Scholz's celebrated 1932 reflection principle, relating the 3-torsion in the class groups of $\mathbb{Q}(\sqrt{D})$ and $\mathbb{Q}(\sqrt{-3D})$, can be viewed as an equality among the numbers of cubic fields of different discriminants. In 1997, Y. Ohno discovered (quite by accident) a beautiful reflection identity relating the number of cubic rings, equivalently binary cubic forms, of discriminants D and $-27D$, where D is not necessarily squarefree. This was proved in 1998 by Nakagawa, but the proof is rather opaque. In my talk, I will present a new and more illuminating method for proving identities of this type, based on Poisson summation on adelic cohomology (in the style of Tate's thesis). I will touch on extensions to quadratic forms and quartic forms and rings.