bottom and is raked from the kettle, drained and placed in bins. The water remaining is called "bitterns," in consequence of other bitter and nauseous substances still remaining. Should the evaporation be further continued, Epsom salts (magnesium sulphate) would be thrown down in needle-shaped crystals. Finally, the chlorides of calcium and potassium possess such affinity for water, that they could only be separated completely by bringing the residue to a red heat.

This order of precipitation possesses much geological interest. In some salt formations, as that of the Salina group, the same order of succession has been noted. At the bottom we find red ferruginous clays. Above are gypseous clays and often, beds of pure gypsum. Next occurs brine or salt. Above all are found limestones still retaining the needle-shaped cavities from which the crystals of Epsom salt have been dissolved, or in which crystals of some other substance have been deposited as pseudomorphs—minerals having the crystalline forms which characterize other minerals. This succession observed in nature is a confirmation of the theory of origin of salt formations by evaporation of gulfs and bays. It is evident, however, that such order of deposit can not generally be observed as one single circuit; because irregular irruptions of sea-water, alternating with floods from land and periods of dry weather, must break up any continuous succession from beginning to end of the history of a salt basin, and must lead to many repetitions of strata of the various kinds. This, however, is the fact universally observed, that all salt formations are characterized by the presence of all or nearly all the substances found existing in sea-water. Gypsum, especially, is always associated with brine and salt; and that is the reason the two have to be discussed together. Other substances, found equally in sea-water and natural brines, are magnesia, potash, bromine, and iodine.