

161. Important General Statement. — Strictly speaking, there is no such thing as a Process of Integration. Whenever a differential is proposed for integration, the first question is, *Is this a Known Form?* That is, *Can we see by inspection what function, being differentiated, produces this?* If we cannot thus discern the integral by a simple inspection, the only question remaining is, *Can we transform the differential into an equivalent expression the integral of which we can recognize?* Thus, in any case, we pass from the differential to its integral by a simple inspection; and the sufficient reason always is, *This expression is the integral of that, because, being differentiated, it produces it.*

... from Olney's *General Geometry and Calculus* (1871)