But if a hydroxyl group be substituted, as in glycolic acid, $CH_2OH \cdot COOH$, or a chlorine atom, as in monochloracetic acid, $CH_2Cl \cdot COOH$, the acidity is greatly increased, while the compound trichloracetic acid, $CCl_3 \cdot COOH$, is a strong acid. On the other hand, aminoacetic acid, $CH_2 \cdot NH_2 \cdot COOH$, is scarcely acid at all.

The effect of introducing a carboxyl group in place of a methyl group into any paraffine hydrocarbon, regardless of its constitution, *e.g.* $CH_3 \cdot CH_3 \rightarrow CH_3 \cdot COOH$, is to diminish the heat of combustion of the molecule almost exactly 157 calories; but the conversion of acetic acid into oxalic acid, $CH_3 \cdot COOH \rightarrow COOH \cdot COOH$, structurally an identical change, diminishes the molecular heat of combustion only 147 calories.[1] In both these instances it is certain that the nature of the influence of the radicals consisting of carbon and hydrogen exclusively is nearly independent of their size and configuration. Any other group, however, by its presence at once modifies the nature of the case, though unconcerned in the process or property. Since it can be shown that such effects, like the difference between monochloracetic acid and

[1] Stohmann, *Zeitschrift für Physikalische Chemie.* II, 29, 1888.