

“harmless; the other contains within it the power of death to a thousand
“men. The one is quinine, the other aconitia—the alkaloid which makes
“so deadly the plant whose flower our ancestors called monkshood, in
“the far-off days when the original was often before their eyes. It is
“an almost startling fact that in this minute quantity of powder, hardly
“visible to those at a distance, there is such a potentiality of death.
“Picture to yourselves a thousand men. That which is in this tube
“would end the life of every one of them. Here is a latent power beside
“which the lightning flash is feeble, and to which the earthquake might
“give place, as far as the comparison depends on lethal certainty.

“But the resemblance in the aspect of these two substances is not all.
“As I said, each consists of the same elements—each is made up of
“carbon, nitrogen, oxygen and hydrogen. Each consists of the elements
“which compose air and water, with carbon added. Why is one almost
“harmless and the other a most deadly poison? I might ask the question
“regarding many other substances composed of the same elements, but
“between these two the resemblance is strikingly close. The answer to
“my question may be given, ‘It depends upon the chemical constitu-
“tion.’ True, but this takes us a very little way. When we discern that
“the difference depends upon the way in which the elements are arranged
“in molecules, and the molecules are grouped together, we are not much
“nearer an explanation. We see a little more, however, when we realize
“that chemical constitution means that energy is held ‘latent’ (as it is
“said), ready to be released when the elements form simpler, closer
“compounds. *All vital function of the body depends on a like simpler,*
“*closer union of the elements which make up complex organic com-*
“*pounds. As far as we can see, all the energy which is released in the*
“*animal body, is released in consequence of chemical action under the*
“*mysterious influence of life.* Where such closer union of the elements,
“and such release of latent energy are going on, the process may be
“changed entirely by the contact of molecules of allied constitution, with
“latent energy on the point of release, so held as to blend with that
“which is being set free in the living tissue. Blending with this, it may
“augment or oppose. Remember that difference in chemical constitution
“means difference in the readiness with which the elements separate and
“reunite and release their energy. Remember also that minute differ-
“ences in constitution enable these chemical compounds then to blend
“with the vital action in one structure, or to be absolutely inert. It
“must depend on differences in the vital chemistry which underlies
“function, although these differences which determine *affinity* or *indif-*
“*ference* we can discern only by the result.