metallic lithium should now read:

TABLE I.

Method used	Cohesive energy (kcal/mole)
Experimental	36.5
Power series to order k^2	35.2
Variable coefficients using (4)	34.5
Power series to order k^4	35.7
Variable coefficients using (5)	35.4

For the source of the changed experimental value see the letter of Herring in this issue.[1] Furthermore, the theoretical value of Seitz should be changed to 34.5 kcal/mole.

---

[1] C. Herring, Phys. Rev. **82**, 282 (1951).

Erratum: Remarks on the Nuclear Resonance Shift in Metallic Lithium

[Phys. Rev. **80**, 913 (1950)]

W. Kohn
Carnegie Institute of Technology, Pittsburgh, Pennsylvania
AND
N. Bloembergen
Harvard University, Cambridge, Massachusetts

(Received March 5, 1951)

CORRECTION of the same numerical error[1] which affected the letter of Silverman and Kohn, Phys. Rev. **80**, 912 (1950), changes the value of P_F to 0.22. The relevant ratio P_F/P_A is thus changed from 1.4 to 1.0.

---

[1] R. A. Silverman and W. Kohn, Phys. Rev. **82**, 283 (1951).

Beta-Alpha-Correlation in the Disintegration of Li^8

J. W. Gardner
School of Theoretical Physics, Dublin Institute for Advanced Studies, Dublin, Ireland

(Received February 9, 1951)

BY negative β-decay, Li^8 transforms to Be^8 which is unstable against disintegration into two α-particles. The energy liberated by the entire disintegration $\mathrm{Li}^8 \rightarrow 2\mathrm{He}^4 + e^- + \nu$ is about 15.8 Mev, and the maximum β-energy (W_0) is about 12.5 Mev.[1] Less than 2 percent of the β-disintegrations go straight to the ground state of Be^8, the rest going to an excited state or states of energy around 3 Mev.[2] There is evidence[3-5] for both the values 0 and 2 for the spin of the Be^{8*}, but the level width is so great (1–2 Mev) that one cannot be entirely certain that there are not two levels present, or, on the other hand, that the properties of a single level of this width need be uniquely defined. Although the two values for the Be^{8*} spin may not be mutually exclusive, however, it would be useful to see what information the $\beta-\alpha$-angular correlation can give on this point, and, incidentally, on the forbiddenness of the β-transition (whether first or second forbidden).

Any evidence of spin 0 would be of a negative character, since it is a general result of angular correlation theory[6] that an intermediate state of spin 0 means a spherically symmetric angular distribution. It remains therefore to examine what predictions can be made about the $\beta-\alpha$ correlation for a Be^{8*} spin of 2 and an assignment of the remaining spins and parities, and of the β-forbiddenness, consistent with the experimental evidence. Bearing in mind that Be^8 must have even parity in both the excited state (spin 2) and the ground state (spin 0), and that the transition to the ground state is clearly more forbidden than the transition to the excited state, we are led to conclude that the only likely β-decay schemes for $\mathrm{Li}^8 \rightarrow \mathrm{Be}^{8*}$ are:

(1) $0+ \rightarrow 2+$, second forbidden (axial vector interaction);
(2) $3- \rightarrow 2+$, first forbidden (axial vector or tensor interaction).

Each of these schemes would be associated with a third forbidden transition to the ground state of Be^8. Of the two possibilities, one would prefer the first, since it assigns even parity[7] to the Li^8, and a second forbidden transition would seem quite consistent with the "*ft*" value[3] of 2.8×10^5 for this disintegration, when its exceptionally high energy is taken in account.

The $\beta-\alpha$-angular correlation for schemes (1) and (2) has been investigated by the methods of Falkoff and Uhlenbeck;[8] (1) gives a distribution $I_1(\theta) \sim 1 + A_1 \cos^2\theta + B_1 \cos^4\theta$, and (2) a distribution $I_2(\theta) \sim 1 + A_2 \cos^2\theta$. By a general result of reference 8, both distributions must become isotropic for the low energy β-particles, and must show greatest anisotropy as the β-energy W approaches W_0. The coefficient A_2 cannot be evaluated explicitly, since it involves the ratio of unknown nuclear matrix elements; A_1 and B_1, however, involve only one nuclear matrix element, which may be dropped as a common factor. These coefficients