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On the comparative toxicity of some alcohols with especial reference to isomers.

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While the comparative toxicology of various alcohols belonging to the aliphatic series has been studied by various authors, very little is known concerning the comparative pharmacological properties of some of their isomers. The present author, during the past winter, had occasion to determine the relative toxicity of methyl, ethyl, propyl, butyl and amyl alcohols, and, in that connection made a comparative study of isopropyl, isobutyl, and isoamyl alcohols, together with the normal propyl, butyl and amyl alcohols. The lethal dosage of the various alcohols was first determined by the cat method, that is, by injections intravenously of 5 or 1 per cent. solutions at regular intervals, and determining the amount of drug per kilo required to kill the animal. It was found, in these acute experiments, that the lethal dose of the normal alcohols followed the well-known Richardson's law, that is, decreased with the increase in molecular weight of the alcohol, as has been shown already by many observers. On comparing the toxicity of propyl, butyl and amyl alcohols, however, with their isomers, the secondary alcohols, it was found that in every case the secondary alcohols were less poisonous than the primary ones. Following the determination of the lethal dosage, experiments were made on isolate frogs' hearts, and here again the same relationship was noted. A third series of observations on the effects of the different alcohols on surviving plain muscle (ureter), also showed that the secondary alcohols were less toxic than the primary ones.