cient, or altogether absent, have been pointed out. We have not spoken of the utility of draining nor the influence of good cultivation, as these matters of themselves would take up more space than is allowed in this Report.

There is another way in which soils recover their lost fertilizing agents, which has not heretofore been mentioned, and which shows in a most distinctive manner the provident care of Him who "makes our fields to rejoice with corn," and who even in *apparent* afflictions "yet worketh for our good." The increased solubility of the mineral substances in a soil, by the addition of manures or by means of cultivation, would tend eventually to render them barren and unproductive, unless the substances requisite to crops should be applied to them artificially, and this would be attended with immense labor and expense, such as could not be incurred by the husbandman. Early lessons had implanted in my mind that "God worketh all things for our good," and having, in my professional duties, my attention directed to the disastrous effects of droughts on the crops immediately subject to their influences, (and who has not seen them?) I sought to discover of what utility they were, and in what way they could become witnesses in favor of the general law which I have above mentioned. Experiments in the laboratory, and observations in the open field, at length enabled me to demonstrate the mode of their beneficial action, and I submitted to the public the result of my investigations in the following communication to them:

Ultimate Benefits of Droughts, and the Mode in which they Act to Improve Land.

It may be a consolation to those who have felt the influence of the late long and protracted dry weather to know that droughts are one of the natural causes to restore the constituents of crops and renovate cultivated soils. The diminution of the mineral matter of cultivated soils takes place from two causes:

1st. The quantity of mineral matter carried off in crops and not returned to the soil in manure.

2d. The mineral matter carried off by rain water to the sea by means of fresh water streams.

These two causes, always in operation, and counteracted by nothing, would in time render the earth a barren waste in which no verdure would quicken and no solitary plant take root. A rational system of agriculture would obviate the first cause of sterility, by always restoring to the soil an equivalent for that which is taken off by the crops; but as this is not done in all cases, Providence has provided a way of its own to counteract the thriftlessness of man, by instituting droughts at proper periods to bring up from the deep parts of the earth food on which plants might feed when