BODDY EVAN MARTLETT

THE HISTORY OF SALT

Evan Boddy

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Содержание

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CHAPTER I
INTRODUCTION

How frequently it happens that those natural productions with which we are to a certain extent superficially familiar, are to a great many not only uninteresting, but are regarded as subjects more or less beneath their notice; and by others as deleterious to the human race, and therefore to be cautiously used or scrupulously avoided. Another peculiarity is, that the more we are accustomed to them, the more our interest wanes, and probably at last degenerates into apathetic indifference.

We can only attribute these ignorant conceits and apparently unaccountable obliquity of judgment to two causes: an assumption of wisdom, and an unenlightened mind, unwilling to learn and loath to improve. Another hindrance which to a considerable extent precludes the study of what one may truthfully designate every-day subjects, is the restless *furor* for artful counterfeits of science, which are nothing else than the emanations of vain and visionary minds mixing together, as it were, an amalgam of truth and error. The present age is wonderfully productive of these eccentric ideas, while at the same time it is unhappily pregnant with the most unnatural and anti-healthful habits. The mystified authors take good care to run into the wildest extremes, so that their marvellous schemes and quaint devices (fortunately for their fellow-creatures) cause them to be justly derided by the thoughtful and disregarded by the sensible, though not a few are caught by the tinsel.

The grotesque aberrations of thought which have so prolifically generated such an incongruous medley of medico-social phantasmagoria, though considered by their promoters as wonderful scientific projections, are rendered more ridiculous than they really are, by their wild and unreasonable denunciations of those who do not happen to coincide with their farcical puerilities and whimsical crudities; and their intolerant followers, with considerable more zeal than discretion, promulgate their doctrines with voluminous additions and preposterous assertions —*mentis gratissimus error*.

These parodies of science have exerted as yet no material influence on modern thought, though there is a visible impress observable here and there; and they doubtless will ultimately collapse, like alchemy and other illusions of a bygone age, and in due time will fall as ignominiously before the resistless onslaughts of true science and knowledge, as those deceptive will-o'-the-wisps were finally extinguished, after whisking about for some centuries, by the calm, dignified, and logical condemnation of philosophical and scientific investigation. Need I remind my reader that I am referring to spiritualism, homœopathy, vegetarianism, and various other bastard distortions of science, though their purblind believers may regard them as legitimate offspring, and therefore deserving of due respect and consideration. Such imaginative plerophory is invariably antagonistic to scientific conclusions and common-sense principles, beside being redundant of inane folly and trivial hyperbole.

One of the peculiar crazes of the day, though it is not so universal as those to which I have just referred, is the unhealthful and insensate antipathy to salt, which has infatuated, in a greater or lesser degree, the several strata of society: some going so far as to proscribe it altogether, whilst others use it as if it were destructive to life, or at least subversive of health, and others assert that it originates disease! Some time ago I saw a letter in a temperance journal (we know that the advocates of total

abstinence are frequently guilty of degrading their good cause by descending to frivolity), advising total abstention from salt; the writer, with amusing self-complacency, accused it of producing evils of an astounding nature – such is the latitude of pragmatical ignorance and silly egotism. The palpable absurdity of such an argument must be apparent even to the most careless thinker; it is with the view of exposing such a fallacy, both injurious and irrational, that I have written this treatise, and have been prompted to do so more especially as I find such ridiculous notions find great favour with those from whom better things ought to be expected.

I have laboured under many difficulties, owing to the meagre accounts concerning the history of this most important article of diet; no doubt arising from the fact that it has not been studied with that attention which it manifestly deserves; consequently I have been obliged to allude to the pages of Holy Writ, not that I wish to base my arguments on religion, but simply because we find therein the primary mention of salt, both as a purifying agent and as a condiment to food.

Reverting to the Bible on subjects of scientific import frequently brings down upon the author ill-timed ridicule, especially from those who profess a belief in nothing except their own crude notions; a fact which is surprising, for here we possess a Book which has stood the test of ages, which has weathered many a storm, which has victoriously emerged from many a conflict, and which has indeed passed through an ordeal which no other volume has been called upon to do – all indicative that it emanated from a mind immeasurably superior to that of man; and thus I am quite content to bear with any amount of satire, however pointed and keen, if I have it on my side of the question, which undoubtedly is the case respecting the medicinal and dietetic properties of salt: besides, when it is pronounced to be “good” by the Divine Speaker, one need not care an iota for those who assert that it is pernicious, however plausible or apparently logically conclusive their arguments may be.

CHAPTER II
HISTORY OF SALT

I am approaching a subject somewhat novel and indeed difficult, and very probably it may be regarded by some as one far from being profitable or interesting; therefore I shall endeavour, though with some degree of diffidence, to consider it not only from a medical point of view, but to glance at some facts, both historical, geographical, and geological. By so doing, we shall be touching upon other matters not only pleasing but instructive, and which to a great many are but indifferently known; for though salt is to be almost universally seen on the tables of rich and poor alike, yet few are aware of its undeniable medicinal virtues, and many are totally ignorant of the great sustenance they derive from this indispensable and undoubtedly savoury condiment, besides being but moderately acquainted with its history. At the present time it is used nearly all over the world, and is acknowledged to be at least an adjunct necessary for perfect cookery; it is in requisition in fact everywhere, and even those who do not use it would be considered as lacking in taste were they to discard it altogether from their tables.

All, however, are to a certain extent cognisant of the fact of how insipid the daintiest dishes taste, if salt is omitted in their preparation, and the cook, however expert he may be in the culinary art, invariably fails in giving satisfaction (except to those whose palates are deranged or vitiated) if they are not seasoned with it; few, I think, will deny that animal food in particular is deprived of its pleasing flavour if it be eaten without salt. Those who have an unnatural aversion to it should bear in mind that the ingestion of improper animal and vegetable food frequently occasions many severe attacks of illness, and invariably provokes and intensifies that universal complaint, dyspepsia. George Herbert tells us in his *Jacula Prudentum*, that “Whatever the father of disease, ill diet is the mother;” and if food is taken into the stomach without its proper portion of salt, it is not what one would consider as wholesome; on the contrary, it is most decidedly “ill diet:” and being such, the system does not derive that kind of nutriment suitable for the promotion of a healthy action of the organs of the body, neither are the secretions in such a condition as is compatible with health. Physiologists inform us that the saliva[1] holds salt in solution, and that it is also present in the gastric juice, which indicates at once how highly necessary it is for the system to be regularly supplied with it; for it is a physiological fact that the process of deglutition and digestion is partly due to the disintegrating and solvent action of these two secretions on the food, especially the latter; and consequently if the nutritious particles are to be absorbed in a state fit to make up for the waste of tissue, they ought to contain a sufficient amount of the chloride of sodium to take the place of that which has passed off through the media of the skin and the kidneys.

With these self-evident facts and a few physiological data before them (which really require no great effort to prove, so plain are they in their simple truth), all indeed must, or should be, convinced of the necessity of a liberal and judicious use of a substance which plays such an important part in the animal economy, and into which we shall enter more fully when we come to consider the relation which salt bears to food while it is going through the process of digestion.

Owing to the peculiar and incomprehensible prejudices of those who labour under the false impression that they are wiser and more discriminating than others, and who become proportionately obstinate in their notions, we shall endeavour to bring forward undeniable evidence in support of our arguments, though it is possible they may neither acknowledge that they are wrong, nor admit that their preconceived ideas prevent them from arriving at an unbiased conclusion. To such I have no hesitation in saying that they are much deceived if they imagine that the habit of abstaining from salt

[1] The saliva, besides containing water, ptyaline, fatty matter, and albumen, holds in solution chloride of sodium and potassium, besides the sulphate of soda and the phosphates of lime and magnesia. The amount secreted during twenty-four hours has been estimated at from two to three pints.

is contributive to health; such crabbed and confined views, however, are significant of the fact that human nature is frequently antagonistic to, and at cross purposes with, that which is ordained by the laws of nature to be beneficial.

I shall pass over the merits of salt as a seasoning to food, as it is my object to consider it solely in its relation to the animal economy, its operation in certain morbid conditions of the system, and its great importance as a health-preserver. But before proceeding, it will be as well to give a passing glance at its history and other attractive matter with which it is indirectly in relation; for though our investigations will be rather of a tentative character, and in a degree speculative, they may at least be interesting if not instructive. Perhaps others may be stimulated to penetrate deeper into the almost impenetrable obscurity with which the discovery of salt as a condiment is surrounded; and if they can bring to light who it was that primarily found out the chloride of sodium and utilised it as an adjunct to food, they will have solved a geological problem, and a long-standing historical enigma will be elucidated.

We possess no distinct and reliable data, and in fact no information of any kind, concerning salt in the early ages of the world as an article of diet, outside the pages of Scripture: all we really know, is, that in the infantile period of Europe, when the Indo-Germanic tribes entered it from Asia, though they were unacquainted with the sea, they were familiar with salt, as is proved by the recurrence of its name; yet whether they used it with their food we are by no means so sure of. The Kitchen-Middeners, who had their miserable dwellings on the wild shores of Jutland and similar inhospitable localities, *might* have been acquainted with it; but when we call to mind the nature of the food[2] on which they lived, we may, I think, fairly conclude that they were ignorant of the use to which salt is now put; here again, however, we have only vague conjecture to fall back upon. The founder of Buddhism, Arddha Chiddi, a native of Capila near Nepaul, who subsequently changed his name to Gotama, and afterwards to Chakia Mouni, in his "Verbal Instructions," when dealing with his inquiry into the nature of man, asks us to consider what becomes of a grain of salt when cast into the ocean. Of the epoch of Gotama, or Chakia Mouni, there is great diversity of opinion; the Chinese, Mongols, and Japanese fix it at B.C. 1000; the Cashmerians at B.C. 1332; and the Avars, Siamese, and Cingalese fix it at B.C. 600.

The reference which Gotama thus makes to salt shows us that he was familiarly acquainted with it, otherwise he would not have figuratively mentioned it.

We are completely in the dark regarding salt as a condiment till Moses, in the Book of Job, asks the pertinent question, "Can anything which is unsavoury be eaten without salt?" As this book was penned B.C. 1520, we may conclude with a tolerable degree of certainty that it was so used in the time of the great Jewish Law-giver, and as he was brought up in the court of Pharaoh, and was skilled in all the wisdom of the Egyptians, it would point to the probability that salt was in common use in that ancient country.

The *first* mention we possess of salt is when Moses refers to the Vale of Siddim, which is the Salt Sea. This vast reservoir was known as the Dead Sea,[3] and is so to this day: so the Jews, who were commanded to use salt in their sacrifices, had a large natural depôt which afforded them a limitless supply of the necessary material for carrying on their worship, and likewise for individual consumption: they also mixed a certain amount of salt with their incense. The second reference is in relation to one of those extraordinary incidents with which the first five books of the Old Testament

[2] Their food, according to geologists, consisted solely of shell-fish.

[3] This sea is called by several names, viz., "The Dead Sea," "The Sea of the Plain," or "of the Arabah," and "The East Sea." In the 2nd Book of Esdras v. 7, it is called the "Sodomish Sea." Josephus uses a similar name, ἡ Σοδομύτυς λίμνη – the Sodomite Lake; he also calls it by the same name as Diodorus Siculus, the "Asphaltic Lake" – ἡ Ἀσφαλτίτις λίμνη. It contains 26 per cent. of salt, including large quantities of magnesium compounds; its weight is of course great, a gallon weighing almost 12-1/2 lb.; and its buoyancy is proportionate to the weight, being such that the human body cannot sink in it. At the south side is a mass of crystallised salt, and in it is a very peculiar cavern, extending at least five miles, varying in height from 200 to 400 feet. This sea is 1312 feet below the level of the Mediterranean; the river Jordan, from the Sea of Galilee, flows into it, but no river flows from it.

teem, and that is during the destruction of the "Cities of the Plain," when Lot's wife was turned into a pillar of salt for disobedience.

We also read of salt in the Iliad of Homer, and as he did not flourish till about B.C. 850,[4] we must give the honour of marking it indelibly on the pages of history to Moses the Jew, who lived, if the above date is correct, 670 years anterior to the illustrious Father of epic poetry, and, if the Cashmerians are correct in their calculation, 188 years before Gotama gave to the world his eight hundred volumes, pointing out the path towards individual extinction or "Nirwana."

We may likewise conclude that as it was known to the sagacious Hebrew, the æsthetic Greek, and the imaginative Asiatic, it was no doubt equally well known to the Egyptians, and probably amongst the neighbouring African tribes, long before the arrival of Joseph in the land of the Pharaohs, and centuries before the Oracle of Delphi was instituted.[5]

From the following lines we may justly conclude that the Greeks looked upon salt as sacred, and used it as a thank-offering, and that it even was an absolute necessity to go through the ceremony of washing their hands before touching it; such extreme care and scrupulous observance indicates that it was a substance held in the highest reverence:

"At this the Sire embraced the maid again,
So sadly lost, so lately sought in vain.
Then near the altar of the darting King,
Dispos'd in rank their hecatomb they bring;585
With water purify their hands, and take
The sacred off'ring of the salted cake;
While thus with arms devoutly rais'd in air,
And solemn voice, the Priest directs his pray'r."

Pope's Homer's Iliad, book i.

"And Menalaus came unbid, the last.485
The chiefs surround the destined beast, and take
The sacred off'ring of the salted cake:
When thus the King prefers his solemn pray'r."

Ibid., book ii.

"Achilles at the genial feast presides,
The parts transfixes, and with skill divides.
Meanwhile Patroclus sweats the fire to raise;
The tent is bright'ned with the rising blaze:
Then, when the languid flames at length subside,
He strows a bed of glowing embers wide,280
Above the coals the smoking fragments turns,
And sprinkles sacred salt from lifted urns."

[4] According to C. Velleius Paterculus of Rome, Homer flourished B.C. 968; according to Herodotus, B.C. 884; the Arundelian Marbles fix his era B.C. 907.

[5] To show how acute the Greek mind must have been, and how alive the philosophers of that classic country were to everything, whether beautiful or useful, we need only call to mind the quaint observation of Zeno, the founder of the Stoics, who was born about B.C. 300, and who says that "a soul was given to the hog instead of salt, to prevent his body from rotting;" by this we see he was quite cognisant of the preservative properties of salt.

Ibid., book ix.

At the time of the Exodus, Egypt was the great disseminator of knowledge, the centre of civilisation, and the emporium of trade, being then at its zenith of prosperity and power;[6] and the countries which were conterminous no doubt regarded it with feelings of admiration and emulation, and were only too desirous to adopt its customs, as well as to avail themselves of the learning and culture which were only to be found in the land of obelisks and pyramids. Even the Greek philosophers were fain to acknowledge that Egypt[7] was their storehouse of wisdom and æsthetic art; neither Athenian, Spartan, or Corinthian, ever disavowed his presumed Egyptian descent: and if history is to be relied on, the first King of Attica was a citizen of Sais; though this is a disputed point, for not only is the country of Cecrops a topic for controversy, but even his very existence is questioned, and by some altogether denied. This legend, if it is such, however, tends to show that the communication between the two countries (though of the two, Egypt was much more exclusive) was frequent; however, it is still a theme upon which classical commentators continue to exercise their controversial dexterity, some of whom affirm that there is no foundation for the myth. Yet many philosophical authors who flourished in Athens believed implicitly in the Egyptian genealogy of Cecrops; so that there is no reason why it should be stamped as fictitious, especially when it is verified by those who lived closer to that period of time than the incredulous moderns, whose great delight is to hint that many past historical events are incredible, and therefore apocryphal. I think we may certainly conclude that the sage discriminating Athenians were acquainted with their Egyptian descent,[8] for they were the last people to believe in uncertainties, save such as were connected with their religion; and what nation is there, I should like to know, which is not similarly imposed upon by its own strange credulity, and the artful designs of schemers in this particular?

Cecrops, no doubt, while he introduced Egyptian arts and sciences into his adopted country, was too wise, and too well conversant with such an important commodity as salt, to forget both its existence and utility, on his arrival in the peninsula. Presuming for one moment that the emigration of Cecrops from Egypt is a fable, it is indicative of the fact that a perpetual intercourse, though of a modified nature, existed between that country and Greece. We know, however, that both Egyptian and Grecian histories, about the period of Cecrops, are involved in much obscurity and uncertainty (particularly as regards dates); and if, therefore, Cecrops and his foundation of a Pelasgic colony in Attica is a mythological tale, we may justly infer that Greece, owing to the greater antiquity of Egypt, imitated many of the social customs which were in vogue in the ancient and luxurious cities of the Nile.

We are also aware that at this early age, with a few brilliant exceptions like Egypt (we possess no reliable records of China, Japan, or Hindostan[9]) the world was in a state of mental stagnation – chaotic is more descriptive: the thoughtful and mystical Egyptians were really the only recipients and parsimonious (if historical accounts are to be credited) disseminators of knowledge to their neighbours.

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[6] Between the Nile and the Red Sea there are quarries of white marble, of porphyry, of basalt, and the beautiful green breccia, known as *Verde d'Egitto*; in the same locality are found gold, iron, lead, emerald, and copper.

[7] A learned author states as follows: "We have seen, too, that the earliest state of Egypt, as seen in the pyramids, and in the tombs of the same age, reveals an orderly society and civilisation, of which the origin is unknown."

[8] No doubt they were proud of their African parentage, and looked upon the hoary monarchy of the Nile with a sentiment of religious awe and unfeigned wonder. Baron Bünsen graphically puts it: "Egypt was to the Greeks a sphinx with an intellectual human countenance."

[9] Probably owing to the existence of salt in Western Thibet and in Lahore, a province of Hindostan, also the Indian Salt Range, which stretches in a sigmoid curve, according to the late researches of Mr. Wynne, from Kalabagh on the Indus to a point north of Tank, both the Chinese and Hindoos may have been equally cognisant of its virtues with the Egyptians, especially when we have it recorded that the Celestials procured it by a process not only original but in a certain degree characteristic of Asiatic combination of ingenuity and clumsiness.

Many centuries later, we find a very remarkable instance of this influence of Egypt, which, though of a religious character, bears indirectly on our subject, by exemplifying this intellectual supremacy; the worship of Isis was established even in Imperial Rome herself, and we are told that the goddess was a most popular divinity amongst the wealthy citizens, a temple being erected to her honour in the Campus Martius; while she was designated by her enthusiastic worshippers, Isis Campensus. Now, though an Egyptian goddess was admitted with so much apparent readiness to occupy such an exalted position in the capital of the empire, when the Romans, with supercilious toleration, allowed the worship of as many gods as the people chose to venerate, yet the fact of building a temple for her exclusive worship, when all the other gods and goddesses were mixed and scattered hither and thither, without the slightest regard to order or attributes, is sufficient proof to substantiate the truth of my argument; and again if we call to mind the jealous pride of the Romans, and their disinclination to conform to the habits and customs of the countries which succumbed to their iron will, the admission of Isis to such elevated and almost unprecedented honours, would tend to show that many customs of Egyptian origin were not only adopted by the haughty Roman, but also by the Jew, Greek, Assyrian, and Persian, with a willingness in proportion to their utility, ornamentation, and agreeableness; and in some instances in deference to the intellectual ascendancy and scientific acquirements of this ancient people.

The Egyptians, owing to the central position of their country, the knowledge they were known to possess, their unrivalled skill in irrigation, the sublimity of their architecture, the abstruse wisdom of their priests, the mysterious erudition of their astrologers, and their wonderful agricultural proficiency and renown, caused their country to be frequently visited (sometimes by stealth, owing to their stringent laws against the admission of foreigners) by Greeks, Phœnicians, Assyrians, and Chaldeans, and indeed by all who professed the study[10] of science, learning, and philosophy; so that we may be sure they very naturally carried back to their respective countries many of the domestic customs, as well as the knowledge of their learned entertainers and instructors. The great city of Thebes stood to Ethiopia, as well as to Egypt, in the same relation as that occupied by Rome to mediæval Christendom: the construction of her temples and palaces, and the vast population of priests and their thousands of attendants, in addition to the presence of the court, must have attracted thither multitudes of merchants, artists, artisans, and indeed travellers from all parts; for it was the centre in those days of civilisation and commerce; and it was easy of access, for an opening in the Arabian Sea afforded communication with the port of Kosseir on the Red Sea; while on the other side, the city was the best starting-point for the caravan routes across the desert to the three chief *oases* (the Greater, the Lesser, and that of Ammon), and to the interior of Africa. Thus Egypt, through Thebes, commanded the trade with India, and with the gold, ivory, and aromatic districts; and the mines of the neighbouring limestone hills added to her enormous wealth, and gave employment to thousands.

There is another point which we must not overlook, and that is, the Egyptians did not remain secluded in their own country, though they were jealous of the entry of strangers. They were a courageous and seafaring people (though much inferior in that respect to the adventurous Phœnicians), as far as the times went; for they engaged in many nautical enterprises after Psammetichus, about B.C. 670, had completely overthrown the ancient system of isolation, showing their dormant marine proclivities, which had hitherto been but secretly indulged in.[11] Before these barriers had been broken down, their expeditions, as far as we know, never extended beyond the ancient Pillars of Hercules, which was regarded as an extraordinary exploit in those days (so we are

[10] Baron Bünsen says that "No nation of the earth has shown so much zeal and ingenuity, so much method and regularity in recording the details of private life, as the Egyptians." They were also most expert engineers; the canal from the Nile to the Red Sea, which may be called the canal of Rameses II., being protected at the Suez mouth by a system of hydraulic appliances to obviate difficulties arising from the variable levels of the water.

[11] "It is a strange fact that the early Egyptians, like the Hindoos, had a religious dread of the sea,"(?); and yet in the reign of Necho, the son of Psammetichus, they actually accomplished the circumnavigation of Africa: the voyage took three years.

told). One thing we may be practically certain of – wherever they went they carried with them not only their learning, but also their own peculiar customs and habits; and doubtless they experienced a satisfaction and pride in displaying their superiority not only in matters appertaining to knowledge, but also in civilisation. May we not justly infer that in their peregrinations they promulgated the utility and advantages of such a valuable commodity as salt wherever they went, wherever they settled? And would not the various peoples whom they visited, after having once experienced the palatableness of salt, take to it with an eagerness approaching avidity? The following paragraph, which I have extracted *in extenso* from the work of a highly gifted American author, and which is, I am proud to say, confirmatory of my own observations, delineates in a most forcible and graphic style the wonderful pitch of excellence in the sciences to which the Egyptians had attained, and their remarkable approach to the goal of indefectibility.

"The hieroglyphic writing had passed through all its stages of formation; its principles had become ascertained and settled long before we gain the first glimpse of it; the decimal and duodecimal systems of arithmetic were in use; the arts necessary in hydraulic engineering, massive architecture, and the ascertainment of the boundaries of land, had reached no insignificant degree of perfection. Indeed, there would be but very little exaggeration in affirming that we are practically as near the early Egyptian as was Herodotus himself. Well might the Egyptian priests say to the earliest Greek philosophers: 'You Greeks are mere children, talkative and vain; you know nothing at all of the past.'"[12]

There is another channel which we will now take into consideration: the Philistines, who are supposed to have been descended from the Hycksos, or Shepherd Kings of Egypt, must have carried with them not a few of those customs which were in fashion amongst the sons of the founders of the gloomy temples of Memphis and Luxor; and on their expulsion by the regenerated Egyptians they were probably much assimilated with them, owing to many years' intercourse, and being located in the same country, though their nationalities were entirely distinct and their habits antagonistic, and notwithstanding the dislike the Egyptians had for, and their abhorrence of all those who were connected with, the grazing and the breeding of cattle; for whenever two nations mix promiscuously, however limited it may be, they are sure to adopt more or less each other's peculiarities, both in language and customs. These Philistines, when they emigrated on their defeat, took with them Egyptian civilisation, and the various tribes surrounding their newly acquired territory were very soon initiated into customs of which, perhaps, they were previously ignorant. There is nothing to prove this, but we may certainly surmise as much, if only by inference.[13]

Though we possess no historical record, we may, owing to the influence which Egypt doubtless exerted over the civilised parts of Europe, come to the conclusion that through her instrumentality the use of salt was made known to the surrounding nations and tribes; the sons of Jacob and their families were not sufficiently numerous to render them important in the estimation of their neighbours, nor were they powerful enough to extort respect or generate emulation.

We learn from Herodotus, who was born B.C. 484, that the Egyptians eat salted food, but nothing as regards using it in the same way as we do. He says, "They live on fish, raw, but sun-dried, or steeped in brine; they eat also raw quails and ducks, and the smaller birds, salted beforehand."[14] The climate of Egypt, being remarkably dry and hot, would soon cause the decomposition of fresh animal food, and the Egyptians doubtless were aware of the fact that a prolonged immersion in brine or salt would be a complete deterrent; therefore there is no reason to doubt but that it was as common

[12] Dr. Draper's "History of the Intellectual Development of Europe."

[13] "One momentous consequence of the Shepherd conquest appears to have been that the expelled Shemites carried back with them into Syria the arts and letters of Egypt, which were thence diffused by the maritime Phœnicians over the opposite shores of Greece. Thus Egypt began at this epoch to come in contact at once with the East and the West, with Asia and with Europe."

[14] "Euterpe," book ii. chap. lxxvii.

a custom amongst them as it is amongst us at the present day.[15] The "Father of History" does not mention that salt was used as a condiment; though we may presume as much.

We might feel inclined at first to ascribe the honour of promulgating the utility of salt to the Hebrews, owing to the fact of one of their nation being the first to mention it, and of our possessing no other record of so early a date. Abraham was very probably cognisant of the virtues of salt, but though he was the founder of the people whose mission and chief delight was indiscriminate massacre, he was not one of them, but a Chaldean, a people famed for their wisdom; besides, he was the progenitor of two nations, viz. the Hebrews and the Ishmaelites, so that if Isaac was acquainted with the properties of salt, his half-brother Ishmael was equally so. Ishmael's descendants speedily developed into a free, independent nation, while Isaac's became slaves, and were made to construct costly monuments, build gigantic palaces, and raise majestic temples for their highly-cultured and imperious oppressors.

Which branch was likely to be imitated? Not the labouring, ignorant Hebrew, smarting under the lash of servitude, but rather the wandering Ishmaelite, who roamed at pleasure over the burning solitudes of Arabia; still, we must remember they were like a drop in the bucket when compared with their exclusive neighbours over the Red Sea. We are all aware that to this day the Eastern custom of placing salt before a guest is a token of amity and goodwill, and is significant enough to tell the visitor that he is for the time being in perfect safety; no Arab, even under provocation, would injure his most violent enemy after having once eaten salt with him under cover of his tent, till he was out in the desert.[16] This custom has descended from generation to generation, and perhaps was instituted by the exiled son of Abraham and Hagar. This fact would seem to corroborate my hypothesis, that if the Jews, through Abraham, were aware of the properties of salt, their wild brothers of the desert were also acquainted with it, and from the same source. Where Abraham obtained the knowledge of salt rests in obscurity; he may have acquired the secret from the Egyptians, or, as he is termed the friend of the Founder of the Universe, probably he learnt it from a higher authority. I think we may dismiss the idea that we owe the discovery of salt to the Hebrews.

Our speculations on this point are, however, comparatively vain, for we cannot possibly determine who first discovered it, or who first utilised it as a condiment to food: all we really know is that it has become universal, and that from time immemorial; but whether the Egyptians, Chinese, or Hindoos first made use of it, will be one of those dark secrets the solution of which may interest the curious and ingenious, and test the patience and erudition of the profound. Such an investigation might probably be considered by some as unprofitable, even if it were attended with success. To such I do not think it will be unjust or irrelevant to observe that many scientific discussions which from time to time have occupied the learned world have been, as far as the results are concerned, not of much moment to humanity at large. For instance, of what practical utility is the modern theory of evolution, upon which so much erudition of a minute kind, and thought, is expended, except as indicative of the ingenuity of the author? Is science at all advanced when we are gravely told that the human organism springs from protoplasm, and that plastidules consist of carbon, hydrogen, oxygen, and nitrogen, and that they possess souls? It is true that these abstruse inquiries have been productive of inciting a greater desire for studying the workings of nature, and a great deal of which previous generations were profoundly ignorant has been ingeniously disclosed, and accurately elucidated, for one is bound to admit that, though in many instances their researches have failed in their ultimate results, they have been the indirect cause of giving a remarkable impetus to scientific investigation. Many recondite subjects have thus been exhaustively analysed, unintentionally, owing to the anxiety

[15] Lord Bacon mentions somewhere in his works that the ancients discovered that salt water will dissolve salt put into it in less time than fresh water. The same great philosopher also affirms that "salt water passing through earth through ten vessels, one within another, hath not lost its saltness; but drained through twenty, becomes fresh."

[16] The Russians have a custom of presenting bread and salt to the newly-married bride and bridegroom. In archæology we have salt-silver, one penny at the feast of St. Martin, given by the tenants of some manors, as a commutation for the service of carrying their lord's salt from market to his larder; an old English custom.

and eagerness of the authors to arrive at the goal of their wishes; for while they are seeking for that which probably will never be found, they discover others which, to all intents and purposes, very likely would never have been conceived of. Perhaps these remarks may be considered unjust and hypercritical as regards their researches into the mysteries of life, and do not appear to give sufficient importance to those philosophical deductions and enunciations, which the authors no doubt demand as an imperative right; for scientific physicists are apt to be tyrannical, and are not over-endued with the virtue of practicality, and naturally do not like their opinions and metaphysical reveries relegated to that region which Milton humorously baptized the "Paradise of Fools," but prefer their speculations to be regarded as irrefragable facts. As this is, however, the age for far-fetched theories, I think we may be allowed with perfect fairness to discuss a subject which has partially escaped the eyes of the inquisitive; and if it is not treated so elegantly as the learned theses of the leaders of science and philosophy of to-day, I cannot help thinking that we may probably gain considerably more by studying a subject which is practically of interest to all, than attempting to penetrate into the invisible and undefinable mechanism of biology.

Notwithstanding the proofs (vague though they be), which I have already mentioned to show that we are indebted to the Egyptians for the discovery of this most valuable substance, I nevertheless do so with diffidence, because they are of a hypothetical tendency, and consequently refutable.[17] We may endeavour to trace the custom of using salt as a condiment to several nations, or even to one particular nation, with as much earnestness as the modern speculatists attempt to account for unaccountable phenomena appertaining to the material and spiritual worlds; but, as far as the real evidence goes, we are as unsuccessful, and our inquiries almost as unsatisfactory, as theirs have been hitherto.

There is great probability, however, that the Egyptians first made known to other nations, directly and indirectly, the utility of salt, and that through their sole agency it was introduced into Europe through the media of commerce and other channels of communication, and no doubt, as I have previously stated, in deference to their superior wisdom. We learn from those scholars who are giving their attention to Egyptian remains, that Greece was indebted to Egypt for all her science, architecture, literature, art, and mythology; and, indeed, her domestic life was derived from that venerable country. "From Egypt, it now appears, were derived the prototypes of the Greek architectural orders, and even their monuments and conventional designs; thence came the models of the Greek and Etruscan vases; thence came many of the ante-Homeric legends … thence came the first ritual for the dead, litanies to the sun, and painted, or illuminated, missals; thence came the dogma of a queen of heaven!"[18]

In confirmation of this we are told that Moses, as I have before remarked, was skilled in Egyptian wisdom: this is most emphatic, and we cannot but conclude that that wisdom was in a high state of perfection; and their works, which are still the surprise and admiration of travellers, testify to the truth of Holy Writ. Do not their monuments, which have set time at defiance, prove that they were a people highly gifted? Their ruins are more sublime than any other architectural remains which are extant, excelling, both in magnificence and magnitude, the classic temples of Greece, and the elegant buildings which once graced the banks of the golden Tiber. In reference to this I may quote Dr. Lepsius, who states that "all the principal cities of Egypt were adorned with temples and palaces… These temples were filled with the statues of gods and kings, generally colossal, and hewn from costly stones."

Possibly, owing to the fact that salt is valued almost universally, and is a substance which has been demonstrated by experience to be necessary to humanity, it may have been, for all we can say, as well known to the Antediluvians as it is to us; and if so, then we are indebted to Noah. But these

[17] According to the researches of the late Mr. George Smith, Babylonian literature is of a much more ancient date than the histories of the Bible; which fact would tend to indicate that the intellectual development of that Eastern monarchy may have been coëval with that of the African.

[18] Dr. Draper's "History of the Intellectual Development of Europe."

are but surmises; we really possess no authentic record, except that which we find in Holy Writ: and, with my reader's leave, we will now proceed to examine those passages of Scripture in which salt is mentioned.

We find that whenever salt is named, it is done so in language of a character stamping it as a most important essential; and especially do we notice this in the directions for the religious services of the Israelites. They were commanded in the most explicit language that in all their offerings they should "offer salt."[19] There is also another point which we must not omit, and that is, whenever salt is referred to in the Inspired Volume, it is invariably in connection with some important transaction: for example, when Elisha sweetened the waters of the fountain of Jericho, he cast salt into them; this act of the prophet illustrates, figuratively, the purifying properties of salt, for he said, "I have healed these waters."[20] When Abimelech captured Shechem, he strewed salt over the ruins;[21] and when Abijah harangued Jeroboam from the Mount Zemaraim, he speaks of a "covenant of salt."[22] We read farther on of this "covenant of salt" in the Book of Numbers.[23] In fact, in the Old Testament, as well as in the New, considerable stress is laid on this evidently important substance, which shows that nothing was considered as thoroughly accomplished if salt, in some way or other, was not intimately connected with it.

It was also a custom amongst the Hebrews, which was never departed from, to rub new-born infants with salt:[24] this practice was in every respect healthy and cleanly, and if we Christians were wise we should, from a hygienic point of view, strictly follow a custom which is so conducive to health; for salt hardens the skin of newly-born children and renders it more firm, and prevents (unless there is an hereditary taint) any irritation or local eruption of the skin.

The first mention of salt as a condiment is to be found in Job;[25] and as this beautiful book, which delineates the vicissitudes to which life is subjected, is supposed to have been written by Moses when he was dwelling amongst the Midianites, there is no doubt but that it was in general use not only in Egypt, but also amongst the surrounding nations. The answer to the question propounded by the persecuted man of Uz is the same now as it was three thousand years ago – there is nothing savoury without salt, and to a certainty there is no real permanent health without salt.

The Jews, like all Asiatic races, were much afflicted with various forms of leprosy, and as salt is an indirect antidote to cutaneous eruptions, they used it not so much as a condiment, but as a shield to ward off and protect them from those repulsive diseases which rendered those who were attacked obnoxious to their fellow-countrymen, by whom they were treated as outcasts till they had recovered from their loathsome maladies. To this day we find that by far the greater number who suffer from cutaneous diseases hardly ever eat salt with their food; this is an unquestionable fact, and truly significant of its inestimable virtue as an anti-morbific agent.

The Great Master says (and who will dispute such an unanswerable verity?) "salt is good;" and then He adds, "but if the salt has lost its saltness, wherewith will ye season it?"[26] Addressing His disciples, He says: "Ye are the salt of the earth," and also, "Have salt in yourselves."[27] These sayings prove in the most unmistakable language that salt is highly necessary. Our Saviour applies it in a religious sense, it is true, but He was too much of a philosopher, too great a logician, to use a metaphor of which the application could be shaken and disproved in the abstract, if the image or

[19] Leviticus ii. 13.
[20] 2 Kings ii. 21.
[21] Judges ix. 45.
[22] 2 Chronicles xiii. 5.
[23] Numbers xviii. 19.
[24] Ezekiel xvi. 4.
[25] Job v. 6.
[26] St. Mark ix. 50.
[27] *Ibid.*

figure were fundamentally incorrect or inconsistent with the lesson which it was intended to convey; besides, He never would have declared it “good” had it been in the slightest degree provocative of anything deleterious to the human race, neither would He have made use of a figurative mode of speech if He could not have based it on a physical fact.

We are thus told in three simple words the value of salt, and none save the shallow, or the sophist, would attempt to prove the contrary. All must acknowledge the fact that salt is equally pleasant to the gourmand and the temperate; and that animal and vegetable food is not palatable without it. As it is pronounced to be “good” by the highest authority, we must regard it as one of Heaven’s best gifts to man. It would be a comparatively small matter were it but a condiment rendering food more pleasant to the taste; but when we know that it is indirectly a preserver of health, and that it also contravenes the attacks of disease, its value will, I hope, be considerably increased.

I shall be more than satisfied if I am able to persuade those unwise people who make it a rule never to use salt, to resort to it at once without hesitation; for if they wish to be in a fair state of health, to have clear wholesome skins and fresh complexions, to be free from intestinal parasites and cutaneous diseases, to have their digestive organs perform their functions compatible with health and personal comfort, they must have, practically speaking, salt in themselves.

We have thus, from very scanty records concerning salt, essayed to clear up, though very inconclusively, and I fear unsatisfactorily, certain points which have been unnoticed, by reason, I think, of the dense obtenebration with which the subject is surrounded; for it has hitherto baffled the researches of the geologist to discover its pristine source, and neither do we know who first used it as a condiment. The chemist can experimentalise with this inorganic substance to detect the presence of other bodies, and he knows its worth in the laboratory; but as for its origin, he is as much in the dark as the geologist.

CHAPTER III
SALT AS A CHEMICAL, THERAPEUTICAL, AND TOXICOLOGICAL AGENT

As a chemical agent, and from the manufacturing uses to which it is now put, salt is a most invaluable article from a scientific as well as from a commercial point of view. I will therefore draw the attention of my reader to its chemical properties; I will then allude to a few drugs which are partially derived from salt or the chloride of sodium; and will cursorily notice one great staple of commerce which owes the rapidity of manufacture to its sole agency, including some remarks on it as a poison.

Chlorine gas, which is obtained from the *chloride of sodium*, was discovered by Scheele in 1777, who named it *dephlogisticated muriatic acid*. Berthollet in 1785 termed it *oxygenated muriatic acid*. Sir Humphry Davy called it *chlorine* (from χλωρὸς, green) on account of its colour, and it has kept this name ever since. We thus see that salt is of great use to the chemist, for he not only obtains *chlorine* gas from it, but also *hydrochloric acid*, a most useful and efficacious drug in the treatment of some hepatic diseases. *Chlorine* also enters into combination with other chemical substances known as *chlorides* and *chlorates*, *sub-chlorides* and *per-chlorides*; for instance, we have the *chloride of ammonium* and the *chlorate of potash*; we also have the *sub-chloride of mercury*, or *calomel*, and the *perchloride of mercury*, or *corrosive sublimate*, with various others.

According to Pereira, *hydrochloric acid* was known to Djafar, or Geber, an Arabian chemist who flourished in the eighth century, and whom Roger Bacon calls *magister magistrorum*. Everyone is acquainted with the *chloride of lime*, a substance so generally used for household and disinfecting purposes, that I need only mention it; besides this, there are other salts with which *chlorine* enters into combination.

Formerly, to bleach cotton it was required to expose the material to the action of the sun and air, rendering the process long and tedious, as it took on the average quite six or eight months, and likewise a large surface of land was necessary for the operation.

Now, owing to *chlorine* gas, the process is completed in a few hours, and a comparatively small building is quite sufficient for the purpose; the fibre is beautifully and permanently whitened, and the manufacturer experiences the pleasing satisfaction of a more rapid remuneration.

Where would be our delicately white textile fibres were it not for the abundant and inexhaustible supply of salt? How should we be enabled to cause vegetable colours to vanish as if touched by the hand of a magician were it not for the bleaching properties of *chlorine*? And how should we be able to procure this green-coloured gas which produces these changes were it not for the *chloride of sodium*?

As a therapeutical agent *chlorine* possesses some characteristics peculiar to itself: it is used as a lotion for cancerous growths and foul ulcers, also for some cutaneous eruptions. It is likewise used as a vapour-bath; it has also been used in the treatment of chronic bronchitis and phthisis, and as a gargle in certain morbid conditions of the mouth. When *chlorine* is absorbed by the system it is supposed to possess some antiseptic and alterative action, acting specifically on the liver.

There is one more fact of a chemical nature in reference to chlorine which it would be unwise to throw aside, as it possesses some degree of interest. When the chemist wishes to decompose water, or in other words to liberate hydrogen from oxygen, he has no better agent to effect the purpose than this greenish-coloured gas, because it has such a strong affinity for *hydrogen*, which is one of the most characteristic properties of *chlorine*. Mix them together, and they combine with explosive violence if they are exposed to the beams of the sun. By this process we obtain *hydrochloric acid* gas, while the *oxygen* is liberated.

Chlorine only becomes active when it is associated with moisture; when dry it is quite inert as regards its bleaching powers, for “when moist it gradually decomposes the water, combining with its

hydrogen, and disengaging its *oxygen*; and it is this *oxygen*, at the moment of its liberation, which is the really active agent in bleaching."[28]

Salt, like other inorganic compounds, has been known to act as a poison when taken in a large quantity, and Dr. Alfred Taylor, the eminent toxicologist, mentions a case in which a table-spoonful was taken by mistake for sugar; there was no vomiting or purging, but great pain in the region of the stomach, with dryness of the fauces, which lasted several days. Did not the above emanate from so great an authority, one would feel inclined to question it. Could anyone take such a large amount and swallow the same without being immediately aware of his mistake? Surely he would have immediately and spasmodically ejected it by reason of its extremely pungent character, before it had even reached the fauces.

Dr. Taylor says that "in a toxicological view it is not easy to distinguish the effects of common salt in these cases from the poisonous action of salt of sorrel, or binoxalate of potash, which it is well known may be taken with impunity in small quantity;" the symptoms are those of irritant poisoning, causing great pain and intensely inflaming the stomach and intestines, and in those few cases which we have on record the vomiting was excessive.

In France, though not hitherto, as far as I am aware, in Great Britain, several instances have occurred of severe sickness in particular localities, which have been traced to the adulteration of common salt with certain deleterious articles. In an investigation conducted by M. Guibourt some years ago, in consequence of some severe accidents which were presumed to have been produced apparently by salt in Paris and at Meaux, oxide of arsenic was detected; and this discovery was corroborated by MM. Latour and Lefrançois, who ascertained that the proportion of arsenic was sometimes a quarter of a grain per ounce. Another peculiar adulteration which was frequent was with the hydriodate of soda. At a meeting of the Parisian Academy of Medicine, held in December, 1829, an interesting report was read by MM. Boullay and Delens, subsequent to the inquiry by M. Sérullas, into the nature of a sample of salt which occasioned very extensive ravages. In the year 1829 various epidemic illnesses in several parishes were supposed to have originated from salt of bad quality, and in one month no less than 150 people in two parishes were attacked, some with nausea and pain in the stomach, slimy and bloody purging, some with tension of the abdomen, puffiness of the face, inflammation of the eyes, and œdema of the legs; and in some districts of the Marne one-sixth part of the inhabitants were affected in a similar manner. The salt being suspected, as it had an unusual odour somewhat like the effluvia of marsh land, it was analysed by M. Sérullas, and after him by MM. Boullay and Delens; the experiments of all three indicated the presence of one hundredth of its weight of hydriodate of soda, besides a small amount of free iodine. Owing to the discovery of arsenic by other experts in different samples of suspected salt, M. Sérullas repeated the analysis, but was unable to detect the slightest trace of that poison.

"M. Barruel states that he observed the occasional adulteration of salt with some hydriodate accidentally in 1824, while preparing experiments for Professor Orfila's lectures. He also found it in two samples from different grocers' shops in Paris. No satisfactory explanation has yet been given of the source of the adulteration with arsenic; but the presence of the hydriodate of soda has been traced to the fraudulent use of impure salt from kelp."[29]

It will be as well for us to know what pure salt really consists of, to the composition of which I now draw the reader's attention:

Composition of the Pure Chloride of Sodium.

[28] Huxley's "Physiography."

[29] Sir Robert Christison's "Treatise on Poisons."

	Atoms.	Eq. wt.	Per cent.	Ure.	Longchamps.
Sodium	1	23	39·3	39·98	39·767
Chlorine	1	35·5	60·7	60·02	60·233
	—	—	—	—	—
	2	58·5	100·0	100·00	100·000

MM. St. Claire Deville and Fouqué have shown that common salt can be resolved into its elements by the action of hot steam alone, which Lussa and other chemists had thought impossible.

Prof. Meyer, of Berne, has lately demonstrated by experiments on chlorine gas, that the assumption of its elementary character is an error, and that it is nothing more or less than the oxide of a metal which he calls *murium*. This discovery opens up an interesting question for physiological chemists to investigate; for if he is correct, chlorine is not an element, but is simply the oxide of a metal.

CHAPTER IV
GEOGRAPHICAL DISTRIBUTION

Salt, fortunately for us, is a commodity remarkably easy to obtain; almost everyone knows it is in great abundance in the ocean,[30] and there are inexhaustible supplies of it in the earth; it is also present in some rivers, and in no inconsiderable quantity. Mr. John Ashley, in the *Quarterly Journal of the Chemical Society*, in his "Analysis of Thames Water," tells us the exact amount:

Composition of Thames Water at London Bridge in grains per gallon of 70,000 grains.

Carbonate of Lime	8·1165
Chloride of Calcium	6·9741
Chloride of Magnesium	·0798
Chloride of Sodium (salt)	2·3723
Sulphate of Soda	3·1052
Sulphate of Potash	·2695
Silica	·1239
Insoluble Organic Matter	4·6592
Soluble Organic Matter	2·3380
	—
	28·0385

We may account for this great proportion of salts by the fact that the Thames collects its water from the drainage of comparatively soft and soluble rocks; we should also remember the vast amount of refuse organic and inorganic matter which is being continually thrown into this river; and we must also call to mind that it is nothing more or less than the main sewer which receives the ordure of the modern Babylon.[31]

We may naturally suppose that in those rivers which flow through sparsely inhabited countries, where there is little or no traffic, the amount of saline matter would be next to nothing, and probably not a trace would be discovered. In a river like the Thames, owing to the vast quantity of its shipping, the great percentage which Mr. John Ashley has given us need not afford the least surprise. Sea-water is deficient in its proper proportion of salt at the mouths of great rivers, where the volume of fresh water displaces that which properly belongs to the sea, and therefore a river does not obtain much saline matter from that source.

Before we pass on to consider the geographical distribution of salt, we will just cursorily glance at the position it occupies in the vegetable world. It is present in all plants growing near the sea, and in variable quantities in some of those which are in or near districts where the soil is mixed with salt; though its place is taken by potash when they grow inland. Dr. Balfour writes as follows: "Soda and potash occur abundantly in plants. They are taken up with the soil in combination with acids. Those growing near the sea have a large proportion of soda in their composition, whilst those growing inland contain potash. Various species of salsola, salicornia, halimœnenum, and kochia yield soda for commercial purposes and are called halophites (ἁλς, salt, and φυτὸν, plant). The young plants, according to Göbel, furnish more soda than the old ones. There are certain species, as Armeria maritima, Cochlearia officinalis, and Plantago maritima, which are found both on the seashore and high on the mountains removed from the sea. In the former situation they contain much soda and some iodine; while in the latter, according to Dr. Dickie, potash prevails and iodine disappears."

[30] Sea-water contains 2·5 per cent. of the chloride of sodium; some say 4 per cent.; according to others, 5·7.

[31] It is well worth remembering that the Thames carries away from its basin above Kingston 548,230 tons of saline matter annually.

Soda being present in those plants growing near the sea, and potash in those which are inland, are two points well worthy of notice, and which we will now discuss. The number of vegetables which are cultivated near the coast shrink into insignificance when compared with those which grow inland; and naturally the markets are supplied with inland produce on account of a larger supply, therefore the consumption of those vegetables containing potash is in the same ratio. This being unquestionably the case, we ought, on that account alone, to use salt freely with our vegetable food in order to supply that which is absent, arising from the difference of locality and dissimilarity of the atmosphere. I shall enter fully into the relation salt bears to vegetable food while it is going through the process of digestion further on, when we come to consider the effects which food salted beforehand has upon the system when continued for any length of time, with little or no variation, which dietary is supposed to be the sole cause of the attacks of scurvy on board ship.

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