The treatment of the second-order splitting is simplified by the fact that there are no low lying states which combine with the two being considered. The configuration which gives rise to the $^2P_{1/2}$ and $^2P_{3/2}$ may be written S^4P. Other possible configurations are

(a) S^4D or S^4S', (b) S^4F,
(c) S^3P^2, (d) S^3DP or $S^3S'P$.
(e) S^2PD^2.

Here S' represents a neutron or proton in an excited S state. Of these possible intermediate states (a) and (c) are excluded on grounds of parity; (b) has a total angular momentum of 7/2 or 5/2 and is hence noncombining. We are therefore restricted to such states as (d), (e), etc., which have odd parity and whose reduction yields components with angular momentum 3/2 and 1/2. These configurations involve the breaking up of the alpha-particle core and therefore lie perhaps 15 or 20 Mev higher than the ground state. Considering then the magnitude of the energy denominators and the probable nonoverlapping of the wave functions, it seems certain that second and higher order perturbations will be greatly reduced.

Under these circumstances an important factor in the splitting of the two states will be the relativistic (Thomas) splitting described by Inglis and estimated by him for the case of Li^7. From the order of magnitude of his result, as well as from a rough evaluation, one would put the Thomas splitting for the ^2P state of He^5 at one or two hundred thousand volts. The second-order meson splitting should not exceed this magnitude. The sign of the resultant splitting will be more difficult to predict, since the Thomas doublet is inverted.[2]

I am indebted to Dr. Gaerttner for the information that new work at Pasadena on the structure of the He^5 level reveals it to be a doublet with a splitting of about 150–175 kev, in satisfactory agreement with theoretical expectations.

Thanks are due Professor J. R. Oppenheimer and Dr. L. I. Schiff for valuable suggestions and criticism.

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[1] W. E. Stephens and H. Staub, Phys. Rev. **54**, 237 (1938).
[2] D. R. Inglis, Phys. Rev. **50**, 783 (1936).

Erratum: The Interaction of Configurations: $sd-p^2$

(Phys. Rev. **43**, 264 (1933)

An error was made in the evaluation of the radial integral R_c. Using the Rydberg constant ($R_\infty=109{,}737$) and correcting this error we obtain $R_c=21{,}387$ cm^{-1} in place of 25,620 cm^{-1}. The $sd\,^1D$ is now calculated to be at -4272 cm^{-1} (observed -3592 cm^{-1}) from the center of sd configuration and $p^2\,^1D$ at 21,353 cm^{-1}. The $sd\,^1D$ appears below the ^3D (as before) due to the inclusion of the interconfiguration matrix elements, but the numerical agreement between theory and experiment is markedly improved. The $sd\,^1D$ is now calculated to be 2234 cm^{-1} below ^3D (previously 4164 cm^{-1}) whereas it is observed at 1554 cm^{-1} below ^3D.

The writer is greatly indebted to Dr. J. P. Vinti for directing his attention to this integral.

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Erratum: The Paschen-Back Effect. VI. The Spectrum of Neon

(Phys. Rev. **56**, 54 (1939))

In the article with the above title the upper halves of Figs. 2C and 3B have been interchanged.

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Velocity of Radio Waves in Air

(Phys. Rev. **55**, 1100 (1939))

In the discussion "Velocity of Radio Waves in Air" by G. H. Brown, which appeared in the "Letter to the Editor" section in the *Physical Review*, we note that the captions of Figs. 1 and 2 have been interchanged. Fig. 2 should read "Intensity pattern when the velocity is 80 percent of that of light."

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