

The natural history of the tea-tree, with observations on the medical qualities of tea, and on the effects of tea-drinking / by John Coakley Lettsom.

Contributors

Lettsom, John Coakley, 1744-1815.
Royal College of Physicians of London

Publication/Creation

London : Dilly, Charles, 1739-1807, 1799.

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Green Tea.



Painted & Engraved by J. Miller.

Published according to Act of Parliament Dec. 16th 1771.

THE
NATURAL HISTORY
OF THE
T E A - T R E E,
WITH OBSERVATIONS ON
THE MEDICAL QUALITIES OF TEA,
AND ON THE
EFFECTS OF TEA-DRINKING.

A NEW EDITION.



BY JOHN COAKLEY LETTSOM, M. D.

LONDON:
PRINTED BY J. NICHOLS;
FOR CHARLES DILLY.

1799.

NATURAL HISTORY

T. A. T. H. E.

THE MEDICAL QUALITIES OF TEA



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BY JOHN COVILLY LITTLETON M.D.

LONDON

A D V E R T I S E M E N T.

IN the year 1769 was printed an inaugural dissertation, intituled, "*Observationes ad vires Theæ pertinentes.*"

In the year 1772 was published, "*The Natural History of the Tea-tree, with Observations on the Medical Qualities of Tea, and Effects of Tea-drinking,*" which not only contained a translation of the Thesis, but likewise the natural history of this vegetable, and which having been long out of print, it was thought a second edition would be favourably received by the publick.

In Sir George Staunton's Embassy to China, lately published, there are some remarks on Tea, which are occasionally referred to in the present edition; and they are referred to with the satisfaction of confirming the relation first offered to the publick in 1772.

As the Preface inserted at that time affords some hints respecting the introduction of the Tea-tree into Europe, it is prefixed to the present edition.

PREFACE

ADVERTISEMENT

IN the year 1769 was printed an inaugural dissertation, in
 titled, "Observationes de viis Theriacalibus."
 In the year 1770 was published, "The Natural History of
 the Testes, with Observations on the Medical Qualities of
 Testes, and Effects of their Use," which not only contained
 a translation of the Thesis, but likewise the natural history of
 this vegetable, and which having been long out of print, it was
 thought a second edition would be advantageously received by the
 public.
 In the George Stearns's Edition of Celsus lately published,
 there are some remarks on Testes, which are exceedingly interesting
 to the present edition, and which are referred to, with an
 extract of the substance of the text, and added to the edition.
 In 1773 was published a new edition of the same, and
 the new edition added to the text, some new observations
 on the Testes, and the substance of the former edition is pre-
 served in the appendix, and the new edition is now
 sent to the printer, and will be ready to sell in a few
 weeks, and being at a moderate price, and containing much
 new and useful matter, it is thought it will be
 generally received.

PRINCE

While these four years we have been successful
 enough to introduce into this kingdom a few genuine tea plants.

P R E F A C E

TO
 THE FIRST EDITION, 1772.

THE subject of the following Essay being now in general use among the inhabitants of this kingdom, as well as in many other parts of Europe, and constituting a large part of our commerce, it cannot but afford pleasure to the curious to possess the history of a shrub, with the leaves of which they are so well acquainted.

Many treatises have been published on the uses and effects of Tea; a few writers have likewise given some circumstances relative to its natural history and preparation, the indefatigable Kæmpfer particularly; but these circumstances lie so dispersed, and the accounts which have been given of the virtues and efficacy of Tea are in general so contradictory, and void of true medical observation, that it still seemed no improper subject for a candid discussion. The reader may at least have the satisfaction of seeing, in a narrow compass, the principal opinions relative to this subject.

Within

Within these three or four years we have been successful enough to introduce into this kingdom a few genuine Tea plants. There was formerly, I am told, a very large one in England, the property of an East-India captain, who kept it some years, and refused to part with either cuttings or layers. This died, and there was not another left in the kingdom. A large plant was not long since in the possession of the great Linnæus, but, I am informed, it is now dead. I know several gentlemen, who have spared neither pains nor expence to procure this ever-green from China; but their best endeavours have, in general, proved unsuccessful. For, though many strong and good plants were shipped at Canton, and all possible care taken of them during the voyage, yet they soon grew sickly, and but one, till of late, survived the passage to England.

The largest Tea plant in this kingdom is, I believe, at Kew; it was presented to that royal seminary by John Ellis, Esq. who raised it from the seed. But the plant at Sion-house, belonging to the Duke of Northumberland, is the first that ever flowered in Europe; and an elegant drawing has been taken from it in that state, with its botanical description. The engraver has done justice to his original drawing, which is now in the possession of that great promoter of natural history, Dr. Fothergill, to whom I have been indebted for many dried specimens and flowers of the Tea-tree from China. If the reader
compare

compare this plate with the following description, he will have as clear an idea of this exotic shrub, as can at present be exhibited.

A few young Tea plants have lately been introduced into some of the most curious botanic gardens about London; hence it seems probable that this very distinguished vegetable will become a denizen of England, and such of her colonies as may be deemed most favourable to its propagation.

In regard to the effects of Tea on the human constitution, one might have imagined that long and general use would have furnished so many indisputable proofs of its good and bad properties, that nothing could be easier than to determine these with precision: yet so difficult a thing is it to establish physical certainty in regard to the operation of food or medicines on the human body, that our knowledge in general, even with respect to this article, is very imperfect. Nevertheless, I have endeavoured to avail myself of what has been written on this subject by my predecessors with the appearance of reason, as well as of the conversation of learned and ingenious men now living, together with such experiments and observations as have occurred to me, so as to furnish the means of a more extensive knowledge of the subject.

With

With respect to the present edition, subsequent information has enabled me to enlarge it with some important additions. Since the period of the original publication, the Tea-tree has been introduced into many of our gardens, and afforded the means of ascertaining its botanical characters. I have, at the same time, the pleasure to observe, that the first edition has received the approbation of some of the most distinguished botanists. Linnæus, as well as Haller, as soon as they had perused it, conveyed to me their approbation, in the kindest manner: Murray and Cullen, and recently Schreber, have made frequent references to its authorities. If these distinguished characters have approved the former, I am encouraged to hope that the present edition will not be less favourably received by the publick.

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THE
NATURAL HISTORY
OF THE
TEA-TREE.

PART THE FIRST.

SECTION I.
CLASS XIII. ORDER I.

POLYANDRIA MONOGYNIA.

K. CALYX, Fig. 1, 2, 3. 10.	{	PERIANTHIUM quinquepartitum, <i>minimum,</i> <i>planum,</i> <i>segmentis rotundis,</i> <i>obtusis,</i> <i>persistentibus.</i> (Fig. 1. K.)	K. The CA- LYX, Fig. 1, 2, 3. 10.	{	A PERIANTHIUM quinquepartite, very small, flat, the segments round, obtuse, permanent. (Fig. 1. K.)
		B			

C. COROLLA, F. 1. 3, 4, 5, 6, 7, 8.	PETALA sex, <i>subrotunda</i> , <i>concava</i> : duo exteriora (F. 4. 7. C. C.) minora, inæqualia, Nondum expansa : (F. 3. C.) quatuor interiora, (F. 6. C. C. C. C. & F. 5.) magna, <i>æqualia</i> , antequam decidunt, recurvata. (F. 8. C. C.)	C. The Co- ROLLA, F. 1. 3, 4, 5, 6, 7, 8.	The PETALS six*, subrotund, or roundish. concave : two exterior, (F. 4. 7. C. C.) less, unequal, the flower before it is fully blown : (F. 3. C.) four interior (F. 6. C. C. C. C. and F. 5.) large, equal, before they fall off, recurvate. (F. 8. C. C.)

* Among several hundred specimens of dried Tea-flowers that I have examined, scarcely one in twenty was perfect. Some had three petals only, some nine, and others the several intermediate numbers. The greatest number consisted of six large petals, and externally three lesser ones of the same form. But the flowers, which blossomed on the Tea-plant belonging to the duke of Northumberland, from which this description is taken, consisted in general of six petals. One of the flowers indeed appeared to have eight petals; however, the number in the flowers in most plants vary considerably, which may account for the mistake of Dr. Hill, and professor Linnæus (who described this plant on Dr. Hill's authority), who make the green and bohea Tea two distinct species, giving nine petals to the former, and six to the latter. See Amœn. Acad. Vol. VII. p. 248. Hill. Exot. t. 22. Kæmpfer. Amœn. Exot. p. 607. Breyn. Exot. Plant. Cent. 1. p. 111. Hist. de l'Acad. des Sciences, 1776, p. 52.

STAMINA,

STAMINA, F. 6. 9, 10, 11.	f. FILAMENTA <i>nu- merosa</i> , (ducenta circiter.) (f. a. F. 6. 9.) <i>filiformia</i> , <i>corolla breviora</i> . a. ANTHERÆ COR- datae, bi- loculares.	The STAMENS, F. 6. 9, 10, 11.	f. The FILAMENTS numerous ¹ , (f. a. Fig. 6. 9.) (about 200.) filiform, shorter than the Corolla. a. The ANTHERAS cordate, bi- locular ² .
PISTILLUM, F. 1. 10. 12.* Len- te auctum.	g. GERMEN <i>globoso- trigonum</i> . (F. 1. 10. 12.) s. STYLUS simplex, ad apicem trifidus, (F. 12.) Petalis Stamini- busque delap- sis, a se mu- tuo recedentes, divaricantes, &	The PISTILLUM, F. 1. 10. 12.* magnified.	g. The GERMEN three globular bodies joined (F. 1. 10. 12.) s. The STYLE simple, at the apex trifid, (F. 12.) After the petals and stamens are fallen off, they part from each other, spread o-

¹ In a flower I received from that accurate naturalist, J. Ellis, F. R. S. &c. I counted upwards of 280 filaments; and, in another I had from Dr. Fothergill, there appeared to be nearly the same number.

² Kämpfer describes the Antheræ as being single.

PISTILIUM, F. 1. 10. 12 * Len- te auctum.	longitudine auc- ta, marcescentes. (F. 1. 12.) t. STIGMATA <i>simpli- cia</i> . (F. 1. 9. 10. 12.)	The PISTIL- LUM, F. 1. 10. 12. * magnified.	pen, increase in length, and wi- ther on the Ger- men. (F. 1. 12.) t. The STIGMAS simple. (F. 1. 9. 10. 12.)
P. PERICAR- PIUM, F. 1. 13, 14.	CAPSULA <i>ex tribus globis coalita</i> , (F. 13.) trilocularis, (F. 14.) apice trifariam de- hiscens. (F. 13.)	P. The PE- RICARPI- UM, F. 1. 13. 14.	A CAPSULE in the form of three globular bodies united, (F. 13.) trilocular, (F. 14.) gaping at the top in three directions. (F. 13.)
S. SEMINA, F. 14.	<i>solitaria</i> , <i>globosa</i> , <i>introrsum angulata</i> .	S. The SEEDS, F. 14.	single, globose, angular on the in- ward side.
T. TRUNCUS, F. 1.	ramosus, lignosus, teres :	T. The TRUNK ¹ , F. 1.	ramose, ligneous, round:

ramis

¹ Authors differ widely respecting the size of this tree. Le Compte says, it grows of various sizes from two feet to two hundred, and sometimes so thick, that two men can scarcely grasp the trunk in their arms: though he afterwards observes, that the Tea-trees, he saw in the province of Fokien, did not exceed five or six feet in height.

T. TRUNCUS, F. I.	ramis alternis,	T. The TRUNK, F. I.	the branches alter- nate,
	vagis,		vague, or placed in no regular order,
	rigidiusculis,		stiffish,
	cineraſcentibus,		inclining to an aſh color,
	prope apicem ruſe- ſcentibus.		towards the top reddiſh.
PEDUNCULI, (F. I. p.)	axillares, (F. I. p.)	PEDUNCLES F. I.	axillary, (F. I. p.)
	alterni,		alternate,
	ſolitarii,		ſingle,
	curvati,		curved,
	uniflori,		uniflorous,
	incraffati, (F. I. 2.		incraffate, (F. I. 2.
	7.)		7.) ¹
	ſtipulati :		ſtipulate :
	ſtipula ſolitaria,		the ſtipula ſingle,
	ſubulata, } (F. I. 2.		ſubulate, } (F. I. 2.
	erecta. } 7. 9. d.)		erect } 7. 9. d.)

height. Journey through the empire of China. London, 1697, 8vo. p. 228. Du Halde quotes a Chineſe author, who deſcribes the height of different Tea-trees, from one to thirty feet. Deſcription générale hiſtorique, chronologique, politique, et phyſique de la Chine, Paris, 1755. Fol. 4 Tom. Hiſtory of China, London, 1736. 8vo. Vol. IV. page 22. See alſo Guil. Piſo in Itinere Braſilica.

But Kæmpfer, who is chiefly to be depended upon, confines the full growth to about a man's height. Amœn. Exot. Lemgov. 1712, 4to. pag. 605. Probably this may be a juſt medium; for Oſbeck ſays, that he ſaw Tea-ſhrubs in flower-pots, not above an ell high. Voyage to China, Vol. I. p. 247. See alſo Eckerberg's account of the Chineſe huſbandry, Vol. II. p. 303.

¹ When the peduncles increaſe in thickneſs towards their extremities.

alterna,

PEDUNCULI, (F. 1. p.)	alterna, elliptica, obtuse ferrata, mar- ginibus interden- tes recurvatis.	PEDUNCLES, F. 1.	alternate, elliptical, obtusely ferrate, edges between the teeth recur- vate.
F. FOLIA, F. 1. 15, 16, 17.	apice margi- nata, (F. 15. e.) basi integer- rima, (F. 16. 17.) * Lente aucta. glabra, nitida, bullata, subtus venosa, consistentia, petiolata: Petiolis brevissimis, (F. 1. 16. 17. b.)	F. The LEAVES, F. 1. 15, 16, 17.	apex emar- ginate, (F. 15. e.¹) at the base very en- tire, (F. 16. 17.) * mag- nified. smooth, glossy, bullate², venose on the under side, of a firm texture, on foot-stalks: The foot-stalks very short, (F. 1. 16. 17. b.)

¹ No author has hitherto remarked this obvious circumstance; even Kæmpfer himself says, that the leaves terminate in a sharp point. Amœn. Exot. p. 611.

² When the upper surface of the leaf rises in several places in roundish swellings, hollow underneath.

subtus

F. FOLIA, F. 1. 15. 16. 17.	subtus tereti- bus, gibbis,	(F. 16. b. * Lente auctis.)	F. The LEAVES, F. 1. 15, 16. 17.	round on the under side, gibbous, or <i>bunching</i> out,	(F. 16. b. * mag- nified.)
	supra plano-canali- culatis. (F. 17. b. * Lente auctis.)			on the upper-side, flattish, and slight- ly channelled. (F. 17. b. * magni- fied.)	
Nomina trivialia			the common names		
Thea bohea & viridis.			bohea and green Teas ¹ .		

There is only one species of this plant; the difference of green and bohea Tea depending upon the nature of the soil, the culture, and manner of drying the leaves. It has even been observed, that a green Tea-tree, planted in the bohea country, will produce bohea Tea, and so the contrary².

¹ Whether the word TEA is borrowed from the Japanese *Tsjaa*, or the Chinese *Tbeb*, is not of much importance. By this name, with very little difference in pronunciation, the plant here treated of is well known in most parts of the world.

² I have examined several hundred flowers, both from the bohea and green Tea countries, and their botanical characters have always appeared uniform. See Directions for bringing over seeds and plants from distant countries, by John Ellis, Esq. Sir George Staunton's Embassy, Vol. II. p. 464, says, "Every information received concerning the Tea plant concurred in affirming that its qualities depended upon the soil in which it grew, and the age at which the leaves were plucked off the tree, as well as upon the management of them afterwards."

SECTION

SECTION II.

SYNONYMA.

MANY authors have at different times treated upon this subject; some who never saw the Tea-tree, as well as others who have seen it¹. I shall enumerate those who are mentioned in the Species plantarum of Linnæus².

Thea; Hortus Cliffort. 204. Mat. Med. 264. Hill. Exot. t. 22.

Thee; Kæmpfer. Japan. 605. t. 606.

Thee frutex; Barthol. Act. 4. p. 1. t. 1. Bont. Jav. Amstel. fol. 87 ad 88.

Thee Sinensium; Breyn. Cent. 111. t. 112. incon. 17. t. 3. Bocc. Mus. 114. t. 94.

Chaa; Casp. Bauhin. Pinax Theatri Botanici. Basil. 1623. 4to. 147.

Evonymo affinis arbor orientalis nucifera, flore roseo; Pluk. Alm. Botan. Stirp. nov. tradens. 1200. Lond. 1705. fol. 139. t. 88. fig. 6.

In the Acta Hafnienfia, we meet with the first figure of this tree; but, as it was taken from a dried specimen, it does not

¹ See Jac. Breynii Exotic. Cent. I. p. 114, 115.

² Vol. I. p. 734.

illustrate the subject very well. Bontius published another, and though drawn in India, where he might have seen the plant, it does not much surpass the preceding. The figure given by Plukenet is better than either of the former; and after his, Breynius published one still better: but of all the engravings formerly executed, that given by Kämpfer must be allowed to be the most accurate¹; yet even this icon, like all the others published by this industrious naturalist, is extremely imperfect; although he certainly saw the living plants which he has represented, however expert the Chinese may be in deception².

¹ Amœnit. Exotic. p. 618, et seq. See also his history of Japan by Scheuchzer. Lond. 2 Vol. Fol. App. p. 3. Geoffr. Mat. Med. Vol. II. p. 276. Other figures of this shrub are represented in Piso Itinere Brasiliæ, Kircher's China Illustrata, and Dutch Embassy.

² Osbeck, in his voyage to China, speaking of the Camellia, says, "I bought one of a blind man in the street, which had fine double white and red flowers. But, by farther observing it in my room, I found that the flowers were taken from another; and one calyx was so neatly fixed in the other with nails of bamboo, that I should scarce have found it out, if the flowers had not begun to wither. The tree itself had only buds, but no open flowers. I learned from this instance, that whoever will deal with the Chinese, must make use of his utmost circumspection, and even then must run the risk of being cheated." Vol. VII. p. 17. Mocquet in his Travels and Voyages, An. 1606, l. 4. p. 264, relates a curious piece of deception practised by a Chinese of Canton. "A Portuguese," he says, "bought a roasted duck at a cook's shop in Canton. Seeing it look well, and appearing to be very fat, he carried it with him on-board his vessel, to eat it; but, when he had put his knife within it to cut it up, he found nothing but the skin, which was upon some paper, ingeniously fitted up with little sticks, which made up the body of the duck; the Chinese having very dexterously plucked away the flesh, and then so well accommodated this skin, that it seemed to be a true duck."

SECTION III.

AUTHORS UPON TEA.

BESIDES the Authors already mentioned, several others have given some account of this exotic ever-green, the principal of which are added for the farther information of those who may be desirous of consulting these writers on the subject.

Johann. Petr. Maffeus rerum Indicarum libro vi. pag. 108. & lib. xii. pag. 242. Ludov. Almeyd. in eodem opere lib. iv. select. epist.

Petr. Jarric. tom. III. lib. ii. cap. xvii.

Matth. Ric. de Christian. exped. apud Sinas, lib. i. cap. vii.

L. Baptista Ramusio, le Navigazioni e viaggi nelli quali si Contienne la Descrittione dell' Africa, del paese del prete Joanni del mar Rosso, Calicut, isole Moluchese la Navigazione interno il mondo. Venet. 1550. 1563. 1588. 3 Vol. Fol. Vol. III. p. 15.

Translation in English of Giovanni Botaro¹, an eminent Italian author. Printed in 1590.

¹ This writer observes, that the Chinese have also an herb, out of which they press a delicate juice, which serves them for a drink instead of wine: it also preserves their health, and frees them from all those evils "that the immediate use of wine doth breed unto us." By the use the modern Chinese make of Tea (who are a sober people) it can be nothing else. Anderlon's Chronolog. Deduction of Commerce.

Texeira,

Texeira, Relaciones del origen de los Reyes de Persia y de Hormuz. Amberes, 1610. p. 19.

Fischer's Sibirische Geschichte, 1639. Vol. II. p. 694.

Alois Frois, in Relat. Japonicâ.

Nicol. Trigaut. de Regno Chinæ, Cap. III. p. 34.

Linscot. de Insulâ Japonicâ, Cap. xxvi. p. 35. Ha. 1599. Fol. et Belgicæ Amst. 1644. Fol.

Bernhard. Varen. in descriptione Regni Japoniæ, Cap. xxiii. p. 161.

Johan. Bauhin. Histor. Univerf. Plantarum, 1597. Tom. III. lib. xxvii. cap. i. p. 5. b.

Alex. Rhod. Sommaire des divers voyages et missions Apostoliques du R. P. Alexandre de Rhodes de la compagnie de Jesus à la Chine, et autres Royaumes de l'orient, avec son retour de la Chine, à Rome; depuis l'année, 1618, jusques à l'année, 1653, p. 25.

Dionysii Jencquet, Stirpium aliquot paulò obscurius officinis, Arabibus aliisque denominatarum, per Casp. Bauhin. explicat. p. 25. Ed. 1612.

Simon Pauli, Quadripartitum Botanicum, classe secundâ, pag. 44. Ibidemque classè tertiâ, pag. 493.

Simon Pauli, Comment. de abusu Tobaci et herbæ Theæ, Rostock. 1635. 4to. Straßburgh. 1665. Argent. 1665. 4to. Francf. 1708. 4to. London, 1746. 8vo.

Wilhelm. Leyl. epistol. apud Simon Pauli in Comment. de abusu Tobaci, &c. p. 15. b.

Jacob. Bontii de Medicina Indorum, lib. iv. Leid. 1642. 12mo. et cum Pisone, Leid. 1658. Fol. Belgicæ, Oost en West-indische waarande, Amstel. 1694. 8vo. Anglicè. An Account

of the Diseases, Natural History, and Medicines, of the East Indies: London, 1769, 8vo.

Beginne ende voortgang van de Vereenighde Neederlande, 1646, 2 vol. et sub titulo, Recueil des Voyages faits pour L'Etablissement de la Campagne des Indes Orientales, Amstel. 1702. 12mo. 10 Vol.

Joann. Nieuzofs, Gezantschap an den Keizer van China, p. 122. a.

Erasmi Franciff. Ost-und West-Indischer wie auch Sinesischer Luft-und Stats-Garten, p. 291.

Nicol. Tulp, Observ. Medic. lib. iv. cap. lx. p. 380. Leidæ, 1641. 8vo.

Adam. Olearii, Persionische Reise-Beschreibung, 1633. p. 325. lib. v. cap. xvii. p. 599. Fol. 1656. Hamburg. 1698. Amstel. 1666. 4to.

Johan. Albert. von Mandelslo, Morgenlandische Reise-Beschreibung, lib. i. cap. xi. p. 39. Edit. 1656.

Olai Wormii, Mus. lib. ii. cap. xiv. p. 165. Hafn. 1642. 4to.

Gulielm. Piso, in Itinere Brasilico, Cliviæ, 1661. 8vo.

Athanas. Kircher, Chin. Illustrat. Ed. 1658. cum figura Fruct. Theæ.

Simon de Molinariis, Ambrosia Asiatica, five de virtute et usu Theæ, Genuæ, 1672. 12mo.

De Comiers, le bon usage du Thee, du Coffee, et du Chocolat, pour la Preservation et pour la Guerison des Malades, Paris, 1687. 12mo.

Marcus Mappus, de Thea, Coffea, et Chocolata. Argent. 1675 et 1695. 4to.

Oliv.

Oliv. Dappers, Beschryvinge des Keizerryts van Taifing or Sina, Amstel. 1680. Fol. p. 226.

Nic. Blegny, du bon usage du Thé, du Caffé, et du Chocolat. Lyon. 1680. 12mo. Abrégé du traité du Caffé, &c. Lyon. 1687. 12mo.

John Overton, Voyage to Surat, London, 1696. 8vo.

John Overton, Essay upon the Nature and Qualities of Tea, London, 1735. 8vo.

Paul Sylvestre du Four, de l'usage du Thé, Caphè, et Chocolat. London, 1671. et auctius, 1684. 1686. 12mo. Hunc libellum Jacobus Sponius Latine reddidit, et edidit cum titulo, Tr. nov. de potu Theæ, Coffeæ, Chocolatæ, Paris. 1685. 12mo. cum figuris.

Pechlin, Theophilus Bibaculus, Franckfort, 1684. 4to.

Franc. Mich. Disdier, Beschreibung des Caffée, The, Chocolate, und Tobaks, Hamb. 1684. 12mo.

Bern. Albini, Disputatio de Thea, Francf. Viadr. 1684. 4to.

Arnold. Montan. Gudenfwaerdige Gefandtchappen aen de Kaifaren van Japan. 1684.

J. Chamberlane, manner of making Tea, Coffee, and Chocolate, Lond. 1685. 12mo. p. 46.

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SECTION

SECTION IV.

ORIGIN OF TEA.

As China and Japan¹ are the only countries known to us, where the Tea shrub is cultivated for use, we may reasonably conclude, that it is indigenous to one of them, if not to both. What motive first led the natives to use an infusion of Tea in the present manner is uncertain; but probably in order to correct the water, which is said to be brackish and ill-tasted in many parts of those countries². Of the good effects of Tea in such cases, we have a remarkable proof in Kalm's journey through North America, which his translator gives us in the following words:

"Tea is differently esteemed by different people, and I think we *would* be as well, and our purses much better, if we were without tea and coffee. However, I must be impartial, and mention in praise of Tea, that if it be useful, it must certainly be so in summer, on such journies as mine, through a

¹ Some authors add Siam also. Vid. Sim. Pauli Comment. et Will. Leyl. epist. apud Simon. Pauli comment. Nich. Tulpius observ. Medicin. lib. iv. cap. lx. Lond. 1641.

² Le Compte's Journey through the Empire of China, p. 112. Staunton's Embassy, Vol. II. p. 96. and particularly p. 68.

desart country, where one cannot carry wine, or other liquors, and where the water is generally unfit for use, as being full of insects. In such cases it is very pleasant when boiled, and Tea is drank with it; and I cannot sufficiently describe the fine taste it has in such circumstances. It relieves a weary traveller more than can be imagined, as I have myself experienced, together with a great many others, who have travelled through the desart forests of America: on such journies Tea is found to be almost as necessary as victuals¹."

About the year 1600, Texeira, a Spaniard, saw the dried Tea leaves in Malacca, where he was informed that the Chinese prepared a drink from this vegetable; and, in 1633, Olearius found this practice prevalent among the Persians, who procured the plant under the name of Cha orchia, from China, by means of the Usbeck Tartars. In 1639, Starkaw, the Russian Ambassador, at the Court of the Mogul, Chau Altyn, partook of the infusion of Tea; and, at his departure, was offered a quantity of it, as a present for the Czar Michael Romanof,

¹ Kalm's Travels into North America, Vol. II. p. 314. The following note is added by the ingenious English translator in the 2d edition, Vol. II. p. 141:

"On my travels through the desart plains, beyond the river Volga, I have had several opportunities of making the same observations on Tea; and every traveller in the same circumstances will readily allow them to be very just." Forster, *ibid*.

See Brydone's Tour through Sicily and Malta, Let. 6. In letter 20, he says, "We have travelled all night on mules; and arrived here about ten o'clock, overcome with sleep and fatigue. We have just had an excellent dish of tea, which never fails to cure me of both; and I am now as fresh as when we set out." Captain Forrest, in his Voyage to New Guinea, relates several instances wherein the sailors experienced the exhilarating effects of this infusion.

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which the Ambaffador refufed, as being an article for which he had no ufe ¹.

This article was firft introduced into Europe by the Dutch Eaft India Company, very early in the laft century; and a quantity of it was brought over from Holland about the year 1666², by Lord Arlington and Lord Offory. In confequence of this, Tea foon became known amongft people of fafhion, and its ufe, by degrees, fince that period, has become general.

It is, however, certain, that before this time, drinking Tea, even in public coffee-houfes, was not uncommon; for, in 1660, a duty of four-pence per gallon was laid on the liquor made and fold in all coffee-houfes ³.

So

¹ Fischer's *Librifche Gefchichte*, Vol. II. p. 694—697. Monthly Magazine, Vol. VI. p. 60.

² Hanway's *Journal of Eight Days Journey*, Vol. II. p. 21. The fame author obferves, that Tea fold at this time for fixty fhillings a pound. Anderfon, in his "Chronological Deduction of Commerce," remarks, that the firft European author that mentions Tea wrote in the year 1590. However, by the preceding catalogue, it will appear, that this fubject had been confidered much earlier.

In Renaudot's *anciennes Relations*, Paris, 1718, p. 31, mention is made of two Arabian travellers who vifited China about the year 850; and related, that the inhabitants of that empire had a medicinal beverage, named chah or fah, which was prepared by pouring boiling water on the dried leaves of a certain herb, which infufion was reckoned an efficacious remedy in various difeafes.

³ By an act made this year, the duties of Excife on malt liquor, cyder, perry, mead, fpirits, or ftrong waters, coffee, tea, sherbet, and chocolate, were fettled on the King during his life. Then it was that Coffee, Tea, and Chocolate, were firft mentioned in the ftatute book. Noorthouck, in his *Hiftory of London*, remarks, that King Charles II. iffued a proclamation for shutting up the coffee-houfes, &c. about a month after he had dined with the Corporation of London, at Guildhall, on their Lord-Mayor's day, Oct. 29, 1675. At this feaft the King afforded

So early as 1678, Cornelius Bontekoe, a Dutch physician, published a treatise, in his own language, on Tea, Coffee, and Chocolate¹. In this he shews himself a very zealous advocate for Tea, and denies the possibility of its injuring the stomach, although taken to the greatest excess, as far as one or two hundred cups in a day. To what motive we are to impute the partiality of Dr. Bontekoe, is uncertain at this period; but as he was first physician to the Elector of Brandenburg, and probably of considerable eminence and character, his eulogium might

for the Citizens abundant matter for animadversion, in which they indulged themselves so much to his dissatisfaction, and that of his *cabal* ministry, that a proclamation was issued December 20, for shutting up and suppressing all coffee-houses; "because, in such houses, and by occasion of the meeting of disaffected persons in them, divers false, malicious, and scandalous reports were devised and read abroad, to the defamation of his Majesty's government, and to the disturbance of the quiet and peace of the realm." The opinions of the judges were taken on this great point of stopping people's tongues, when they sagely resolved, "that retailing of Coffee and Tea might be an innocent trade; but as it was used to nourish sedition, spread lies, and scandalize great men, it might also be a common nuisance." In short, on a petition of the merchants and retailers of Coffee and Tea, permission was granted to keep open the coffee-houses until the 24th of June next, under an admonition, that the masters of them should prevent all scandalous papers, books, and libels, from being read in them; and hinder every person from declaring, uttering, or divulging all manner of false or scandalous reports against government or the ministers thereof. Thus, by a refinement of policy, the simple manufacturer of a dish of Coffee or Tea was constituted licenser of books, corrector of manners, and arbiter of the truth or falsehood of political intelligence over every company he entertained! And here the matter ended. Chap. 15.

In May 1784 an act was passed, called the Commutation Act, "for repealing the several duties on Tea, and for granting to his Majesty other duties in lieu thereof; and also several duties on inhabited houses."

¹ The second edition was published under the title of *Van The, Coffy, en Chocolate*. Haag. 1685. 8vo. The late Baron Van Swieten censures this physician for his remarkable bias in favour of this exotic. *Comment. Vol. V. p. 587*. *Est modus in rebus*, may be as aptly applied to Dr. Bontekoe as to Dr. Duncan.

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tend greatly to promote its use : however, we find its importation and consumption were daily augmented ; and, before the conclusion of the last century, it became generally known among the common people in England.

It is foreign to my subject, or it would perhaps afford to a speculative mind no inconsiderable satisfaction, to trace the consumption from its first entrance at the Custom-house to the present amazing imports. At this time upwards of twenty-three millions of pounds are annually allowed for home consumption ; and the East India Company have generally in their warehouses a supply at least for one year.

The following account of the importation of Tea, from 1776 to 1795, as related by Sir George Staunton (Vol. II. p. 624), may be satisfactory to the Reader :

An Account of the Quantities of Teas exported from China, in English and Foreign Ships, in each Year from 1776 to 1795, distinguishing each Year.

(24)

	1776.	Ships.	1777.	Ships.	1778.	Ships.	1779.	Ships.	1780.	Ships.	1781.	Ships.	1782.	Ships.	1783.	Ships.	1784.	Ships.	1785.
By Swedes	-	-	2	2	2	2	3,388,000	2	2,626,400	3	4,108,900	2	3,267,300	3	4,365,600	3	4,878,000	4	3,158,000
Danes	-	-	2	2	2	2	2,698,300	1	3,983,600	2	2,341,400	3	4,118,500	4	5,477,200	3	3,204,000	4	5,334,000
Dutch	-	-	3	4	4	4	4,695,700	4	4,687,800	4	4,957,600	-	-	-	-	-	-	-	4,900,000
French	-	-	3	7	7	7	3,657,500	4	1,375,900	1	-	-	-	-	-	8	4,231,200	4	4,900,000
Imperial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	3,428,400	-	-
Hungarian	-	-	-	-	-	-	-	-	-	-	3,177,700	-	-	-	-	-	-	-	-
Tufcan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portuguese	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,109,000
Prussian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	880,100
Spanish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Foreign	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
English private	-	-	12	13	13	13	13,302,700	11	12,673,700	10	11,725,600	5	7,385,800	16	14,630,200	11	19,072,300	18	17,531,100
Trade included	-	-	5	8	9	7	6,392,788	7	4,372,021	-	11,592,819	9	6,857,731	6	4,138,205	13	9,916,760	14	10,583,628
	-	-	17	21	24	18	19,695,488	18	15,674,321	10	23,318,419	14	14,243,531	22	18,768,405	24	28,989,060	32	28,114,728
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
By Swedes	-	-	4	1	2	2	2,890,000	2	2,580,000	-	-	1	1,591,330	1	1,539,730	1	756,130	-	-
Danes	-	-	3	2	2	2	2,664,000	2	2,496,800	1	520,700	-	-	1	852,670	-	-	1	24,670
Dutch	-	-	-	5	5	5	5,794,000	4	4,179,600	5	5,106,900	2	2,051,330	3	2,938,530	2	2,417,200	4	4,096,800
French	-	-	1	3	3	3	1,728,900	1	292,100	1	442,100	4	784,000	2	1,549,670	-	-	-	-
Imperial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungarian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tufcan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portuguese	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American	-	-	1	5	2	4	750,000	4	1,188,800	14	3,093,200	3	1,863,200	6	1,538,400	7	1,974,130	7	1,438,270
Prussian	-	-	-	1	1	1	499,300	-	-	-	745,100	1	5,070	-	-	-	-	-	-
Spanish	-	-	-	-	2	2	-	-	-	-	-	-	-	3	400	-	-	-	-
Genoefe	-	-	-	-	-	-	-	-	-	-	260	-	-	2	578,930	2	289,470	1	17,460
Total Foreign	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
English private	-	-	13	14	15	15	14,328,900	15	11,664,700	21	30,346,600	12	6,394,930	19	9,403,200	12	5,436,030	14	5,577,200
Trade included	-	-	18	27	29	27	22,096,703	27	17,991,032	25	22,369,620	11	13,185,467	16	16,005,444	18	20,728,705	21	23,733,810
	-	-	31	41	44	42	36,425,603	42	31,206,445	43	25,404,280	23	19,480,397	35	25,408,614	30	26,165,635	35	29,311,010

* Most of these foreign ships went to China, previous to the Commutation Act, which passed into effect in England in September, 1784.
 † Part of these should have arrived in 1780.

It is probable that the Dutch, as they traded considerably to Japan about the time Tea was introduced into Europe, first brought this article from thence. But now China is the general mart, and the province Fokien, or Fo-chen¹, the principal country, that supplies both the Empire and Europe with this commodity.

¹ In this province, this shrub is called Thee, or Te; and as the Europeans first landed here, that dialect has been preserved. *Le Compte's Journey through the Empire of China*, p. 227. *Du Halde's History of China*, Vol. IV. p. 21.

SECTION V.

SOIL AND CULTURE.

To the ingenious Kämpfer we are principally indebted for any accurate information respecting the culture of the Tea Tree; and, as his account was composed during his residence at Japan, greater credit is certainly due to it. We shall give what he says upon this subject, and then state the accounts we have been able to collect of the Chinese method.

Kämpfer tells us, that no particular gardens or fields are allotted for this plant, but that it is cultivated round the borders of rice and corn fields, without any regard to the soil. Any number of the seeds, as they are contained in their seed vessels, not usually less than six, or exceeding twelve or fifteen, are promiscuously put into one hole, made four or five inches deep in the ground, at certain distances from each other. The seeds contain a large proportion of oil, which is soon liable to turn rancid; hence scarce a fifth part of them germinate, and this makes it necessary to plant so many together.

The seeds vegetate without any other care; but the more industrious annually remove the weeds, and manure the land. The leaves which succeed are not fit to be plucked before the
third

third year's growth, at which period they are plentiful, and in their prime.

In about seven years the shrub rises to a man's height ; but as it then bears few leaves, and grows slowly, it is cut down to the stem, which occasions such an exuberance of fresh shoots and leaves the succeeding summer, as abundantly compensates the owners for their former loss and trouble. Some defer cutting them till they are of ten years growth.

So far as can be gathered from authors and travellers of credit, this shrub is cultivated and prepared in China, in a similar manner to what is practised in Japan ; but as the Chinese export considerable quantities of Tea, they plant whole fields with it, to supply foreign markets, as well as for home consumption.

The Tea-tree delights particularly in vallies ; or on the declivities of hills, and upon the banks of rivers, where it enjoys a southern exposure to the sun ; though it endures considerable variations of heat and cold, as it flourishes in the northern clime of Pekin, as well as about Canton¹, the former of

¹ The best Tea grows in a mild temperate climate ; the country about Nankin producing better Tea than either Pekin or Canton, between which places it is situated. It has been asserted, that no Tea-plants have yet died in England through excess of cold ; but the contrary, I know, has happened. The plant in the Princess Dowager's garden at Kew flourished under glass windows, with the natural heat of the sun, as now do those at Mile-end, in the possession of the intelligent Botanist J. Gordon. The Tea-plant belonging to Dr. Fothergill thrives in his garden at Upton, exposed to the open air, and the plant introduced into the Botanic garden at Chelsea had one leaf which measured five inches and a quarter in length.

which is in the same latitude with Rome; and from meteorological observations it appears, that the degree of cold about Pekin is as severe in winter, as in some of the northern parts of Europe¹.

¹ Du Halde and other authors have observed, that the degree of cold in some parts of China is very severe in winter. In the inland parts of North America, and on extensive continents, the degrees of heat and cold are found to be much more violent than in islands or places bordering on the sea in the same latitude, as the air that blows over the sea is liable to less variation in these respects, than that which blows over large tracts of land.

SECTION

SECTION VI.

GATHERING THE LEAVES.

AT the proper seasons for gathering the Tea leaves, labourers are hired, who are very quick in plucking them, being accustomed to follow this employment as a means of their livelihood. They do not pluck them by handfuls, but carefully one by one; and, tedious as this may appear, each person is able to collect from four to ten or fifteen pounds in one day. The different periods in which the leaves are usually gathered, are particularly described by Kæmpfer¹.

I. The first commences at the middle of the last moon, immediately preceding the vernal equinox, which is the first month of the Japanese year, and falls about the latter end of our February, or beginning of March. The leaves collected at this time are called Ficki Tsjaa, or powdered Tea, because they are pulverised and sipped in hot water (SECT. IX. 1). These tender young leaves are but a few days old when they are plucked; and, because of their scarcity and price, are disposed of to princes and rich people only; and hence this kind is called Imperial Tea.

¹ Amœnitat. Exotic. p. 618, et seq. History of Japan. Appendix to Vol. II. p. 6, et seq.

A similar

A fimilar fort is also called Udfi Tsjaa, and Tacke Sacki Tsjaa, from the particular places where it grows. The peculiar care and nicety observed in gathering the Tea leaves in these places deserve to be noticed here, and we shall therefore give some account of one of them.

Udfi is a small Japanese town, bordering on the sea, and not far distant from the city of Miaco. In the district of this little town, is a pleasant mountain of the same name, which is thought to possess the most favourable soil and climate for the culture of Tea, on which account it is inclosed with hedges, and likewise surrounded with a broad ditch for farther security. The trees are planted upon this mountain in such a manner as to form regular rows, with intervening walks. Persons are appointed to superintend the place, and preserve the leaves from injury or dirt. The labourers who are to gather them, for some weeks before they begin, abstain from every kind of gross food, or whatever might endanger communicating any ill flavour to the leaves; they pluck them also with the same delicacy, having on a thin pair of gloves¹. This sort of imperial or bloom Tea² is afterwards prepared, and then escorted by the chief surveyor of the works of this mountain, with a strong guard, and a numerous retinue, to the emperor's court, for the use of the Imperial family.

¹ The same cautions are not used previous to collecting other sorts of Tea.

² This cannot be the sort to which also the Dutch give that name, as it is sold upon the spot to the princes of the country, for much more than the common bloom Tea is sold for in Europe. Kämpfer, *Amœnit. Exotic.* p. 617. *History of Japan*, Appendix, p. 9. Neumann's *Chemistry* by Lewis, p. 373.

II. The second gathering is made in the second Japanese month, about the latter end of March, or beginning of April. Some of the leaves at this period are come to perfection, others not arrived at their full growth; both however are promiscuously gathered, and are afterwards sorted into different classes, according to their age, size, and quality; the youngest particularly are carefully separated, and are often sold for the first gathering or Imperial Tea. The tea collected at this time is called Tootsjaa, or Chinese Tea, because it is infused, and drank after the Chinese manner (SECT. IX. 1.) It is divided by the Tea-dealers and merchants into four kinds, distinguished by as many names.

III. The third and last gathering is made in the third Japanese month, which falls about our June, when the leaves are very plentiful and full grown. This kind of Tea, called Ban Tsjaa, is the coarsest, and is chiefly drank by the lower class of people (SECT. IX. III.)

Some confine themselves to two gatherings in the year, their first and second answering the preceding second and third. Others have only one general gathering¹, which they make also at the same time with the preceding third or last gathering: however, the leaves collected at each time, are respectively separated into different sortments.

The Chinese collect the Tea at certain seasons², but whether the same as in Japan, we are not so well informed, most pro-

¹ In this case the under leaves, which are harsh and less succulent, are probably left upon the trees. See Eckeberg's Chinese Husbandry in Osbeck's Voyage, Vol. II. p. 303.

² Du Halde's History of China, Vol. IV. p. 21.

bably, however, the Tea harvest is nearly at the same periods, as the natives have frequent intercourse, and their commercial concerns with each other are very extensive¹.

¹ Du Halde, Vol. II. p. 300. Kämpfer observes, in his History of Japan, that the trade between these nations has continued from remotest antiquity; formerly the Chinese had a much more general intercourse with the Japanese than they have at present; the affinity in the religion, customs, books, learned languages, arts and sciences of the Chinese with the latter, procured them a free toleration in Japan. History of Japan, Vol. I. p. 374.

SECTION

S E C T I O N VII.

 METHOD OF CURING OR PREPARING TEA
IN JAPAN.

PUBLIC buildings, or drying houses, are erected for curing Tea, and so regulated, that every person, who either has not suitable conveniences, or wants the requisite skill, may bring his leaves at any time to be dried. These buildings contain from five to ten or twenty small furnaces, about three feet high, each having at the top a large flat iron pan¹, either high, square, or round, bent up a little on that side which is over the mouth of the furnace, which at once secures the operator from the heat of the furnace, and prevents the leaves from falling off.

There is also a long low table covered with matts, on which the leaves are laid, and rolled by workmen, who sit round it. The iron pan being heated to a certain degree by a little fire made in the furnace underneath, a few pounds of the fresh-gathered leaves are put upon the pan; the fresh and juicy leaves crack when they touch the pan, and it is the business of the

¹ Some writers mention copper pans, and suppose that the green efflorescence which appears on copper may increase the verdure of green Tea; but, from experiments that I made, there does not appear any foundation for this supposition. See SECT. VIII.

operator to shift them as quick as possible with his bare hands, till they grow too hot to be easily endured. At this instant he takes off the leaves, with a kind of shovel resembling a fan, and pours them on the matts to the rollers, who, taking small quantities at a time, roll them in the palms of their hands in one direction, while others are fanning them, that they may cool the more speedily, and retain their curl the longer¹.

This process is repeated two or three times, or oftener, before the Tea is put in the stores, in order that all the moisture of the leaves may be thoroughly dissipated, and their curl more completely preserved. On every repetition the pan is less heated, and the operation performed more slowly and cautiously². The Tea is then separated into the different kinds, and deposited in the store for domestic use or exportation.

As the leaves of the Ficki Tea (SECT. VI. and IX. 11.), are usually reduced into a powder before they are drank, they should be roasted to a greater degree of dryness. As some of these are gathered when very young, tender, and small, they are first immersed in hot water, taken out immediately, and dried without being rolled at all.

Country people cure their leaves in earthen kettles³, which answer every necessary purpose at less trouble and expence, whereby they are enabled to sell them cheaper.

¹ Sir G. Staunton, Embassy to China, observes that the Tea leaves are each rolled separately between the fingers of a female, Vol. II. p. 465.

² This should be carefully attended to, in curing the fine green Teas, to preserve their verdure and perishable flavour. See SECT. VIII. ad finem.

³ This is also done in China. See Eckeberg's Chinese Husbandry in Osbeck's Voyage, Vol. II. p. 303.

To complete the preparation, after the Tea has been kept for some months, it must be taken out of the vessels, in which it had been contained, and dried again over a very gentle fire, that it may be deprived of any humidity which remained, or might since have been contracted.

The common Tea is kept in earthen pots with narrow mouths; but the best sort of Tea used by the Emperor and nobility is put in porcellane or China vessels. The Bantsjaa, or coarsest Tea, is kept by the country people in straw baskets, made in the shape of barrels, which they place under the roofs of their houses, near the hole that lets out the smoke, and imagine that this situation does not injure the Tea.

This is the relation we have from Kämpfer of the method in which the Japanese collected and cured their Tea. In the accounts of China, authors have in general treated very slightly of the cultivation and preparation of Tea. Le Compte¹ indeed observes, that to have good Tea, the leaves should be gathered while they are small, tender, and juicy. They begin commonly to gather them in the months of March and April, according as the season is forward; they afterwards expose them to the steam of boiling water to soften them; and, as soon as they are penetrated by it, they draw them over copper plates².

¹ Journey through the Empire of China.

² Upon this subject, see SECT. VII. and VIII. It may be doubted also whether the conclusion of Le Compte's relation is not erroneous, as it is improbable that any leaves should of themselves take so perfect a curl as that in which Tea is brought into Europe. No materials are used but iron and earthen for drying Tea, as observed in note ¹, p. 33.

kept on the fire, which dries them by degrees, till they grow brown, and roll up of themselves in that manner we see them.

However, it is certain, from the Chinese drawings, which exhibit a faithful picture, though rudely executed, of the whole process from beginning to end, that the Tea tree grows for the most part in hilly countries, on their rocky summits, and steep declivities; and it would seem by the pains the Chinese are at, in making paths, and fixing a kind of scaffolds, to assist them, that these places afford the finest Tea. It appears from these drawings, that the trees in general are not much taller than man's height: The gatherers of the leaves are never represented but on the ground; they make use of hooked sticks indeed, but these seem rather intended to draw the branches towards them, when they hang over brooks, rivers, or from places difficult of access, than to bend down the tops or upper branches of the trees on plain ground.

They pick the leaves as soon as gathered into different sorts, and cure them nearly in the manner described to be practised by the Japanese. They build a range of stoves, like those in a chemist's laboratory, or great kitchen, where the men work, and curl the leaves in the pans themselves. It seems also that they repeat the drying. They dry it likewise, after having spread it abroad in shallow baskets, in the sun; and, by the means of sieves, separate the larger from the smaller leaves, and these again from the dust.

The Chinese put the finer kinds of Tea into conic vessels, like sugar loaves, made of tutenaque, tin, or lead, covered with

with neat matting of bamboo ; or in square wooden boxes lined with thin lead, dry leaves and paper, in which manner it is exported to foreign countries. The common Tea is put into baskets, out of which it is emptied, and packed up in boxes or chests as soon as it is sold to the Europeans¹.

One thing should be mentioned to their credit ; when their harvest of Tea is finished, each family fails not to testify, by some religious rite, their gratitude to the Giver.

¹ There are several disgusting circumstances attending the preparation of Tea. Osbeck says, the Chinese servants tread the Tea into the chests with their naked feet. Voyage to China, Vol. I. p. 252. Sir George Staunton makes a similar remark, Vol. II. p. 466.

SECTION VIII.

VARIETIES OF TEA.

IT has been already observed (SECT. VI.) that many different sortments of Tea are made during the times of collecting the leaves; and these are multiplied according to the goodness of their preparation, by which the varieties of Tea may be considerably augmented¹. The distinctions with us are much more limited, being generally confined to three principal kinds of green, and five of bohea.

I. Those of the former are,

I. Bing, imperial, or bloom Tea, with a large loose leaf, of a light green colour, and faint delicate smell.

II. Hy-tiann, hi-kiong, or hayfluen, known to us by the name of Hyson Tea, so called after an East-India merchant of that name, who first imported it into Europe. The leaves are closely curled and small, of a green colour, verging towards blue².

¹ Du Halde's History of China, Vol. IV. p. 21. Osbeck's Voyage to China, Vol. I p. 246, et seq.

² The Chinese have another kind of Hyson Tea, which they call Hyson-utchin, with narrow short leaves. Another sort of green Tea they name Go-bé, the leaves of which are narrow and long.

III. Singlo,

III. Singlo, or songlo, which name it receives, like many other Teas, from the place where it is cultivated.

II. The bohea Teas.

i. Soochuen, or futchong, by the Chinese called faatyang, and fact-chaon, or fu-tyann, is a superior kind of long-fou Tea. It imparts a yellowish green colour, by infusion¹.

ii. Camho, or founlo, called after the name of the place where it is gathered; a fragrant Tea with a violet smell. Its infusion is pale.

iii. Cong-fou, congo, or bong-fo. This has a larger leaf than the following, and the infusion is a little deeper coloured. It resembles the common bohea in the colour of the leaf².

iv. Pekao, pecko, or pekoe, by the Chinese called back-ho, or pack-ho. It is known by having the appearance of small white flowers intermixed with it.

v. Common bohea, called moji by the Chinese, consists of leaves of one colour³.

¹ Padre futchong has a finer taste and smell than the common futchong. The leaves are large and yellowish, not rolled up, but expanded, and packed up in papers of half a pound each. It is generally conveyed by caravans into Russia. Without much care, it will be injured at sea. This Tea is rarely to be met with in England.

² There is a sort of Tea called lin-kisam, with narrow rough leaves. It is seldom used alone, but mixed with other kinds. By adding it to congo, the Chinese sometimes make a kind of pekoe Tea. Osbeck's Voyage to China, Vol. I. p. 249.

³ The best bohea Tea is named by the Chinese tao-kyonn. An inferior kind is called An-kai, from a place of that name. In the district of Honam near Canton, the Tea is very coarse, the leaves yellow or brownish, and the taste the least agreeable of any. By the Chinese it is named Honam té, or Kuli té.

III. There

III. There has also been imported a sort of Tea, in balls, of a different form from any of the preceding, made up into cakes or balls of different sizes, by the Chinese called Poncul-tcha.

I. The largest kind of this cake Tea, that I have seen, weighs about two ounces; the infusion and taste resemble those of good bohea Tea.

II. Another sort, which is a kind of green Tea, is called tío tè: it is rolled up in a round shape, about the size of peas, and sometimes as large as a nutmeg.

III. The smallest kind done in this form is called gun-powder Tea.

IV. Sometimes the succulent Tea leaves are twisted into cords like packthread, about an inch and a half or two inches long; and usually three of these are tied together at the ends by different-coloured silk threads. These resemble little bavons, one of which might suffice for tea for one person. I have seen them both of green and bohea Tea.

The Chinese likewise prepare an extract from Tea, which they exhibit as a medicine dissolved in a large quantity of water, and ascribe to it many powerful effects in fevers and other disorders, when they wish to procure a plentiful sweat. This extract is sometimes formed into small cakes, not much broader than a fixpence, sometimes into rolls of a considerable size.

That there is only one species of Tea tree, has already been mentioned (SECT. I.) from which all the varieties of Tea are procured.

BOHEA TEA.



procured. Kæmpfer, who is of this opinion, attributes the difference of Teas to the soil and culture of the plant, age of the leaves when gathered, and method of curing them¹. These circumstances will severally have more or less influence; though whether they account for all the varieties observable in Tea may be doubted. The bohea Tea trees, now introduced into many botanic gardens near London, exhibit very obvious varieties. The leaves are of a deeper green colour, and not so deeply serrated; the stalk is usually of a darker colour, and the whole shrub appears less luxuriant ~~than~~ ^{As} that represented in the annexed plate of the bohea Tea; but the botanical characters are the same.

I infused all the sorts of green and bohea Teas I could procure, and expanded the different leaves on paper, to compare their respective size and texture, intending thereby to discover their age. I found the leaves of green Tea as large as those of bohea, and nearly as fibrous; which would lead one to suspect, that the difference does not so much depend upon the age, as upon the other circumstances.

We know that in Europe the soil, culture, and exposure, have great influence on all kinds of vegetables: but the same species of plants differ in the same province, and even in the same district; and in Japan, and particularly along the continent of China, it must be much more considerable, where the air is in some parts very cold, in others moderate, or warm almost to an extreme. I am persuaded that the method of preparation

¹ This renders what has been observed at the conclusion of SECT. I. more probable.

must also have no little influence. I have dried the leaves of some European plants in the manner described (SECT. VI.) which so much resembled the foreign Tea, that the infusion made from them has been seen and drunk without suspicion. In these preparations which I made, some of the leaves retained a perfect curl, and a fine verdure like the best green Tea; and others cured at the same time were more like the bohea¹.

I would not, however, lay too much stress upon the result of a few trials, nor endeavour to preclude further enquiries about a subject which at some future period may prove of more immediate concern to this nation.

We might still try to discover whether other arts, than are yet known here, are not used with Tea before its exportation from China, to produce the difference of colour², and flavour³, peculiar to different sorts. An intelligent friend of mine informs me, that in a set of Chinese drawings, in his possession, representing the whole process of manufacturing Tea, there are in one sheet the figures of several persons apparently separating the

¹ A certain moderate degree of heat preserved the verdure and flavour better than a hasty exsiccation. In the first case, it is necessary to repeat the roasting oftener.

² Infusions of fine bohea Teas do not differ a great deal in colour from those of green. To spirit they equally impart a fine deep green colour.

³ I am informed by intelligent persons, who have resided some time at Canton, that the Tea about that city affords very little smell whilst growing. The same is observed of the Tea plants in England; and also of the dried specimens from China. We are not hence to conclude, that art alone conveys to Teas when cured the smell peculiar to each kind; for our vegetables, grasses for instance, have little or no smell till dried, and made into hay.

different

OLEA FRAGRANS.



J. Miller del. et sc.

different kinds of Tea, and drying it in the sun, with several baskets standing near them filled with a very white substance, and in considerable quantity. To what use this may be applied is uncertain, as well as what the substance is; yet there is no doubt, he thinks, that it is used in the manufacturing of Tea, as the Chinese seldom bring any thing into their pieces but such as relate in some respect to the business before them.

We are better acquainted with a vegetable substance which has been employed by the Asiatics in giving a flavour to Tea. This is the *Olea Fragrans*, whose flowers are frequently to be met with in Teas exported from China: and as the plant is now not unfrequent in the gardens near the metropolis, I am enabled to give an engraving of the plant and its botanical history^{*}.

OLEA FRAGRANS.—Sweet-scented Olive.

Class and Order.

DIANDRIA MONOGYNIA.

Generic Character.

Cor. 4. fida: laciniis subovatis. *Drupe* monosperma.

Corol. 4. cleft: segments somewhat ovate. *Drupe*, one-seeded.

^{*} See Thunberg's *Flora Japonica*, from which work the Botanic History of the *Olea Fragrans* is chiefly taken.

Specific Character and Description

from THUNBERG.

OLEA fragrans foliis lanceo-
latis ferratis, pedunculis latera-
libus aggregatis unifloris. *Thunb.*
Fl. Japon. p. 18, t. 2.

Caulis, arboreus vastus.

Rami et ramuli trichotomi,
obsolete tetragoni, glabri.

Folia decussata, petiolata ob-
longa, acuta, ferrata, margini
subreflexo, parallelo-nervosa, re-
ticulata, glabra, supra saturate
viridia, subtus pallidiora, paten-
tia, in ramulis frequentia, di-
gitalia.

Petoli femiteretes, fulcati,
glabri, semiunguiculares.

Flores in ramulis umbellato-
aggregati, circiter 6 vel 8, pe-
dunculati.

OLIVE sweet-scented with
lanceolate serrated leaves, pe-
duncles lateral, clustered, one-
flowered.

Stem, a vast tree.

Branches both large and small
trichotomous, faintly four-cor-
nered and smooth.

Leaves growing cross-wise on
leaf-stalks, oblong, acute, ser-
rated, edge somewhat turned
back, ribs parallel, reticulated,
smooth above, of a deep green
colour, paler beneath, spread-
ing on the small branches, nu-
merous, about the length of
the finger.

Leaf-stalks, flat on one side,
round on the other, grooved,
smooth, half the length of the
finger nail.

Flower on the small branches
in clustered umbels, about 6 or
8 together, standing on pe-
duncles.

Pedunculi

Pedunculi filiformes, uniflori, glabri, albidii, unguiculares.

Perianthium, 1-Phyllum, minimum, obsolete 4-dentatum, albidum, glabrum.

Corolla, 1-petala, rotata, flavo-alba; *Tubus* subnullus; *Limbus* patens, quadrifidus: laciniae ovatae, obtusae, concavae, crassiusculae.

Filamenta duo, ori tubi inserta, alba, brevissima.

Antherae ovatae, grandiusculae, didymae, flavescentes.

Germen superum, oblongum, glabrum.

Stylus filiformis.

Stigmata simplicia, acuta.

Flower-stalks filiform, one-flowered, smooth, whitish, a finger nail in length.

Perianthium, one-leaved, very minute, faintly four-toothed, whitish and smooth.

Corolla of one petal, wheel-shaped, of a yellowish-white colour; *Tube* scarce any; *Limb* spreading, quadrifid, segments ovate, obtuse, concave, thickish.

Filaments two, inserted into the mouth of the tube, white, very short.

Antherae ovate, somewhat large, double, yellowish.

Germen above, oblong, and smooth.

Style filiform.

Stigmata, simple and pointed.

Sir George Staunton, in his Embassy to China, Vol. II. p. 467, describes another Plant, whose flowers are used for the purpose of scenting Tea. The flower resembles the dog-rose, and the leaves those of Tea; hence the Chinese call it Chawhaw, or Flower of Tea. A Plate of this Plant is annexed, with the following description, which this very accurate and learned

learned traveller has obligingly permitted me to introduce here.

“ A Plant very like the Tea flourished at this time on the sides and the very tops of mountains, where the soil consisted of little more than fragments of stone crumbled into a sort of coarse earth by the joint action of the sun and rain. The Chinese call this plant Cha-whaw, or Flower of Tea, on account of the resemblance of one to the other; and because its petals, as well as the entire flowers of the Arabian jessamine, are sometimes mixed among the Teas, in order to increase their fragrance.

“ This plant, the Cha-whaw, is the *Camellia Sasanqua* of the botanists, and yields a nut, from whence is expressed an esculent oil equal to the best which comes from Florence. It is cultivated on this account in vast abundance; and is particularly valuable, from the facility of its culture, in situations fit for little else.” It is delineated on the opposite page.

As green Tea is by some suspected to have been cured on copper, they have attributed the verdure to be derived from that metal (SECT. VII.); but, if there were any foundation for this supposition, the volatile alkali, mixed with an infusion of such Tea, would detect the least portion of copper, by turning the infusion blue¹.

¹ The hundredth part of a grain of copper, dissolved in a pint of liquor, strikes a sensible blue with volatile alkalies. Neumann's Chemistry, by Lewis, p. 62. The finest imperial and bloom Teas shewed no sign of the presence of this metal by experiment.

Others



Camellia Sasanqua

There have, with the progress, increased the number of
your opponents, and the opposition, which is now more
well known, has the same effect, and the same result.
From the time when we had a deep party system,
it is not more probable, that there will be a general
agreement, but it is not less so.

I am, Sir, your obedient servant,
J. M. Smith
P. S. I have the honor to acknowledge the receipt of your letter of the 10th inst., and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

SECTION

Others have, with less propriety, attributed the verdure to green copperas¹; but this ingredient, which is only salt of iron, would immediately turn the leaves black, and the infusion made from the Tea would be of a deep purple colour².

Is it not more probable, that some green dye, prepared from vegetable substances, is used for the colouring?

¹ See Short on Tea, p. 16. Boerhaave attributed the verdure of green Tea to this substance.

² "It is confidently said in the country, that no plates of copper are ever employed for that purpose. Indeed, scarcely any utensil used in China is of that metal, the chief application of which is for coin. The earthen or iron plates are placed over a charcoal fire, which draws all remaining moisture from the leaves, rendering them dry and crisp." Sir G. Staunton's Embassy, Vol. II. p. 465.

SECTION IX.

DRINKING OF TEA.

NEITHER the Chinese, nor natives of Japan, ever use Tea before it has been kept at least a year; because when fresh it is said to prove narcotic, and to disorder the senses¹. The former pour hot water on the Tea, and draw off the infusion in the same manner as is now practised in Europe; but they drink it simply without the addition of sugar or milk². The Japanese reduce the Tea into a fine powder, by grinding the leaves in a hand-mill; they then mix them with hot water into a thin pulp, in which form it is sipped³, particularly by the nobility and rich people. It is made and served up to company in the following manner: the Tea-table furniture, with the powdered Tea inclosed in a box, are set before the company, and the cups are then filled with hot water, and as much of the powder as might lie on the point of a moderate-sized knife is taken out of the box, put into each cup, and then stirred and mixed together with a curious denticulated instru-

¹ Kæmpfer, Amœnit. Exot. p. 625. History of Japan, Vol. II. App. p. 10. 16.

² Osbeck's Voyage to China, Vol. I. p. 299.

³ This is called koitsjaa, that is, thick Tea, to distinguish it from that made by infusion.

ment till the liquor foams, in which state it is presented to the company, and sipped while warm¹. From what Du Halde relates, this method is not peculiar to the Japanese, but is also used in some provinces of China².

The common people, who have a coarser Tea (SECT. VI. III.) boil it for some time in water, and make use of the liquor for common drink. Early in the morning the kettle, filled with water, is regularly hung over the fire for this purpose, and the Tea is either put into the kettle inclosed in a bag, or, by means of a basket of a proper size, pressed to the bottom of the vessel, that there may not be any hindrance in drawing off the water. The Bantsjaa Tea (SECT. VI. III.) only is used in this manner, whose virtues, being more fixed, would not be so fully extracted by infusion.

And indeed Tea is the common beverage of all the labouring people in China: one scarcely ever sees them represented at work of any kind, but the Tea pot and Tea cup appear as their accompaniments. Reapers, threshers, and all who work out of doors, as well as within, have these attendants³.

To make Tea, and to serve it in a genteel and graceful manner, is an accomplishment, in which people of both sexes in Japan are instructed by masters, in the same manner as Europeans are in dancing, and other branches of polite education.

¹ An inferior kind of Tea is infused, and drank in the Chinese manner. SECT. VI. II. and SECT. IX. I.

² History of China, Vol. IV. p. 22.

³ In public roads, and in all places of much resort in Japan, and even in the midst of fields and frequented woods, Tea booths are erected; as most travellers drink scarcely any thing else upon the road. Kämpfer's History of Japan, by Scheuchzer, Fol. Vol. II. p. 428.

SECTION X.

S U C C E D A N E A.

CURIOSITY and interest would mutually induce the Europeans to make the most diligent enquiries in order to discover the real Tea shrub, or a substitute in some other vegetable most resembling it, Simon Paulli, a celebrated physician and botanist at Copenhagen, was the first who pretended to have discovered the real Tea plant in Europe. By opening some Tea leaves, he found them so much like those of the Dutch myrtle¹, (Flor. Su. 907.) that he obstinately maintained they were productions of the same species of Tea; though he was afterwards refuted by several botanists in Europe, and by the specimens sent to him, and to Dr. Mentzel of Berlin, from the East-Indies, by Dr. Cleyer².

¹ Myrica Gale. Goule, Sweet Willow, or Dutch Myrtle. Hudson's Fl. Angl. p. 368. Linn. System. Natur. Vol. III. p. 651. A plant of peculiar fragrance, found in the North of England, Brabant, and other Northern countries. Simon de Molingriis was the first who opposed this opinion of Simon Paulli, by shewing the difference betwixt this species of myrtle and the oriental Tea. See also Willh. Leyl. epist. apud Sim. Paulli comment. &c.

² Figures of the same were published in the Acta Hassniensia, and German Ephemerides, Dec. 11. Ann. 17.

Father Labat next thought he had discovered the real Tea-plant in Martinico¹, agreeing, he says, in all respects with the China sort. He pretends also to have procured Tea seeds from the East Indies, and to have raised the plant in America; but, from his own account, this supposed Tea appears to be only a species of *Lyfimachia*, or what is called West-India Tea².

Many other pretended discoveries of the Oriental Tea-tree have been related; all which have proved erroneous, when properly enquired into. The genus of plant, called by Kämpfer *Tsubakki*³, has the nearest resemblance to it. The leaves of several European herbs have been used at different times as substitutes for Tea, either from some similarity in the shape of the leaves, or in the taste and flavour; among these, two or three species of

¹ Nouveau Voyage aux Iles d l'Amerique, Paris, 1721, 12mo. 6 vol.

² This shrub I have frequently met with in the West-Indies.

³ Two specimens of this plant are now in the physic garden at Upsal. About the year 1755, they were brought over from China by M. Lagerstrom, a director of the Swedish East-India Company, under the supposition of being Tea-plants, till they appeared in blossom, when they proved to be this species of *Tsubakki*, called by Linnaeus, *Camellia*. Spec. Plant. p. 982. This celebrated Naturalist says, "That the leaves of his *Camellia* are so like the true Tea, that they would deceive the most skilful botanist; the only difference is, that they are a little broader. Amœnit. Academ. Vol. VII. p. 251. See also Ellis's Directions for bringing over foreign Plants, p. 28. A *Camellia* was brought in 1771 from China in good health; the leaves of this shrub end in a double obtuse point (obtusely emarginated) like those of the Tea tree, which makes them still more liable to be mistaken for those of the latter. Kämpfer observes, that the leaves of a species of *Tsubakki* are preserved, and mixed with Tea, to give it a fine flavour. Amœnit. Exotic. p. 358. It is now a common plant in the green-houses about London.

Veronica are particularly recommended¹, besides the leaves of sage², myrtle³, betony⁴, floc⁵, agrimony, wild rose⁶, and many others⁷. Whether any of these are really more salutary or

¹ Mich. Frid. Lochner, de novis Theæ et Coffeæ Succedaneis. Hall. 1717. 4to. Veronica officinalis. Flor. Suec. p. 12. Veronica Chamædr. Fl. Suec. p. 18. Pechlin Theophilus bibaculus, Franckfort. 1684. Francus, de Veronica vel Theezantem. Coburg. 1690. 12mo. 1700. 12mo. Paris, sub titulo, le Thè de l'Europe. 1704 and 1707, 12mo. Frid. Hoffman de infusi Veronicæ efficacia præferenda herbæ Theæ, Hall. an. 1694. 4to.

² Fr. Afforty & Jos. de Tournesfort ergo potus ex Salvia salubris, 1695. Wedel, de Salvia, 4to. 1707. Jena. Paulini nobilis salvia Ang. Vindel. an. 1688. 8vo.

³ Simon Paulli de abusu Theæ et Tabaci. Strasburg, 1665. Lond. 1746.

⁴ Botanical writers celebrate this herb for its many virtues; hence arose the Italian proverb, "*Vende la tonica, et compra la Betonica.*"

⁵ In the year 1776, an act was passed for the more effectual prevention of the manufacturing of ash, elder, floc, and other leaves, in imitation of Tea; and to prevent frauds in the revenue of Excise in respect to Tea, 17 George III. chap. 29, being an amendment of the act 4 George II. intituled, "An Act to prevent Frauds in the Revenue of Excise with respect to Starch, Coffee, Tea, and Chocolate. In the Appendix, from Sir George Staunton's Embassy to China, this is particularly detailed.

⁶ Joseph Serer Lettera sopra la bevanda del Caffè Europæo, Veron. An. 1730. Rose leaves are here substituted for those of Tea. Godofred. Thomafius Thea ex Rosis in Cent. III. Nat. curiosor. n. 199. See also Cent. vij. obs. 15. by J. A. Fischer.

⁷ See Neumann's Chemistry, by Lewis, p. 375. J. Adrian. Slevogt, De Thea Romana et Silesiaca, an. 1721. Aignan. le prêtre Medecin, avec un Traité du Caffè, et du Thé de France. Paris. an. 1696. 12mo. This author, whose name is probably corrupted, prefers balm leaves to those of the Asiatic Tea.

M. Fr. Lockner, de novis et exoticis Thee et Cafe succedaneis Noriberg. 1717. 4to. Et in Eph. Nat. Cur. Cent. vj.

J. Franc. Nic. Faber, de Thea Helvetica; Basil. 1715. 4to.

J. Georg. Siegelbeck, de Theæ et Caffæ succedaneis in Kanoldiana collectione, an. 1722. Jan.

or not, is undetermined; and we now find, that from the palace to the cottage every other substitute has yielded to the genuine Asiatic Tea¹.

Zanichelli osservazioni intorno all'abusodella Coffea ed alla vertute di innuovo Te-Venegiano. Venez. 1755. 4to.

K. Collegii medici Rundgiörelse om den misbruk som Thee, och Caffé drickande är unders kaffot, samt anvisning på Swenska örter, at Brucka i ställe för Thee Stockholm, 1746. 4to.

Conf. Murray, appar. Medicam. Vol. IV. p. 232. & seq.

¹ In some parts of Europe, however, Tea is yet a stranger. See Brydone's Tour through Sicily and Malta, Let. 6.

SECTION

SECTION XI.

PRESERVING THE SEEDS FOR VEGETATION.

MANY attempts to introduce the Tea-tree into Europe have proved unsuccessful, owing to the bad state of the seeds when first procured, or to a want of judgement in preserving them long enough in a state capable of vegetation. If this complaint arise from the first cause, future precautions about such seeds will be in vain; it is therefore necessary to procure fresh, found, ripe seeds, white, plump, and moist internally.

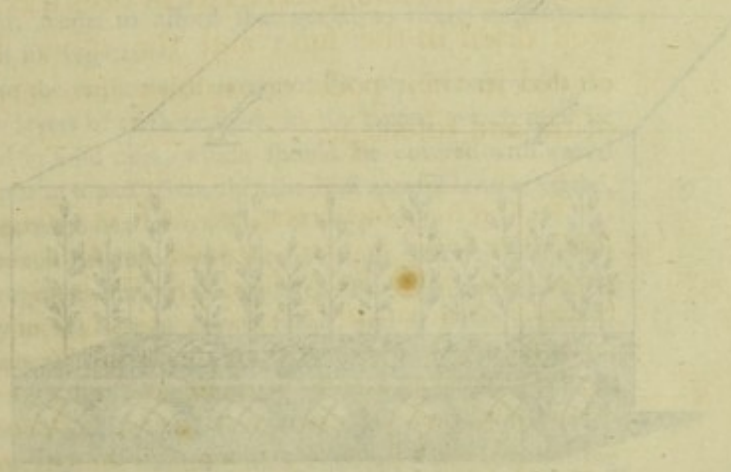
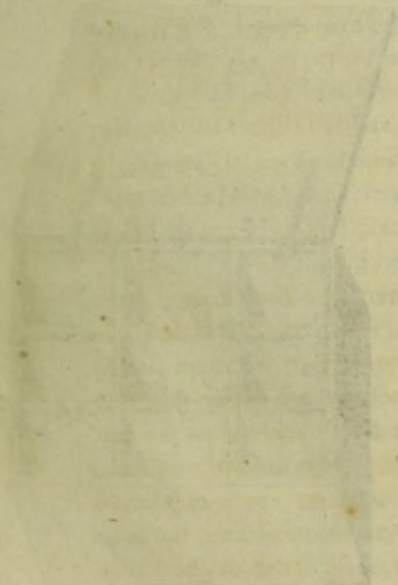
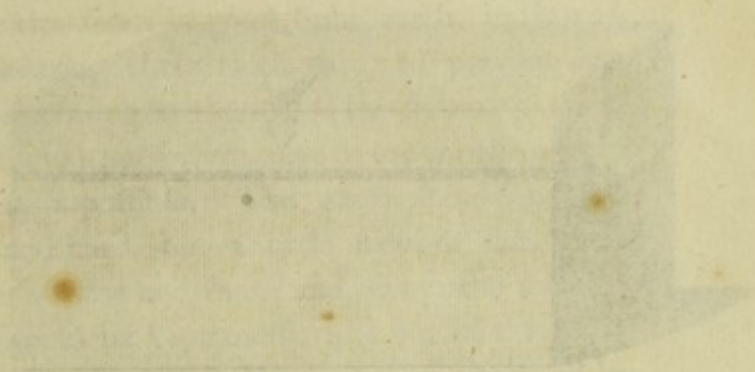
Two methods of preserving the seeds have put us in possession of a few young plants of the true Tea-tree of China; one is, by inclosing the seeds in bees wax, after they have been well dried in the sun; and the other, by putting them, included in their pods, or capsules, into very close canisters made of tin and tutenague¹.

But

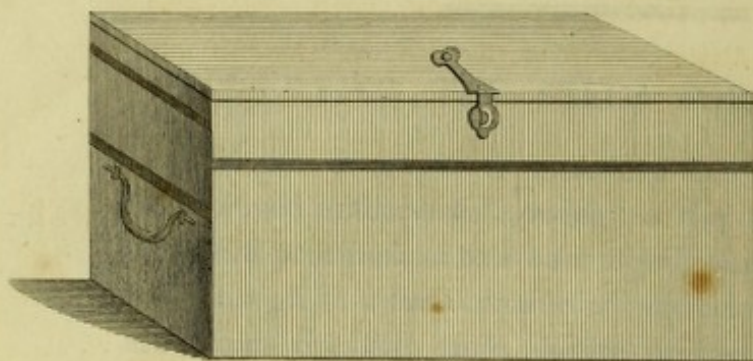
¹ See Directions for bringing over seeds and plants from the East-Indies, by J. Ellis, F. R. S. &c. in which particular directions are given, both to choose the proper seeds, and to preserve them in the best manner for vegetation. See also the Naturalist's and traveller's companion, containing instructions for discovering and preserving objects of natural history, SECT. III. We may observe here, that the best method of bringing over the parts of flowers intire is to put them in bottles of spirit of wine, good rum, first runnings, or brandy. In the directions, &c. above-mentioned the learned naturalist has not recommended this easy method of preserving the parts of fructification; but in a future edition, I am informed he purposes to do it. Flowers of the *Illicium Floridanum*, or starry anniseed tree, published in the last volume of Philosophical Transactions (LX.) were sent to him in this manner.

In

Means for conveying Plants by Sea



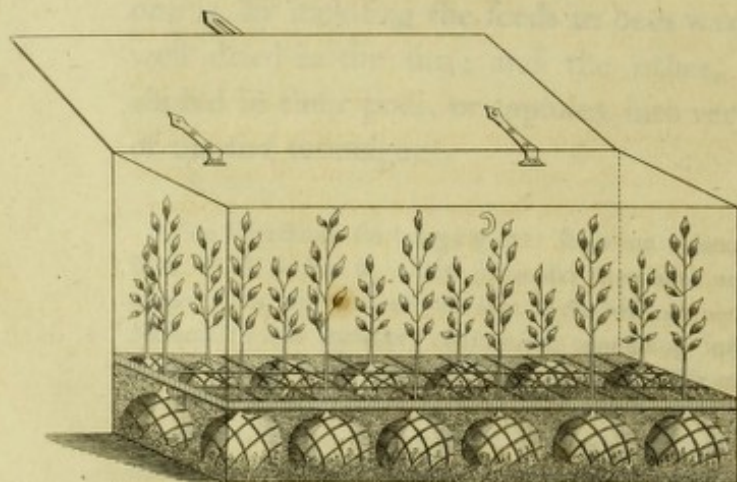
Boxes for conveying Plants by Sea.



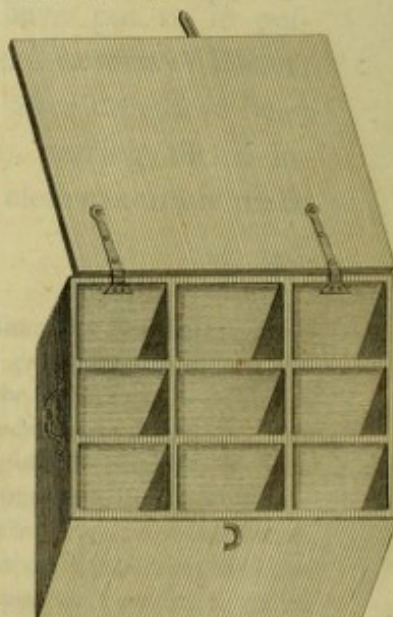
The Box with plants shut down with the openings at the ends and pent left for fresh air.



The Cask for sowing seeds with the openings defended by Wire.



The Inside of the box showing the manner of securing the roots of plants surrounded with earth & moss tied with packthread and fastened cross & cross with laths or packthread to keep them steady.



The Box with divisions for sowing different seeds in earth & cut moss.

But neither of these methods have succeeded generally, notwithstanding the utmost care, both in getting fresh seeds, and in securing them in the most effectual manner. The best method is to sow the ripe seeds in good light earth, in boxes, at leaving Canton; covering them with wire, to prevent rats and other such vermin coming to them. The boxes, plans of which are annexed, should not be exposed to too much air, nor to the spray of the sea, if possible. The earth should not be suffered to grow dry and hard, but a little fresh or rain water may be sprinkled over it now and then; and, when the seedling plants appear, they should be kept moist, and out of the burning sun¹. Most of the plants now in England were procured by

In a paper by John Sneyd, Esq. inserted in the Transactions of the Society for the Encouragement of Arts, Vol. XVI. p. 265, a method of preserving seeds is related, which appears to have been highly successful; this is merely by packing up seeds in absorbent paper, and surrounding the same by raisins, or brown moist sugar; which, by experiment, seems to afford that genial moisture requisite to preserve the seeds in a state fit for vegetation.

Thouin, in his directions to the unfortunate navigator Pèrouse, recommends the seeds to be placed in alternate layers of earth or sand, in tin boxes, which must be closed up exactly, and placed in solid cases, which should be covered with waxed cloth; the boxes should be put in a part of the ship the least accessible to moisture, and the most sheltered from extreme heat or cold." Vol. I. p. 278.

¹ The carrying of trees cannot be done, with any hope of success, except in boxes, wherein they may vegetate during the voyage. For this purpose it is necessary to have a box forty inches long by twenty broad, and as much in depth, with a dozen holes bored through the bottom, for the superabundant water to run off. Its upper part must be composed of a triangular frame, upon which lattice work of iron wire must be fitted, with glazed frames and window shutters, to keep up a free circulation of air, encrease the warmth when necessary, and keep out the cold." Pèrouse's Voyage, Vol. I. p. 283.

these

these means ; and though many of the seedlings will die, yet by this kind of management we may probably succeed in bringing over the most curious vegetable productions of China, of which they have an amazing treasure, both in respect to use, shew, and variety *. If young plants could be procured in China, they might be sent over in a growing state in some of these boxes.

The young Tea-plants in the gardens about London thrive very well in the green-houses in winter, and some bear the open air in summer. The leaves of many of them are from one to three inches long, not without a fine deep verdure ; and the young shoots are succulent. It is therefore probable, that in a few years many layers may be procured from them, and the number of plants considerably increased thereby.

It may not be improper to observe here, that many exotic vegetables, like human constitutions, require a certain period before they become naturalized to a change of climate ; many plants, which on their first introduction would not bear our winters without shelter, now endure our hardest frosts ; the beautiful magnolia, among several others, is a proof of this

* Another method has succeeded with some North American seeds, by putting them into a box, not made too close, upon alternate layers of moss, in such a manner as to admit the seeds to vegetate, or shoot their small tendrils into the moss. In the passage, the box may be hung up at the roof of the cabin ; and, when arrived here, the seeds should be put into pots of mold, with a little of the moss also about them, on which they had lain. This method has procured us seeds in a state fit for vegetation, which had often miscarried under the preceding precautions ; and therefore might be tried at least with Tea and other oriental seeds. In order to succeed more certainly, some of the Tea seeds, in whatever manner they may have been preserved, should be sown when the vessel arrives at St. Helena, and also after passing the tropic of Cancer, near the latitude of 30 degrees North.

observation ;

observation; and we have already taken notice (SECT. V.), that the degree of cold at Pekin sometimes exceeds ours. We have hence reason to expect, that the Tea-tree may in a few years be capable of bearing our climate, or at least that of our colonies; at length thrive, as if indigenous to the soil; and, were labour cheaper, become an article of export¹, like the common potatoe, for which we are indebted to America, or Spain². It is, however, better suited for the climates of the

¹ The high price of labour in this country may prove the principal objection to this prospect. In China provisions are very cheap. Osbeck says, that a workman who lives upon plucking of Tea-leaves, will scarce be able to get more than one penny a day, which is sufficient to maintain him. *Voyage to China*, Vol. I. p. 298.

² The following extract from Gerard's Herbal, p. 780. ed. 1636. though foreign to the subject of this Essay, is so curious, that it may not be deemed improper to transcribe it. "Potatoes grow in India, Barbarie, Spaine, and other hot regions, of which I planted diuers rootes (that I bought in the Exchange in London) in my garden, where they flourished untill winter, at which time they perished and rotted." At this date, he adds, "they were roasted in the ashes; some, when they be so roasted, infuse them, and sop them in wine; and others, to give them the greater grace in eating, do boile them with prunes, and so eate them. And likewise others dresse them (being first roasted) with oile, vinegar, and salt, every man according to his own taste and liking."

"These rootes (he observes) may serue as a ground or foundation wheron the cunning confectioner, or sugar-baker, may worke and frame many comfortable delicate conserves, and restorative sweete meates."

In 1664 J. Foster published his "England's Happynefs increased by a Plantation of Potatoes," 4to.

"Captain Hawkins is said to have brought this root from Santa Fè, in New Spain, A. D. 1565. Sir Walter Rawleigh soon after planted it on his lands in Ireland; but, on eating the apple, that it produced, which is nauseous and unwholesome, he had nearly consigned the whole crop to destruction. Luckily the spade discovered the real potatoe, and the root became rapidly a favourite eatable. It continued, however, for a long time to be thought rather a species of dainty than of provision;

the Southern parts of Europe, and America; but hitherto it has not been cultivated in an extensive manner, in either of these quarters of the world; nor is it likely ever to be, whilst it can be procured from Asia at the present reduced price. It was introduced into Georgia about the year 1770. Hence the ingenious author of *Ouabi* (Mrs. Morton) in her recent poem of *Beave-hill*, in describing the products of this province, introduces the exotic of China:

“ Yet round these shores prolific plenty twines,
 “ Stores the thick field, and swells the clustering vines;
 “ A thousand groves their glossy leaves unfold,
 “ Where the rich orange rolls its ruddy gold,
 “ *China's green shrub*, divine *Magnolia's* bloom,
 “ With mingling odours fling their high perfume.”

It is indeed probable that the North American summers, in the same latitude with Peking, would suit this Tree better than ours; for, in China and some parts of North America, the heat in summer is such, that vegetables make quicker and more early shoots, whereby they have time to acquire sufficient strength and firmness before the winter commences: but, in England, the tender shoots are pushed forth late, and, winter soon after succeeding, they often perish, in a degree of cold much less severe than at Peking, or in colder latitudes of North America.

nor, till the close of the 18th century, was it supposed capable of guarding the country where it was fostered, from the attacks of famine.” *Andrews's History*, Vol. I. p. 408. *Comp. Mocquet's Travels*, p. 54.

Shakespeare, very early also in this century, mentions this root in the *Merry Wives of Windsor*, one edition of which, in 4to. was printed in 1619. *Vide Scene III. Falstaff.*

THE

THE
MEDICAL HISTORY
OF
TEA.

PART II.

SECTION I.

AS the custom of drinking Tea is become general, every person may be considered as a judge of its effects, at least so far as it concerns his own health; but, as the constitutions of mankind are various, the effects of this infusion must be different also, which is the reason that so many opinions have prevailed upon the subject.

Many, who have once conceived a prejudice against it, suffer it to influence their judgement too far, and condemn the custom as universally pernicious. Others, who are no less biased

on the other extreme, would make their own private experience a standard for that of all, and ascribe the most extensive virtues to this infusion. This contrariety of opinion has been particularly maintained among physicians¹; which will ever be the case, while mere suppositions are placed in the room of experiments and facts impartially related.

Some physicians, however, avoid both extremes; who, without commending it, or decrying it universally, admit its use, while they are not insensible of the injuries it may produce. It requires no small share of sagacity to fix the limits of good and harm in the present case: multitudes of all ages, constitutions, and complexions, drink it freely, during a long life, without perceiving any ill effects. Others, again, soon experience many inconveniences from drinking any considerable quantity of this infusion.

It is difficult to draw certain conclusions from experiments made on this herb. The parts which seem to produce these opposite effects are very fugitive. We become acquainted chiefly with the grosser parts by analysis. I made the following experiments with considerable care; but, I own, they inform us not sufficiently wherein consists that grateful relaxing sedative property, which proves to the generality of mankind so refreshing; nor from whence it is, that others feel from the pleasing beverage so many disagreeable effects. Accurate observation would instruct us in this difficult investigation, more than simple experiments on the subject itself.

¹ Compare Joh. Ludov. Hannemane de potu calido in Miscell. curios. Simon Paulli de abusu Theræ et Tabaci. Tissot on the diseases of literary and sedentary persons, &c. with Waldsmick in Disput. var. argum. &c.

E X P E R I M E N T I.

I took an equal quantity of an infusion of superfine green Tea, and of common bohea Tea, made equally strong; and also the same quantity of the liquor remaining after distillation (SECT. III. 1.), and of simple water; into each of which, contained in separate vessels, I put two drachms of beef, that had been killed about two days.

The beef, which was immersed in the simple water, became putrid in forty-eight hours; but the pieces in the two infusions of Tea, and in the liquor remaining after distillation, shewed no signs of putrefaction, till after about seventy hours¹.

E X P E R I M E N T II.

INTO strong infusions of every kind of green and bohea Tea that I could procure, I put equal quantities of salt of iron (sal martis), which immediately changed the several infusions into a deep purple colour².

It

¹ See Percival's Experimental Essays, p. 119, et seq. wherein many ingenious experiments and observations are related.

² In this experiment, four ounces of infusion were drawn from two drachms of each kind of Tea, and one grain of sal martis added to the respective infusions.

See

It is evident from these experiments, that both green and bohea Tea possess an antiseptic (EXPERIMENT I.), and astringent power (EXPERIMENT II.), applied to the dead animal fibre.

See Neumann's Chemistry by Lewis, page 377. Short, on the Nature and Properties of Tea, p. 29. 'The first author I have met with, that tried this experiment, was J. And. Hahn, who wrote in the year 1722. *De herbæ exoticæ Theæ infuso, ejusque usu et abusu*, Erford, 4to. Though it should be premised, that Nic. de Blegny, who published his work, intituled, *Le bon usage du Thé*, &c. in 1680, takes notice of the astringency of Tea, from which quality he deduces many of its virtues. Vid. Act. Eruditor. V. vi. page 49. Ann. 1688.

EXPERIMENT II.

SECTION

SECTION II.

NEVERTHELESS, as I have often observed that drinking Tea, particularly the most highly-flavoured fine green, proves remarkably relaxing to many persons of tender and delicate constitutions, I was induced to prosecute my enquiries farther.

1. To this end I distilled half a pound of the best and most fragrant green Tea with simple water¹, and drew off an ounce of very odorous and pellucid water, free from oil, and which on trial (SECTION I. EXPERIMENT II.) shewed no signs of astringency.

2. That part of the liquor which remained after distillation, was evaporated to the consistence of an extract; it was slightly odorous, but had a very bitter, styptic, or astringent taste. The quantity of the extract thus procured weighed about five ounces and a half².

EXPERIMENT III.

a. Into the cavity of the abdomen, and cellular membrane of a frog, about three drachms of the distilled odorous water (No. 1.) were injected.

¹ J. Andr. Hahn takes notice also of the odour of the water distilled from Tea.

² The same author prepared an extract from this Tea, though in a less proportion than my experiment afforded, or what Neumann relates from his,

In twenty minutes, one hind leg of the frog appeared much affected, and a general loss of motion and sensibility succeeded¹. The affection of the limb continued for four hours, and the universal torpidity remained above nine hours; after this the animal gradually recovered its former vigor.

- b. In like manner some of the liquor remaining after the distillation of the green Tea (No. 1.) was injected; but this was not productive of any sensible effect.

EXPERIMENT IV.

- a. To the ischatic nerves laid bare, and to the cavity of the abdomen of a frog, I applied some of the distilled odorous water (No. 1. and EXPERIMENT III, 1.). In the space of half an hour, the hindermost extremities became altogether paralytic and insensible; and in about an hour afterwards the frog died.
- b. In like manner I applied the liquor remaining after distillation (No. 1. and EXPERIMENT III. 2.) to another frog; but no sedative or paralytic effect was observable.

¹ *Thæ infusum, nervo musculove ranæ admotum, vires motrices minuit, perdit.* Smith, *Tentamen inaugurale de actione musculari.* Edinburgh, p. 46. Exper. 36.

3. From these experiments the sedative and relaxing effects of Tea appear greatly to depend upon an odorous fragrant principle, which abounds most in green Tea, particularly that which is most highly flavoured *. This seems farther confirmed by the practice of the Chinese, who avoid using this plant, till it has been kept at least twelve months, as they find when recent it possesses a soporiferous and intoxicating quality. (PART I. SECT. IX.)

Thus often under trees supinely laid,
 Whilst men enjoy the pleasure of the shade,
 Whilst those their loving branches seem to spread
 To screen the sun, they noxious atoms shed,
 From which quick pains arise, and seize the head.
 Near Helicon, and round the learned hill
 Grow Trees, whose blossoms with their odour kill †.

* Two drachms of this odorous water were given to a delicate person. He was soon after affected with a nausea, sickness, general lowness, and debility, which continued for some hours, which he observes usually follows the use of superfine green Tea.

Smelling forcibly at the same has occasioned similar effects upon some delicate people. Dr Blegny, who wrote in 1680, attributes considerable virtues to this fragrant odour, which he recommends to be breathed into the lungs, where it acts as a sedative, according to his own relation, producing sleep, and relieving pains of the head. Agreeable to Counsellor De Blegny's experience, I know a lady, frequently troubled with a nervous head-ach, who used to hold her head over a hot infusion of Tea, and thus receive the fragrant exhalation, which always affords her the most instantaneous and effectual relief.

† Arboribus primum certis gravis umbra tributa est
 Usque adeo, capitis faciant ut sæpe dolores,
 Si quis eas subter jacuit prostratus in herbis.
 Est etiam in magnis Heliconis montibus arbos
 Floris odore hominem tetro consueta necare.

LUCRETIVS, B. 6.

K

SECTION

S E C T I O N III.

WAVING, however, any attempts to fix with precision the effects of Tea from these experiments alone, let us endeavour to collect from observation likewise, such facts as may enable us to judge what its effects are on the human frame, and from thence draw the clearest inferences we can, how far it is salutary or otherwise.

The long and constant use of Tea, as a part of our diet, makes us forget to enquire whether it is possessed of any medicinal properties. We shall endeavour to consider it in both respects.

The generality of healthy persons find themselves not apparently affected by the use of Tea: it seems to them a grateful refreshment, both fitting them for labour and refreshing them after it. There are instances of persons who have drank it from their infancy, to old age; have led, at the same time, active, if not laborious lives; and yet never felt any ill effects from the constant use of it.

Where this has been the case, the subjects of both sexes were for the most part healthy, strong, active, and temperate. Amongst the less hardy and robust, we find complaints, which are ascribed to Tea, by the parties themselves. Some complain that after a Tea breakfast, they find themselves rather
fluttered;

fluttered ; their hands less steady in writing, or any other employment that requires an exact command of spirits. This probably soon goes off, and they feel no other injury from it. Others again bear it well in the morning, but from drinking it in the afternoon, find themselves very easily agitated, and affected with a kind of involuntary trembling.

There are many people who cannot bear to drink a single dish of Tea, without being immediately sick and disordered at the stomach : To some it gives excruciating pain about that part, attended with general tremours. But in general the most tender and delicate constitutions are most affected by the free use of Tea ; being frequently attacked with pains in the stomach and bowels ; spasmodic affections ; attended with a copious discharge of limpid urine, and great agitation of spirits on the least noise, hurry, or disturbance.

SECTION IV.

THERE is one circumstance, however, that renders it more difficult to investigate the certain effects of Tea; which is, the great unwillingness that most people shew, to giving us a genuine account of their uneasy sensations after the free use of it; from a consciousness that it would be extremely imprudent to continue its use, after they are convinced from experience that it is injurious.

That it produces watchfulness in some constitutions is most certain, when drank at evening in considerable quantities. Whether warm water, or any other aqueous liquor, would have the same effect, is not certain.

That it enlivens, refreshes, exhilarates, is likewise well known. From all which circumstances it would seem, that Tea contains an active penetrating principle, speedily exciting the action of the nerves; in very irritable constitutions, to such a degree as to give very uneasy sensations, and bring on spasmodic affections: in less irritable constitutions, it rather gives pleasure, and immediate satisfaction, though not without occasionally producing some tendency to disagreeable tremours and agitation.

The

The finer the Tea, the more obvious are these effects. It is perhaps for this, amongst other reasons, that the lower classes of people, who can only procure the most common, are in general the least sufferers. I say, in general, because even amongst them there are many who actually suffer much by it: they drink it as long as it yields any taste, and, to add to its flavour, for the most part hot; and thus the quantity which they take, and the degree of heat in which it is drank, conspire to produce in them, what the finer kinds of Tea effect in their superiors.

It ought not, however, to pass unobserved, that in a multitude of cases the infusions of our own herbs, sage for instance, mint, baum, even rosemary, and valerian itself, will sometimes produce similar effects, and leave that sensation of emptiness, agitation of spirits, flatulence, spasmodic pains, and other symptoms, that are met with in people, the most of all others devoted to Tea.

Besides the injuries which the stomach sustains, by taking the infusion of Tea extremely hot; it is not improbable but the teeth also are affected by it. Professor Kalm, in his Travels into North America, observes, that such of the inhabitants as took their Tea and food in general, in this state, were frequently liable to lose half their teeth at the age of twenty, without any hopes of getting new ones. This cannot be attributed to the variations of weather in that clime, because the Indians who enjoy the same air, but take their viands almost cold, were to a great age possessed of fine white teeth;

as

as were likewise the Europeans who first settled in America, before the use of Tea became general. It was no less remarkable, that the Indian women, who had accustomed themselves to drink this infusion after the European fashion, had likewise lost their teeth prematurely, though they had formerly been quite sound¹. Kalm does not appear to suspect any injury to the teeth from the sugar used with the Tea.

¹ Vol. I. p. 282. Ed. 2.

SECTION. V.

MANY, from a supposition that Tea was dried in India on copper, have attributed its pernicious properties to this metal; but we have already observed (Part I. § VIII.), that, if Tea were tinctured with the least quantity of copper, it might easily be detected by chemical experiments.

Some have attributed the injurious qualities of this fashionable exotic upon the stomach to the sugar usually drank with the Tea; but I have had sufficient opportunities of observing in the West Indies the good effects of drinking freely the juice of the sugar-cane, to obviate this objection. I have known feeble emaciated children, afflicted with worms, tumefied abdomen, and a variety of diseases, soon emerge from their complicated ailments, by drinking large draughts of this sweet liquor, and become healthy and strong¹.

“ While

¹ In some parts of Scotland the common people give children large draughts of sugar and water to destroy worms. See also Boerhaav. Elem. Chemiae, Tom. II. p. 160. Historisch Verhaal. &c. inde Voorreeden Bezoar. London, 1715, 8vo. Slare de Sacchar. et lapid. Van. Swieten Commen. v. V. p. 586. Dunean, in his Avis Salulaire, frequently introduces sugar as an agreeable poison, though he offers no proof in support of this epithet. Dr. Robertson, in his History of Charles V. Vol. I. p. 401, 8vo. observes, that “ some plants of the Sugar-cane were brought from Asia; and the first attempt to cultivate them in Sicily was made about the middle

" While flows the juice mellifluent from the cane,
 " Grudge not, my friend, to let thy slaves, each morn,
 " But chief the sick and young, at setting day,
 " Themselves regale with oft-repeated draughts
 " Of tepid nectar, and make labour light '."

That there is something in the finer green Teas, that produces effects peculiar to itself, and not to be equalled by any other substance we know, is, I believe, admitted by all who have observed, either what passes in themselves, or the accounts that others give of their feelings, after a plentiful use of this liquor. Nor are the finer kinds of bohea Teas incapable of the like influence. They affect the nerves, produce tremblings, and such a state of body for the time, as subjects it to be agitated by the most trifling causes, such as shutting a door too hastily, the sudden entrance even of a servant, and other the like causes.

middle of the 12th century. From thence they were transplanted into the southern provinces of Spain. From Spain they were carried to the Canary and Madeira Isles, and at length into the New World. Ludovico Guicciardini, in enumerating the goods imported into Antwerp, about the year 1560, mentions the sugar which they received from Spain and Portugal as a considerable article of import. He describes that as the product of the Madeira and Canary islands. Descritt. de Paesi Bassi, p. 180, 181. The sugar-cane was either not introduced into the West-Indies at that time, or the cultivation of it was not so considerable as to furnish an article in commerce. In the middle ages, though Sugar was not raised in such quantities, or employed for so many purposes, as to become one of the common necessities of life, it appears to have been a considerable article in the commerce of the Italian States." It is, however, well ascertained, that the Sugar Cane is indigenous to South America, and the West-Indies. Moseley on Sugar, p. 29.

Granger's Sugar Cane, 4to. p. 109. See also p. 9.

" Dulces bibebant ex arundine succos.

LUCAN.

Μετὰ καλαμῶν το λεγόμενον σακχαρι.

ARRIAN.

I know

I know people of both sexes, who are constantly seized with great uneasiness, anxiety, and oppression, as often as they take a single cup of Tea, who nevertheless, for the sake of company, drink several cups of warm water, mixed with sugar and milk, without the same inconvenience.

A physician, whose acquaintance I have long been favoured with, and who, with some others, was present when the preceding experiments were made at the college of Edinburgh, has a remarkable delicacy in feeling the effects of a small quantity of fine Tea. If drank in the forenoon, it affects his stomach with an uneasy sensation, which continues for several hours, and entirely takes away his appetite for food at dinner; though at other times, when he takes chocolate for breakfast, he generally makes a very hearty meal at noon, and enjoys the most perfect health. If he drink a single dish of tea in the afternoon, it affects him in the same manner, and deprives him of sleep for three or four hours through the succeeding night; yet he can take a cup of warm water with sugar and milk, without the least inconvenience.

It may be remarked that opium has nearly the same effect upon him as Tea, but in a greater degree; for he informs me, that when he once accidentally took a quantity of the solution of opium, it had not the least tendency to induce sleep, but produced a very disagreeable uneasiness at his stomach, approaching to nausea. The late celebrated Professor Whytt¹, of Edinburgh, affords a striking example how injurious the effects of Tea may be upon constitutions, which I shall relate in his

¹ Whytt's Works, 4to. p. 642.

own words. "I once imagined Tea to be in a great measure unjustly accused; and that it did not hurt the stomach more than an equal quantity of warm water; but experience has since taught me the contrary. Strong Tea drunk in any considerable quantity, in a morning, especially if I eat little bread with it, generally makes me fainter before dinner than if I had taken no breakfast at all; at the same time it quickens my pulse, and often affects me with a kind of giddiness. These bad effects of Tea are most remarkable when my stomach is out of order."

SECTION VI.

I am informed likewise by a physician, of long and extensive practice in the city, that he has known several instances of a spitting of blood having been brought on, by breathing in an air loaded with the fine dust of Tea. It is customary for those who deal largely in this article to mix different kinds together, so as to suit the different palates of their customers. This is generally performed in the back part of their shops, several chests perhaps being mixed together at the same time. Those who are much employed in this work are at length very often sufferers by it; some are seized with sudden bleedings from the lungs or from the nostrils; and others attacked with violent coughs, ending in consumptions.

These circumstances are chiefly brought in fight to prove, that, besides a sedative relaxing power, there exists in Tea an active penetrating substance, which, in many constitutions, cannot fail of being productive of singular effects.

An eminent Tea-broker, after having examined in one day upwards of one hundred chests of Tea, only by smelling at them forcibly, in order to distinguish their respective qualities, was the next seized with a violent giddiness, head ach, univer-

sal spasms, and loss of speech and memory. By proper assistance, the symptoms abated, but he did not totally recover. For, though his speech returned, and his memory in some degree, yet he continued, with unequal steps, gradually losing strength, till a partial paralysis ensued, then a more general one, and at length he died. Whether this was owing to the effluvia of the Tea, may perhaps be doubted. Future accidents may possibly confirm *the suspicions* to be just or otherwise.

SECTION VII.

AN assistant to a Tea broker, had frequently for some weeks complained of pain and giddiness of his head, after examining and mixing different kinds of Tea: the giddiness was sometimes so considerable, as to render it necessary for a person to attend him, in order to prevent any injury he might suffer from falling or other accident. He was bled in the arm freely, but without permanent relief; his complaint returned as soon as he was exposed to his usual employment. At length he was advised to be electrified, and the shocks were directed to his head. The next day his pain was diminished, but the day after closed the tragical scene. I saw him a few hours before he died; he was insensible; the use of his limbs almost lost, and he sunk very suddenly into a fatal apoplexy. Whether the effluvia of the Tea, or electricity, was the cause of this event, is doubtful. In either view the case is worthy of attention¹.

A young man of a delicate constitution, had tried many powerful medicines in vain, for a depression of spirits, which he

¹ From these instances of the deleterious effects of Tea, one might be led to suppose that the same unhappy consequences would frequently attend those who are employed in examining and mixing different kinds of Tea in China; but there the Teas are mixed under an open shed, through which the air has a free current, by which the odour and the dust are dissipated: but in London this business is usually done in a back room, confined on every side.

laboured

laboured under to a degree of melancholy, which rendered his situation dangerous to himself and those about him. I found he drank Tea very plentifully, and therefore requested him to substitute another kind of diet; which he complied with, and afterwards gradually recovered his usual health. Some weeks after this, having a large present of fine green Tea sent him, he drank a considerable quantity of the infusion on that and the following day. This was succeeded by his former dejection and melancholy, with loss of memory, tremblings, a proneness to great agitation from the most trifling circumstances, and a numerous train of nervous ailments. I saw him again, and he immediately attributed his complaints to the Tea he had drank; since which he has carefully denied himself the same indulgence, and now enjoys his former health.

I have known many other instances, where less degrees of depression, and other complaints depending upon a relaxed irritable habit, have attended delicate people for many years; and though they have had the advice of skilful physicians, yet in vain have medicines been administered, till the patient has refrained from the infusion of this fragrant exotic¹.

¹ Van Swieten, in his Commentaries on Boerhaave's aphorisms, speaks of the effects of Tea and Coffee in the following manner. "Vidi plurimos, his potibus diu abusos, adeo enervatum corpus habuisse, ut vix languida membra traherent, ac plures etiam apoplexia et paralyfi correptos fuisse." Tom. III. § 1060, p. 362, de paralyfi.

SECTION

S E C T I O N VIII.

IN treating of this substance, I would not be understood to be either a partial advocate, or a passionate accuser. I have often regretted that Tea should possess any pernicious qualities, as the pleasure which arises from reflecting how many millions of our fellow-creatures are enjoying at one hour the same amusing repast; the occasions it furnishes for agreeable conversation; the innocent parties of both sexes it daily draws together, and entertains without the aid of spirituous liquors; would afford grateful sensations to a social breast. But justice demands something more. It stands charged by many able writers, by public opinion, partly derived from experience, with being the cause of many disorders; all that train of distempers included under the name of NERVOUS are said to be, if not the offspring, at least highly aggravated by the use of Tea. To enumerate all these would be to transcribe volumes. It is not impossible but the charges may be partly true. Let us examine them with all possible candour.

The effect of drinking large quantities of any warm aqueous liquor, according to all the experiments we are acquainted with, would be, to enter speedily into the course of circulation, and pass off as speedily by urine or perspiration, or the increase of some of the secretions. Its effects on the solid parts of the constitution

constitution would be relaxing, and thereby enfeebling. If this warm aqueous fluid were taken in considerable quantities, its effects would be proportionable; and still greater, if it were substituted instead of nutriment¹.

That all infusions of herbs may be considered in this light seems not unreasonable. The infusion of Tea, nevertheless, has these two particularities. It is not only possessed of a sedative quality (SECT. II. EXP. III. IV.), but also of a considerable astringency (SECT. II. EXP. II.); by which the relaxing power ascribed to a mere aqueous fluid is in some measure corrected. It is, on account of the latter, perhaps less injurious than many other infusions of herbs, which, besides a very slight aromatic flavour, have very little if any stypticity, to prevent their relaxing debilitating effects.

Tea, therefore, if not too fine, nor drank too hot, or in too great quantities, is, perhaps, preferable to any other vegetable infusion we know. And if we take into consideration likewise its known enlivening energy, it will appear that our attachment to Tea is not merely from its being costly or fashionable, but from its superiority in taste and effects to most other vegetables.

¹ Vide Trattato di Medicina preservation: Scritto da Carlo Gianella. Veron. 1751. p. 112. Simon Pauli, who took a pleasure in opposing the use of Tea, indulges himself with the irony of the following lines:

*Drinck Wiin and warff,
Drinck Beer and verdarff,
Drinck Waater and starff:*

Or;

Drink Wine, and profit;
Drink Beer, and grow thin;
Drink Water, and die.

SECTION

S E C T I O N IX.

IT may be of some use in our inquiries to consider its effects where it has been long and universally used. Of Japan we know little at present: of China we have more recent accounts; from these it appears, that Tea of some kind, coarser or finer, is drank plentifully by all degrees of people; the general provision of the lower ranks especially is rice, their beverage Tea. The superior classes of people drink Tea; but they likewise partake of animal food, and live freely.

Of their diseases we know but little, nor what effects Tea may have in this respect. They seldom or never bleed. The late Dr. Arnot, of Canton, a gentleman who did his profession and his country honour, and was in the highest estimation with the Chinese, I am informed, was the first person who could ever prevail upon any of the Chinese to be blooded^{*}, be their maladies what they might. It would appear from hence, that inflammatory diseases were not frequent among them; otherwise a nation, who seem so fond of life as the Chinese are reputed to be, would by some means or other have admitted of this almost only remedy in such cases. May we infer from hence, that inflammatory diseases are less frequent in China,

^{*} See Du Halde's history of China, V. III. p. 362. He observes here, that bleeding is not entirely unknown amongst the Chinese.

than in some other countries, and that one cause of this may be the constant and liberal use of this infusion? Perhaps, if we take a view of the state of diseases, as exactly described a century ago, and compare it with what we may observe at present, we may have a collateral support for this suggestion. If we consider the frequency of inflammatory diseases in Sydenham's time, who was both a consummate judge of these diseases, and described them faithfully, I believe we shall find they were then much more frequent than they are present; at least, if any deference is due to the observations of judicious persons, who mostly agree, that genuine inflammatory diseases are much more rare at present, than they were at the time when Sydenham wrote. It is true, this disposition, admitting it be fact, may arise from various causes; amongst the rest, it is not improbable, Tea may have its share.

SECTION

SECTION X.

BEFORE the use of Tea, the general breakfast in this country consisted of more substantial aliment¹; milk in various shapes, ale and beer, with toast, cold meat, and other additions. The like additions, with sack, and the most generous wines, found their way amongst the higher orders of mankind. And one cannot suppose but that such a diet, and the usual exercise they took, would produce a very different state of blood and other animal juices, from that which Tea, a little milk or cream, and bread and butter, affords.

It was not the breakfast only that seems to have contributed its share towards introducing a material alteration in the animal system, but the subsequent regale likewise in the afternoon.

¹ The late Owen Salusbury Brereton, Esq. a gentleman well known among the learned, had in his possession a MS. dated "apud Eltham, mense Jan. 22, Hen. viij." intituled, "Articles devised by his Royal Highness (the title of Majesty was not given to our Kings till a reign or two after), with Advice of his Council, for the Establishment of good Order and Reformation of sundry Errors and Misuses in his Household and Chambers." In p. 85, "The queen's maids of honour to have a chet loaf, a manchot, a gallon of ale, and a chine of beef, for their breakfasts." Compare the *Archæologia*, published by the Society of Antiquaries of London, Vol. III. p. 157. Hume's History of England, Vol. IV. p. 499. *Historia delle cose occorse nel regno d'Inghilterra in materia del Duca di Notomberlan dopo la morte di Odvardo vi.* Venice, 1538.

Tea is a second time brought before company ; it is drank by most people, and often in no very small quantities. Before the introduction of this exotic, it was not unusual to entertain afternoon guests in a very different manner ; jellies, tarts, sweetmeats ; nay, cold meat, wine, cyder, strong ale, and even spirituous liquors under the title of cordials, were often brought out on these occasions, and perhaps taken to excess, much to the injury of individuals.

This kind of repast would tend to keep up the natural inflammatory diathesis, which was the result of vigour, and a plenitude of rich blood, as well as favour diseases originating from such causes. It seems not unreasonable therefore to suppose, that, as the diet of our ancestors was more generous, their exercises more athletic, and their diseases more generally the produce of a rich blood, than are observable in the present times, these debilitating effects before-mentioned may in part be attributed to the use of Tea, as no cause appears to be so general and so probable.

SECTION XI.

IF these suggestions are admitted, they will assist us in determining when and to whom the use of Tea is salutary, and to whom it may be deemed injurious. Those, for instance, who either from a natural propensity to generate a rich inflammatory blood, or from exercise, or diet, or climate, or all together, are disposed to be in this situation: to these the use of Tea would seem rather beneficial, by relaxing the too rigid solids, and diluting the coagulable lymph of the blood, as a very sensible and ingenious author very justly styles it¹.

There are idiosyncrasies, certain particularities, which are objections to general rules. There are, for instance, men of this temperament, strong, healthy, vigorous, and with not only the appearance, but the requisites of firm health, to whom a few dishes of Tea would produce the agitations familiar to an hysterical woman; but this is by no means general: in common they bear it well, it refreshes them, they endure fatigue after it, as well as after the most substantial viands. Nothing refreshes them more than Tea, after lasting and vehement exercise. To such it is undoubtedly wholesome, and equal at least, if not preferable, to any other kind of regale now in use.

¹ Philosophical Transactions, Vol. LX. 1770. p. 368, & seq.

But,

But, if we consider what may reasonably be supposed to happen to those who are in the opposite extreme of health and vigour; that is, the tender, delicate, enfeebled, whose solids are debilitated, their blood thin and aqueous, the appetite lost or depraved, without exercise, or exercising improperly; in short, where the disposition of the whole frame is altogether opposite to the inflammatory; the free and unrestrained use of this infusion, and such accompaniments, must unavoidably contribute to sink the remains of vital strength still lower.

Between these two extremes there are many gradations; and, every thing else being alike, Tea will in general be found more or less beneficial or injurious to individuals, in proportion as their constitutions approach nearer to these opposite extremes. To descend into all the particulars would require experience and abilities, more than I can boast. Suffice it to say, that, except as a medicine, or after great fatigue, large quantities are seldom beneficial, nor should it ever be drunk very hot; and, as hath been already mentioned, the finer Tea, the green especially, is more to be suspected than the common or middling kinds.

SECTION

S E C T I O N X I I .

THE experiments and observations hitherto related render it evident, that Tea possesses a fragrant volatile principle, which in general tends to relax and enfeeble the system of delicate persons, particularly when it is drank hot, and in large quantities. I have known many of this frame of constitution, who have been persuaded, on account of their health, to deny themselves this fashionable infusion, and received great benefit (SECT. VII.). Others, who have found their health impaired by this indulgence, are unhappily induced to continue it for want of an agreeable substitute, especially for breakfast.

But, if such cannot wholly omit this favourite regale, they may certainly take it with more safety, by boiling the Tea a few minutes, in order to dissipate this fragrant principle (SECT. II. 1, and EXP. IV.) which is the most noxious; and extract the bitter, astringent, and most stomachic part (SECT. II. 2, and EXP. III.) instead of preparing it in the usual manner by infusion.

An eminent physician in the city, frequently experiencing the prejudicial effects of Tea by drinking it in the usual form, was induced, from reading a dissertation upon this subject, published some time since at Leyden¹, to try the infusion pre-

¹ Siftens Observationes ad vires Theæ pertinentes. Lugd. Batav. 1769.

pared after another manner. He ordered the Tea to be infused in hot water, which after a few hours he caused to be poured off, stand over night, and to be made warm again in the morning for breakfast. By this means, he assures me, he can take, without inconvenience, near double the quantity of Tea, which formerly, when prepared in the usual method, produced many disagreeable nervous complaints.

The same end is obtained by substituting the extract of Tea (SECT. II. 2.) instead of the leaves. It may be used in the form of Tea, by dissolving it in warm water; and, as the fragrantcy of the Tea is in this case dissipated, the nervous relaxing effects, which follow the drinking it in the usual manner, would be in great measure avoided. This extract has been imported into Europe from China, in flat round dark-coloured cakes, not exceeding a quarter of an ounce each in weight, ten grains of which, dissolved in a sufficient quantity of water, might suffice one person for breakfast. It might also be made here without much expence or trouble (See SECT. II. 2.).

It is remarkable, that in all the forms which Du Halde relates, for administering Tea as a stomachic medicine among the Chinese, it is ordered to be boiled for some time, or prepared in such a manner, as to cause a dissipation of its fragrant perishable flavour; which practice, as it seems consonant to experiments here (SECT. II. EXP. III.), may probably have taken its rise in China, from long experience and repeated facts.

SECTION

SECTION XIII.

PERHAPS it will not be deemed foreign to an essay upon this subject, to take a concise view of the manners and dispositions of the Chinese, as we have done of their diseases. Those who are best acquainted with human nature seem to ascribe even to their food, and way of life, as well as to their climate and education, certain propensities at least to vice and virtue; and it may be of use to draw what light we can in these respects, from the character of a people, who have used the infusion of Tea for a long series of years.

They are in general described to be a people of moderate strength of body, not capable of much hard labour, rather feeble when compared with the inhabitants of some nations, excelling in some minute fabricks and manufactures, but exhibiting no proofs of elevated genius in architecture, either civil or military. They are said to be pusillanimous, cunning, extremely libidinous, and remarkable for dissimulation and selfishness¹, effeminate, revengeful, and dishonest².

¹ See Anson's Voyage round the World, 8vo. p. 366, and many later authorities.

² See likewise Du Halde's History of China, Vol. II. p. 75, 130, et seq. *Les Lettres Curieuses et Edifiantes des Jesuites.*

It would be unjust to ascribe all these qualities to their manner of living: other causes have undoubtedly their share: but it may be suspected, that the manner of life, or kind of diet, that tends to debilitate, virtually contributes to the increase of the meaner qualities. When force of body is wanting, cunning often supplies its place; and if not regulated by other principles, it would discover its effects more universally; and thus will take place whether the debility is natural, or acquired by a diet that enfeebles the body. That there is a probity, fortitude, and generosity, in female minds, not inferior to the like qualities possessed by the other sex, is most certain; but that it is generally so may perhaps be doubted;

though both

Not equal, as their sex not equal seem'd;
 For contemplation he and valour form'd,
 For softness she, and sweet attractive grace¹.

Whether the present age exhibits as many instances of superior excellence as the preceding, is beyond my abilities to determine: that it is tarnished more than some others with one vice at least, is generally confessed; and it may, perhaps, be a problem not unworthy of consideration, whether the general use of Tea may not gradually increase the disposition. For whatever tends to debilitate, seems for the most part to augment corporeal sensibility. The same person, who in health

¹ Milton's Paradise Lost,

does

does not start at the firing of a cannon, shall be extremely disconcerted when sunk by disease to the border of effeminacy, at the sudden opening of a door. Desire is not always proportioned to bodily strength: it may sometimes be strongest when the corporeal strength is at the lowest ebb; it is often found so; and therefore another reason occurs, why the general use of Tea ought not to be considered as the most indifferent of all subjects.

From what has been said upon this subject, it will probably be admitted, that children and very young persons in general should be deterred from the use of this infusion. It weakens their stomachs, impairs the digestive powers, and favours the generation of many diseases. We seldom perceive the rudiments of scrophulous diseases so often any where as in the weak feeble offspring of the inhabitants of towns, and whose breakfast and supper often consist of the weak runnings of ordinary Tea, with its usual appurtenances. It ought by no means to be the common diet of boarding-schools; if it be allowed sometimes as a treat, the children should at the same time be informed, that the constant use of it would be injurious to their health, strength, and constitution in general.

SECTION XIV.

THUS far I have chiefly endeavoured to trace the effects of Tea as a part of our diet. In medicine it has at present but very little reputation amongst us. It is even scarcely ever recommended as a part of the furniture of a sick chamber; it is seldom mentioned even as a gentle diaphoretic: in cases, however, where it is necessary to dilute and relax, to promote the thinner secretions, it promises at least as much advantage as most other infusions. For, besides its other effects, it seems to contain something sedative in its composition (SECT. II. EXP. III. IV.), not altogether unlike an opiate. Like this class of medicines, it mitigates uneasiness, perhaps more than any other merely aqueous infusion: and, like very small doses of opium, it sometimes prevents rest, and gives a temporary flutter to the spirits.

Where, therefore, large quantities of the infusion must be taken, to produce or support a considerable diaphoresis, a decoction of Tea, or a strong infusion, may be administered with great propriety, particularly in inflammatory complaints; the sedative power of Tea, assisted by the diluting effects of warm water, generally producing a diaphoresis, without stimulating the system. The Chinese most commonly give it as a medicine in decoction, in a variety of diseases; but if the infusion were
drawn

drawn from a large proportion of fine Tea, and soon poured off, that the finest part may be procured, and drank warm, it would seem preferable as an attenuant and relaxant.

I have more than once given fine green Tea in substance with some diluting vehicle, and observed the same effects nearly as are produced from taking the infusion. Thirty grains of this kind of Tea powdered, taken three or four times at as many hours interval, generally relaxes the solids, diminishes heat and restlessness, and induces perspiration. Such a dose as produces a slight nausea, which this quantity usually does, more certainly induces a perspiration, and a mitigation of the symptoms accompanying inflammatory complaints. If this dose be doubled, the nausea and sickness will be increased, and a disagreeable sensation or load is felt for some time about the region of the stomach, which usually goes off with a laxative stool.

SECTION

SECTION XV.

IT is said that in Japan and China the stone is a very unusual distemper, and the natives suppose that Tea has the quality to prevent it¹. So far as it softens and meliorates the water, which is very bad, it may certainly be of use². We may also observe here, that every solvent is capable of taking up a limited quantity only of the solvend, and, when fully saturated with it, is incapable of suspending it long; hence it is plain, that the quantity of the stony matter carried off must be greater when the urine is increased in quantity, and has not been too long retained in the bladder: and therefore, as Tea is a diuretic, it may in this view prove lithonthriptic.

Tea, we have already observed, contains an astringent antiseptic quality (SECT. I. EXP. I, II.) It likewise possesses no inconsiderable degree of bitterness; and, as the *uvæ ursi*, and other bitters, have mitigated severe paroxysms of the stone, may not Tea prove serviceable also by its antacid quality?

¹ Vid. Alex. Rhod. Sommaire, &c. J. N. Pechlin. Obs. xxvii. de Remed. Arthr. Prophylact. p. 276. Baglivius in doloribus calculosis et podagricis eam specialiter commendavit, p. 117. Vogel. Mat. Med. Thee Folia. Sir G. Staunton, Vol. II. p. 68, 69.

² By long boiling, water is certainly freed from some of the earthy and saline substances it may contain, and thereby rendered considerably softer; but it is by no means altered in these respects by infusing with Tea. See Percival's Experiments and Observations on Water, p. 27 et 33.

It is an observation I have often had occasion to make, that people, after violent exercise, or coming off a journey much fatigued, and affected with a sense of general uneasiness, attended with thirst and great heat, by drinking a few cups of warm Tea, have generally experienced immediate refreshment. It also proves a grateful diluent, and agreeable sedative, after a full meal, when the stomach is oppressed, the head pained, and the pulse beats high^{*}; hence the Poet says,

“ The Muse’s friend, Tea, does our fancy aid,
 “ Repress those vapours which the head invade,
 “ And keeps that palace of the soul serene,
 “ Fit on her birth-day to salute a queen.”

WALLER.

^{*} This is particularly remarked, as one of the good effects of Tea, by De Blegny, who wrote in 1680, which he probably copied from Alex. Rhod. *Sommaire des divers Voyages*, &c. printed in 1653. See also Chamberlayn on Coffee, Tea, and Chocolate, p. 40. *Le Comptes Memoirs and Observations*, p. 227. Home’s *Principia Medicinæ*, p. 5. Cheynæi *Tractatus*, p. 89. Percival’s *Experimental Essays*, p. 130. Tissot on the Diseases of Literary and Sedentary persons, p. 145, & seq. Dr. Kirkpatrick, in his notes upon this Work, relates the case of a Lawyer, who had been troubled for some time with the gravel and stone, and taken many medicines in vain; till at length he resolved to try the effects of Tea, an account of which is given by himself in the following words. “ I had never used myself to “ Tea, so that the drink was new to me. I took a quarter of an ounce of fine bohea “ Tea, and, pouring a quantity of boiling water upon it, suffered the infusion to “ stand till it grew cold. I then poured it off clear, and drank three cups of it in “ the morning, at the distance of about an hour between each, two cups fasting, “ one after breakfast, and a fourth two hours after dinner. The first day, the only “ effect produced was a more plentiful discharge of urine; but the second day I “ voided in the morning twelve large fragments, a nucleus of the size of a small pea, “ with some gravel; and what gave me more satisfaction was, that the use of the “ Tea kept my body open as in perfect health.”

SECTION

SECTION XVI.

I SHALL finish these remarks with some reflections on this herb, considered in another light.

As luxury of every kind has augmented in proportion to the increase of foreign superfluities, it has contributed more or less its share towards the production of those low nervous diseases, which are now so frequent. Amongst these causes, excess in spirituous liquors is one of the most considerable; but the first rise of this pernicious custom is often owing to the weakness and debility of the system, brought on by the daily habit of drinking Tea¹; the trembling hand seeks a temporary relief in some cordial, in order to refresh and excite again the enfeebled system; whereby such almost by necessity fall into a habit of intemperance, and frequently intail upon their offspring a variety of distempers, which otherwise probably would not have occurred.

Another bad consequence resulting from the universal custom of Tea-drinking, particularly affects the poor labouring people, whose daily earnings are scanty enough to procure them the necessary conveniences of life, and wholesome diet. Many

¹ See Percival's Experimental Essays, p. 126. Duncan, in his *Avis Salulaire*, takes occasion to be merry upon the use and influence of Tea and hot liquors; whilst he would not deprive voluptuous persons of their idol, he would prevent it from burning its adorers, as *Moloch* did. Methuselah, he observes, who lived near 1000 years, was a water-drinker; but, since the time of Noah, the first wine-drinker, the life of man is contracted, and diseases augmented.

of these, too desirous of vying with their superiors, and imitating their luxuries, throw away their little earnings upon this foreign herb, and are thereby inconsiderately deprived of the means to purchase proper wholesome food for themselves and their families. In the words of Persius we may here justly exclaim,

O curas hominum quantum est in rebus inane !

I have known several miserable families thus infatuated, their emaciated children labouring under various ailments depending upon indigestion, debility, and relaxation. Some at length have been so enfeebled, that their limbs have become distorted, their countenance pale, and a marasmus has closed the tragedy !

These effects are not to be attributed so much to the peculiar properties of this costly vegetable, as to the want of proper food, which the expence of the former deprived these poor people from procuring. I knew a family, consisting of a mother and several children, whose fondness for Tea was so great, that three times a day, as often as their meals, which generally consisted of the same articles, they regularly sent for Tea and sugar, with a morsel of bread to support nature ; by which practice, and the want of a due quantity of nutritious food, they grew more enfeebled ; thin, emaciated habits and weak constitutions characterised this

* See Dr. Walker's excellent Remarks, in Memoirs of the Medical Society, Vol. II. p. 43.

distressed family, till some of the children were removed from this baneful nursery, by which they acquired tolerable health.

My valuable friend, Dr. Walker, of Leeds, in Yorkshire, has noticed, in several parts of that extensive and commercial county, and particularly in Leeds; that, "since the more plentiful introduction of Tea into the families of the industrious poor, by the late reduction of its price, the *Atrophia Lactantium*, or *Tabes Nutricum*, a species of decline, has made an unusually rapid progress. The difficulty with which animal food is procured by the lower ranks of society, in quantity sufficient for daily nutriment, has led many of them to substitute, in the place of more wholesome provisions, a cheap infusion of this foreign vegetable, whose grateful flavour (and perhaps narcotic quality, which it possesses in a small degree in common with most other ever-greens) is found to create an appetite for itself, in preference to all other kinds of aliment that the scanty income of poverty allows these deluded objects to procure; though I am sorry to have occasion to add, that the lowering effects of tea-drinking lead too many of these to seek relief from spirits, and other pernicious cordials, at the expence of health, and the sure consequences of penury and want.

"As this change, in the article of diet, has been very generally made, especially by the females, and the younger branches of the families of the manufacturing poor, their constitutions have been rendered much less able to bear evacuations of any sort, and particularly that of lactation. I may, with great truth, aver, that more than two hundred patients of this denomination have, within the last two years, come

come under my notice: upon their application for relief, and the consequent enquiry which I have been led to make respecting the nature of their diet, their almost invariable reply has been, that they have chiefly depended upon Tea for their support, at the same time that they were permitting an apparently healthy child to draw the whole of its nourishment from them.

“ That it is debility, and an impoverished state of the whole system, arising from a deficiency in the due supply of proper and sufficiently nutritious aliment, at a time when the constitution particularly requires it, in consequence of the continual waste which the mother sustains from the suckling of her infant, which lay the foundation of this disease, and that the lungs are but secondarily or symptomatically affected, is clearly evinced from an attention to the symptoms.

“ The patient first complains of languor, and general weakness; loss of appetite; fatigue after exercise, though it be of the gentlest kind; wearisome pains in the back and limbs; soon after which, symptoms of general atrophy come on; the face, in particular, grows thin, and is marked by a certain delicacy of complexion; paleness about the nose; but with a small degree of settled redness in the cheeks. In a short time, if the patient still continues to give suck, she is seized with transitory fits in the sides, under the sternum, or in some other part of the thorax; accompanied with a short dry cough, and slight dyspnoea, upon any muscular exertion; the pulse also becomes frequent, but seldom so hard as in the inflammatory state of the genuine phthisis pulmonalis; morning sweats next

make their appearance ; abscesses and ulcers are often formed in the lungs ; pus mixed with mucus is expectorated ; the general weakness increases ; the emaciated patient is unable to support an erect posture ; and at last dies literally exhausted."

An ingenious author observes, that as much superfluous money is expended on Tea and Sugar in this kingdom, as would maintain four millions more of subjects in bread¹. And the author of the Farmer's Letters calculates, that the entertainment of sipping Tea costs the poor each time as follows :

					<i>d.</i>
The tea	—	—	—		$\frac{1}{4}$
The sugar	—	—	—	—	$\frac{1}{2}$
The butter	—		—		1
The fuel and wear of the Tea equipage					$\frac{1}{4}$
					$2\frac{1}{2}$

When Tea is used twice a day, the annual expence amounts to 7*l.* 12*s.* a head. And the same judicious writer estimates the bread, necessary for a labourer's family of five persons, at 14*l.* 15*s.* 9*d.* per annum². By which it appears, that the yearly expence of Tea, Sugar, &c. for two persons, exceeds that of the necessary article of bread, sufficient for a family of five persons.

¹ Essays on Husbandry, p. 166.

² Vol. I. p. 202. and 299.

It appears also, from a moderate calculation, that twenty-one millions of pounds of Tea¹ are annually imported into England. In the beginning of the present century the annual public sales by the East-India Company did not much exceed 50,000 pounds weight, independently of what little might be clandestinely imported. The Company's annual sales about this time, 1797, approach to twenty millions of pounds; being an increase of four hundred fold in less than 100 years, and answers to the rate of more than a pound weight each in the course of the year, for the individuals of all ranks, sexes, and ages, throughout the British dominions in Europe and America².

Since the year 1797, it is probable, that the import of Tea has increased in a much greater ratio; for the East-India Company, at their sale in September 1798, put up 1,300,000 pounds of bohea; 3,500,000 pounds of congou and campoi; 400,000 pounds of fouchong and pekoe; 600,000 pounds of fonglo and twankay; 400,000 of hyson; hyson skin 100,000; making, in the whole, 6,300,000 pounds, the quantity sold in the autumnal quarterly sale: and it may be presumed, from the table annexed, (p. 1. Section IV.) and other documents, that at least 30,000,000 of pounds are annually imported into Europe and America!

¹ If we include the quantity smuggled into this kingdom, the consumption might be calculated at half a million more.

² Compare Sir George Staunton's Embassy, vol. I. p. 22.

DIRECTIONS FOR THE PLATES.

Green Tea, to front the title page.	
Bohea Tea	Page 41
Olea fragrans	43
Camellia Sefanqua	46
Boxes for conveying plants by sea	55

ERRATUM.

P. 41. l. 10. for *than that* read *as*.

