

the pavement of the temple to prevent the priests from slipping." The word salt, it may be mentioned, was applied in a most comprehensive way to a variety of mineral substances.

As an illustration of the history of the chemistry of food, a mention of butter will not be out of place; although the word is used in our version of the Bible, it is doubtful whether the Hebrews were acquainted with the substance; it is said that the most express statement concerning it, viz., in Prov. (xxx. 33), "surely the churning of milk bringeth forth butter," really refers in the original to the operation of milking, and in the other references cream is probably intended. Butter seems to have been invented by the Scythians; among the Greeks and Romans it was used as an ointment before it was employed as food; and since it appears that all the ancient authors speak of butter as something fluid,* it is thought the ancients did not know how, by means of kneading, washing and salting, to render butter clean and firm as we have it.

The history of soap affords us another curious insight into the simplicity of olden life. Liebig says, I think, that the civilization of a country may be measured by its consumption of soap, and vast quantities of it are, we are aware, daily used in civilized life, and almost every one knows that it is made by boiling lye of some kind with fat or oil; it is in fact a chemical preparation; yet the first express mention of it, really meaning soap, occurs in Pliny, who wrote about the year 60, and it seems that the earliest use of it was as a hair-dye, or kind of pomade, and before it was employed for cleansing purposes: these were effected in the case of clothes by rubbing or stamping on them in water, without the addition of any substance whatever, or by the use of ashes, or natron before alluded to, or the juice of certain plants, or a natural substance now only employed in certain cloth manufactures, or finally, fuller's earth, which term probably included different kinds of earth, some of which were employed upon the person in baths, as is the case still in the Levant.

With regard to the art of dyeing, it is undoubtedly of great antiquity, and is essentially a chemical art. The honour of the invention is attributed to the Tyrians, and one of the most famous colours is spoken of as the Tyrian purple; this can still be produced, as doubtless it was got in former times, from a species of shell-fish: and a very curious fact, known from all antiquity, since the very existence of the dye depends upon it, is that in the living animal the substance is at first colorless, or rather yellowish, and, exposed to the light of the sun, in a moist state, it becomes of a pure violet hue, being chemically changed. It is probable that the choice of colours in dyeing in remote times was very limited, for it is stated that till the time of Alexander, no other dye

* Beckman, I. 499, 508.