more intolerable by the ſuffocating odour of the nitro- muriatic acid *(aqua regia).* In order to complete the cryſtallization, I evaporated in the ſame vial the remain­ing liquor. As ſoon as the vapour appeared, a quan­tity of carbonic acid was diſengaged, and afterwards ſome atmoſpheric air. The ſalt which I obtained by cryſtallization after the evaporation was a true muriat of potaſh, which did not detonate in the fire. Pro­bably Mr Higgins performed the operation in the way I have deſcribed; but he was too haſty in concluding this ſalt to be nitre merely becauſe it detonated, I gave an account of this experiment to Mr Kirwan at the time, and ſoon after communicated it to Profeſſor Gadolin, who offered to aſſiſt me in repeating the expe­riment.

"We agreed to employ cryſtallized carbonat of ſoda (mild mineral alkali); and the following was the reſult of our experiment. We diſſolved ſome of this carbonat in a large quantity of water, and we employed two or three hours a day, for ſeveral ſucceſſive days, in in­troducing into the ſolution as much oxygenated muria­tic gas as was ſufficient entirely to ſaturate it; we then poured the ſaline liquor into a glaſs baſon, and left it covered over to evaporate ſpontaneouſly. After ſome time a number of priſmatic cryſtals were formed, which detonated in the fire like nitre. They occaſioned a brown precipitate from a ſolution of iron in ſulphuric or vitriolic acid; and mixed with ſal ammoniac, they gave out a ſtrong ammoniacal odour, accompanied with ſome efferveſcence, which was to be attributed to the extrication of fixed air during the mixture. The re­maining part of the liquor evaporated again, produced freſh cryſtals, which, though they certainly had a faint ſmell of oxygenated muriatic acid, in reality conſiſted partly of muriat of ſoda (common ſalt), and partly of uncombined ſoda; for they did not detonate, and they precipitated iron of a light green colour. The liquor which appeared above theſe cryſtals, however, had not yet entirely loſt the ſmell of the oxygenated muriatic acid. Since this, M. Gadolin has made the following experiment, which he communicated to me. He put two drams of magnefia, ſaturated with carbonic acid, into an ounce and a half of water, into which he intro­duced during ſeveral hours a quantity of oxygenated muriatic gas. The water evidently acquired the odour of the oxygenated muriatic acid. He filtered the liquor, and waſhed and dried that part of the magneſia which had not been diſſolved, and which weighed one dram 4-5ths, ſo that the water was found to have diſſolved 1/5th of a dram. As ſoon as the liquor began to boil, a ſtrong eſſerveſcence was occaſioned, ſome oxygenated muriatic gas was diſengaged, and a ſmall quantity of carbonat of magneſia was precipitated. When the li­quor had become cool, it was filtered, that it might be ſeparated from the precipitated powder. It had ſtill the ſame odour; and on being again heated, an eſſerveſcence ſimilar to the firſt took place, and a freſh quantity of carbonat of magneſia was ſeparated. This phenome­non appeared every time M. Gadolin boiled the liquor after its cooling, till at laſt he had evaporated it to dryneſs, when there ſtill remained a ſmall quantity of mag­neſia. Hence M. Gadolin concludes, that water, oxy­genated muriatic acid, and carbonat of magneſia, form a combination which heat does not decompoſe till the vapour of the water carries off the oxygenated muriatic acid, at which time the carbonat of magneſia is precipi­tated. In conſequence of what we have **now** related, we ought to reckon, in addition to the two ſalts diſcovered by M. Berthollet, another ſalt, to which, accord­ing to the new French nomenclature, might be given the name *murias oxygenatus magneſiae liquidus,* becauſe we cannot obtain it in a concrete form. The oxyge­nated muriatic acid appears to enter into a very diffe­rent, or at leaſt into a much more intimate, combi­nation with the metals; a ſubject which greatly merits the attention of the chemiſt.

The probability of this propoſition is ſtrengthened by the theory of M. Berthollet; according to which the mercury in corroſive muriat of mercury (corroſive ſublimate) is combined with the oxygenated muriatic acid, ſo as not to be ſeparated from it without great difficulty.

*Common Salt,* or *Sea-Salt,* the name of that fait ex­tracted front the waters of the ocean, which is uſed in great quantities for preſerving proviſions, &c.

It is a perfect neutral ſalt, compoſed of marine or muriatic acid, ſaturated with mineral alkali. It has a ſaline but agreeable flavour. It requires about four times its weight of cold water to be diſſolved, and nearly the ſame quantity of boiling water, according to Macquer. But according to Kirwan, it only requires 2, 5 its weight of water to be diſſolved in the tempera­ture of ſixty degrees of Fahrenheit. This ſalt always contains ſome part formed with a calcareous baſe; and, in order to have it pure, it muſt he diſſolved in diſtilled water; then a ſolution of mineral alkali is to be poured in it until no white precipitation appears; then by filtrating and evaporating the ſolution, a pure common ſalt is produced. Its figure is perfectly cubic, and thoſe hollow pyramids, or *tremies* as the French call them, as well as the parallelopipeds formed ſometimes in its cryſtallization, conſiſt all of a quantity of ſmall cubes diſpoſed in thoſe forms. Its decrepitation on the fire, which has been reckoned by ſome as a characteriſtic of this ſalt, although the vitriolated tartar, nitrous lead, and other ſalts, have the ſame property, is owing chiefly to the water, and perhaps alſo to the air of its cryſtallization.

Its ſpeciſic gravity is 2,120 according to Kirwan. The acid of tartar precipitates nothing from it. One hundred parts of common ſalt contain thirty-three of real acid, fifty of mineral alkali, and ſeventeen of water. It is commonly found in ſalt water and ſalt ſprings, in the proportion of even thirty-fix *per cent.* It is found alſo in coals, and in beds of gypſum. This ſalt is un­alterable by fire, though it fuſes, and becomes more opake: nevertheleſs a violent fire, with the free acceſs of air, cauſes it to evaporate in white flowers, which ſtick to the neighbouring bodies. It is only decompoſed, as Macquer affirms, by the vitriolic and nitrous acid; and alſo by the boracic or ſedative ſalt. But although nitre is decompoſed very eaſily by arſenic, this neutral marine ſalt is nowiſe decompoſed by the ſame. According to Mongez, the fixed vegetable alkali, when cauſtic, decompoſes alſo this marine ſalt. It preſerves from corruption almoſt all forts of animal food much better for uſe than any other ſalt, as it preſerves them without deſtroying their taſte and qualities; but when applied in too ſmall a quantity, it then forwards their corruption.

Of this moſt uſeful commodity there are ample ſtores on land as well as in the ocean. There are few countries