Errata

A Comment on Bardeen's Theory of Superconductivity

S. Nakajima and T. Kasuya

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The letter published by us under the above title contains incomplete and ambiguous points. The matrix elements of $H_2$ oscillates in sign and no gain in energy results from the trial function proposed in that letter. However, there still remains a possibility of obtaining condensed state if we consider that the magnitude $V$ of the Hamiltonian $H_2$ is constant. Actually, however, $V$ is proportional nearly to $(|C|^2/\omega_0 - 4\pi^2/k_c^2)$ where $|C|$, $\omega_0$ and $k_c$ mean respectively the coupling constant of electron phonon interaction, Debey cut off angular frequency of phonon and the shielding constant of Coulomb interaction, and $k_c$ becomes very large in condensed state. Therefore $V$ becomes negative and the condensed state destroyed again. From these considerations our comment concerning to Bardeen's theory is not correct.