upon oxidation they yield it all back again, just as water vapor on condensing yields back the latent heat which it has taken up during evaporation. In this manner, every gram of glucose or other monosaccharide is necessarily a temporary depository of solar energy amounting to about 3.74 calories, taking up just that amount of energy when synthesized by chlorophyll, yielding it back when burned in the muscle.

Compounds of carbon and hydrogen are especially well qualified to be reservoirs of energy which may be liberated by oxidation, as the following table shows:—

HEATS OF COMBUSTION OF ELEMENTS PER GRAM

| | |
|---|---|
| Hydrogen | 34.5 Cal. |
| Carbon | 8.1 |
| Sulphur (to $SO_2$) | 2.3 |
| Sulphur (to $SO_3$) | 3.2 |
| Nitrogen (to $NO_2$) | 0.2 |
| Phosphorus | 5.9 |
| Boron | 12.3 |
| Silicon | 3.3 |
| Potassium | 1.3 |
| Calcium | 3.3 |
| Aluminium | 7.0 |

Hydrogen, it will be seen, far exceeds any other element in the amount of heat that it