

Inhabitants
Galleys.

finite Number of others, called *Lang-chwen*, almost as broad as long; but very light and small in Comparison of the former. These belong to private Persons; some very commodious, which are hired to the *Literati*, or rich Folks. They have belonging to them, a fair Cabin, a Bed, a Table, and Chairs; where you may sleep, eat, study, write, and receive Visits, with the same Convenience as if you were at home in your House. The Prow belongs to the Mariners and Watermen; and the Master of the Boat lives in the Poop, with his Wife and Children; where also the Victuals are dressed for him who hires the Bark^a. There are others much larger, which are made use of by the Merchants for carrying on Trade.

Kind of
Galleys.

See likewise some that may be called *Galleys*; which are convenient for sailing upon the Rivers, along the Sea-Coast, and among the Islands. These Barks are as long as Merchantmen of three hundred and fifty Tons; but shallow, and draw no more than two Feet of Water. Their Oars, which are long, do not extend across the Sides of the Bark, like those in *Europe*; but being placed on the Outside, in a Position almost parallel to the Sides, they are easily moved by a few Hands, and the Vessel made to go very swiftly^b.

Usual Way
of Rowing.

As for ordinary Barks, they fasten a Kind of long Oar to the Poop, nearer one Side of the Bark than to the other; and sometimes another like it to the Prow, that they make use of as the Fish does of its Tail, thrusting it out, and pulling it to them again, without ever lifting it above Water. This Work produces a continual Rolling in the Bark; but hath this Advantage, that the Motion is never interrupted, as it is when the Oars are lifted-up, according to the *European* Method^c.

Floating
Houses.

LASTLY, there is a prodigious Multitude of Barks where whole Families dwell, and live more conveniently than in Houses on Land. In the smallest Sort, which have no Cabins, they make a Kind of Tilt or Arch of thin Mats, about five Feet square, to defend them from the Rain and Heat of the Sun^d.

Rafts, or
Floats.

THE Merchants trading in Timber and Salt^e, who, by the Way, are the richest in all *China*, instead of Barks to carry their Goods, use a Sort of Rafts, or Floats. *Magalhaens* saw one made of the Timber which was cut down in the Mountains of *Se-chwen*, in the Borders of *China*. The Wood being brought to the Side of the River *Kyang*, they saw it into Boards, Planks, and Beams; then, boring Holes in both Ends of the

Pieces, they, with twisted Osiers, fasten them together, forming their Float five Feet high, ten broad, and of any Length; there being some which reach for half a League. The several Parts of the Raft thus joined, move easily any Way, like the Links of a Chain. Four or five Men on the Fore-part guide it with Poles and Oars; while others, placed all along the Side, at equal Distances, help to conduct it. They build thereon, from Space to Space, Booths covered with Boards, or Mats, where they stow their Moveables, dress their Victuals, and take their Rest. In the different Cities which they touch at, they sell their Houses along with their Timber; and thus they float above six hundred Leagues, when they carry their Wood to *Peking*^f.

Travelling
Carriages.

3. Conveniencies for Travelling, and carrying Goods by Land.

Good Roads. Bad Inns. Robberies rare. Roads extremely dusty. Travelling in Chairs: And in the Night. Goods carried by Porters: Manner of hiring them. How they carry Goods. Carts with one Wheel. Mules, Rate of. Custom-houses not severe: How governed.

ROADS, whereof so much Care is taken, as hath been observed with respect to those of *China*, must needs be very proper either for Travelling or Carriage. The great Number of Villages that occur full of Temples is no small Conveniency to Passengers. Inns too are numerous enough; but nothing can be more wretched, or ill contrived, excepting those on the great Roads, which are very large and handsome; yet Travellers must carry their Beds along with them, or else be forced to lie on a plain Mat. The *Chinese*, especially the meaner Sort, never use Blankets; being content to wrap themselves, sometimes quite naked, in a Coverlid lined with Linen; so that their Beds are easily carried. The Entertainment is suitable to the Lodging; for you will have very good Luck, if you meet with either Fish or Meat. In several Places, however, wild Fowl, especially Pheasants, are very cheap; for, sometimes, four may be bought for so many Pence. These Inns consist, for the general, of four Mud Walls, without any Plastering. All the Rafter in the Roof appear; and it is well, if you do not see through it in many Places; besides, the Rooms, which are seldom paved, are full of Holes. In some Provinces, these Inns are built only of Earth and Reeds;

^a *Magalhaens's Relation of China*, p. 130. *Du Halde's China*, p. 327.

^c *Le Conte's Memoirs of China*, p. 234.

Magalhaens, has Silk instead of Salt.

^d *Du Halde*, as before.

^e *Magalhaens*, as before, p. 131.

^f *Du Halde*, as before.

^g The *English* Translation of *Du Halde*, as before.

Inhabitants
Classified.

but in the Cities they are of Brick, and pretty convenient. In the North Parts one meets with what they call *Kans*; being great Brick Estrades, the whole Breadth of the Room, with a Stove underneath^a, and a Mat, made of Reeds, on the Top, whereon you may lay your Bed.

Robberies
rare.

GUARDS being posted at small Distances along the Roads^b, Travellers are very seldom in Danger from Highwaymen, who very rarely appear, except, sometimes, in the Provinces neighbouring to *Pe-king*: But they scarce ever murder those they rob; and when they have done their Business, march-off very dextrously^c. The Throngs of Passengers on the great Roads, is a sufficient Security to them against Robbers. One of the Missioners observes, that he was followed several Days together by one of those Gentlemen, who, in all that Time, could not find an Opportunity to execute his Design, because he no sooner lost Sight of one Company of Travellers, but another appeared in View.

Roads extremely
dusty.

IN short, according to the Missioners, the greatest, and almost only Inconvenience in Travelling, especially in Winter, and in the North Part of *China*, is the Dust; for it scarce ever rains in that Season. The Soil being very loose, when the Wind blows hard, it raises such Clouds, that the Sky is darkened, and one can hardly breathe. The like Effect is produced by the Motion of such infinite Numbers of People and Carriages: So that they are often obliged to cover their Faces with a Veil, or their Eyes with Glasses, fixed in Leather or Silk, and tied behind the Head. The Southern Provinces are indeed free from this Inconvenience, but liable to the Overflowing of the Waters; against which they have provided, by building a vast Number of Bridges.

THE usual Way of Travelling in *China* is on Horses; which are very good, though ordinary to look at: But the worst of it is, that in case your Horse tires on the Road, there is no getting another at the Post-Houses: Because all the Post-Horses belong to the Emperor, and are made use of by none but his Couriers, or the Officers of his Court.

Travelling
in Chairs.

WHEN the Roads are too rough to travel on Horseback they make use of Chairs, which the *Chinese* call *Quan-kyau*, that is, *Mandarin Chairs*; because much like those used by the *Mandarins*, and little different from the Hackney-Chairs of *Paris*; only they are larger, higher, and lighter; being made of Bambú Canes, laid across each other in the Form of a Lattice, and tied together very strongly with Ratan. This Lattice is covered from Top to Bottom with a Piece of co-

loured Linen, Silk, or woollen Cloth, according to the Season; over which, in rainy Weather, they put an Oil-Cloth made of Taffety. If there be but two Chairmen, the Ends of the Poles, as well before as behind, pass through two running Knots of a strong pliable Cord, hung by the Middle to a thick Stick, whose Ends rest on the Shoulders of the Chairmen^d; and then there are commonly eight, in order to relieve each other.

Travelling
Carriages.

WHEN, to avoid the Heats, they travel in the Night, especially in mountainous Countries infested with Tygers; they hire Guards (to be found at proper Distances) with Torches; which serve both to light them, and to scare those wild Beasts. They are made of Branches of the Pine-Tree dried by the Fire; and prepared in such a Manner, that the Wind and Rain do but make them burn the faster: Each Torch, which is six or seven Feet long, lasting near an Hour. However, scarce any travel in this Manner but those sent from Court, the *Mandarins*, and other great Lords; who being followed by large Retinues, have nothing to fear either from wild Beasts or Robbers.

And in the
Night.

ONE great Conveniency to those who travel by Land in *China* is, the Ease and Safety where-with their Goods are carried by Porters, who are very numerous in every City: These have their Head, to whom Persons apply; and having agreed for the Price, which they pay beforehand, he gives them as many Tickets as there are Porters wanted; by Means whereof they are furnished in an Instant, and he becomes answerable for the Contents of their Bales. When the Porters have brought their Loads to the Place appointed, you give each of them a Ticket; which he carries back to his Chief, who then pays him.

Goods carried
by Porters.

IN the Cities on much-frequented Roads, such as that over the Mountain of *Mey-lin*^e, there are a great many Offices, where all the Porters enter their Names, with good Security: So that you may have three or four hundred on Occasion. Having applied to the Head of the Office, he makes out a List, in a Trice, of all you have to carry; whether Boxes, or other Things; and receives from you so much a Pound, the Price being commonly about Four-pence halfpenny a hundred Weight for a Day's Carriage: After this you have no farther Trouble; for the Principal gives every Porter his Load, with a Note of what it contains; and when you arrive at the City you are bound to, all that belongs to you is faithfully delivered by the Correspondent-Office.

Manner of
hiring them.

THE Burden is fastened by Cords to the Mid-

How they
carry Goods.^a See before, p. 104.^b The same, p. 105.^c *Du Halde's China*, p. 265, & seq.^d The

Chairmen must be supposed to follow one another, two before, and two behind the Sedan; which is carried, as it were, in Slings: For such the Stick and Rope seem to be by the Description.

^e See before, p. 60. b.

dle

Coin of different Dynasties.

p. 131.

the first Song



the Lyang



the T'ing



the 2^d Song



the Ming



of Shun chi



of K'ang hi

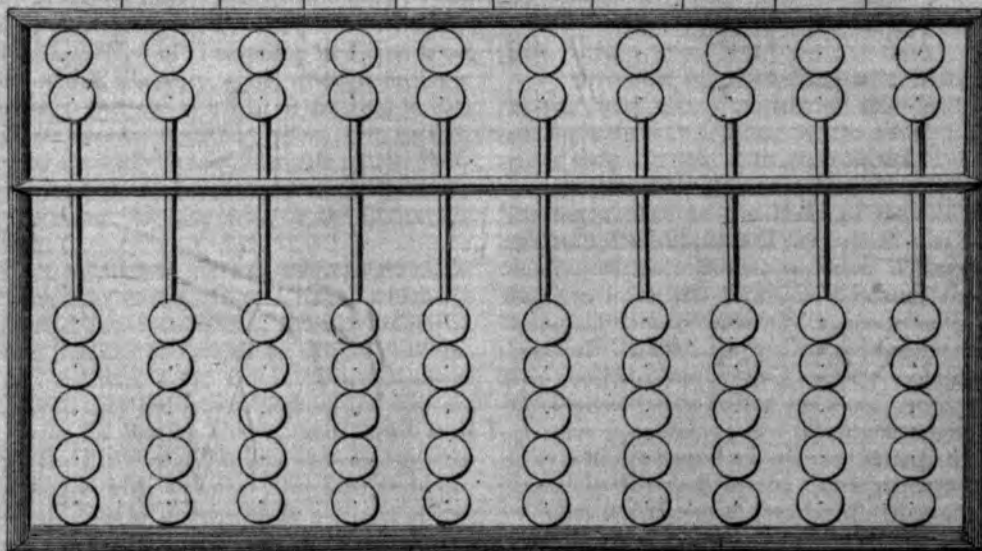


of yong ching



A Swan pan, or Counting Board, from du Halde

Millions of Lyang	10 Thous. and Lyang	One Thousand	One Hundred	Ten Lyang	One Lyang	Tyen to Lyang	Fwen to Tyen	A Li to Fwen	A Wha to Li
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Inhabitants
Classes.

dle of a Bambú-Pole, whose Ends are borne on the Shoulders of two Men: But if the Weight be too great, they make use of four Men with two Poles. They are changed every Day, and obliged to make the same Stages with those who employ them. When one Man carries a Bundle, he lightens his Load, by dividing it into two equal Parts, and fastening them with Cords, or Hooks, to the Ends of a flat Bambú-Pole; afterwards poises them on his Shoulders like a Balance, the Pole bending and rising alternately as he goes along. When one Shoulder is weary, he dextrously gives the Pole a Twist round his Neck upon the other; and thus some will carry an hundred and sixty French Pounds ten Leagues in a Day.

Carts with
one Wheel.

In some Provinces they make use of Mules for carrying the Bales and Merchandizes; but oftener Carts with one Wheel, which is very large, and placed in the Middle. On each End of the Axel-tree, which comes out on both Sides, they set a Lattice, whereon they lay Loads of equal Weight. It is thrust forwards by one Man: But if the Load be heavy, another Man, or else an Ass is put before to draw it; and sometimes both. They have Axel-trees resembling ours, with the Wheel placed forward, as in Barrows; but they scarce ever make use of them in Journeys.

Mules, Rate
of.

THE common Hire of Mules, for twenty-five Days, is four *Lyangs*, or *Tails*, and an half, or at most five ^a, according to the different Seasons and Price of Provisions: Returned Mules may be had a great deal cheaper. They are much less than those of *Europe*, but very strong; their usual Load being from one hundred and eighty, to two hundred *Chinese* Pounds; each four Ounces heavier than the *French*.

Custom-houses
not severe.

THE Custom-Houses in *China* are not so rigorous as in other Countries; for they search no Man, and very rarely open the Bales, or Chests. Nay, if a Person makes a tolerable Appearance, they take nothing of him; *We see plainly*, say they, *that the Gentleman is no Merchant*. At some Custom-Houses they pay by the Lump, and then Credit is given to the Merchant's own Bill of Parcels. There are others that require so much a Load, which is easily settled. Even the Emperor's *Kang-bo* (or travelling Order) does not exempt one from paying Custom: However, the *Mandarin*, out of Respect, lets him pass, without requiring any-thing: But at *Pe-king* they are generally more strict.

THE Bales belonging to great Officers of the Court, on which is pasted a *Fong-tyau*, (being a large Slip of Paper, whereon is written the

a Time it was packed-up, with the Name and Dignity of the Owner) are never opened.

Money,
Coin.

FORMERLY the Custom-Houses were shut-up, and the *Mandarin* belonging to them, who was of considerable Rank, changed every Year: But for twelve Years past, the Care of the Custom-House has been committed to the Vice-Roy of each Province, who nominates a Deputy to receive the Duties: However, the Trouble occasioned by the Sea-Trade has obliged them of late to appoint particular *Mandarins* for those of *Quang-tong* and *Fo-kyen* ^b.

4. The Money, Coin, Weights, and Measures.

Gold a Commodity. Standard of Silver: Its Goodness, how known: None coined. Their Scales. Copper Money. Gold and Silver Money. Shape of Money. Ancient Coins. Stamp and Marks. Value uncertain. Paper Money. Uncertain Coin. Coining how punished. Collection of Coins. Chinese Weights and Measures: Content of a Degree.

ONLY Silver and Copper are current in *China*, to purchase Necessaries, and to carry-on Trade. Gold is on the same Footing as precious Stones in *Europe*: For it is bought like other Merchandize, and the *Europeans*, who traffic there, make considerable Profit by dealing in it; because, says *Le Comte*, it bears only the same Proportion to a Pound of Silver, as one does to ten: Whereas, among us, it is as one to fifteen; so that the Merchant generally gets by it a third Part.

THEIR Silver is not equally fine: But as the *French* fix the greatest Degree of Fineness for Gold at twenty-four Carats, they divide their Alloy into one hundred Parts, which is the Degree of the finest Silver. However, one meets with Silver, from ninety to an hundred Parts: Also some of eighty Parts; but this is reckoned the basest Alloy, and will not pass unless the Weight be augmented, till it amounts to the Value of that which is current in Trade ^c. The *Chinese* take *French* Money as Silver of the fourscore and fifteenth Sort: Yet those, who understand this Metal well, judge it to be but of the ninety-third Sort at most: So that in an hundred Ounces of our Silver, there are seven of Alloy; or, which is all one, an hundred Ounces of it are worth but ninety-three of fine Silver.

THE *Chinese* are very skilful in judging, at Sight, of the Fineness of Silver; being scarcely ever mistaken. They know the Goodness of it three

^a A *Lyang*, called, by the *Portuguese*, *Tael*, is about six Shillings and Eight-pence; then four and an half make thirty Shillings, and five *Lyangs* thirty-three Shillings and Four-pence. ^b *Du Halde's China*, p. 266, & seq. ^c *Le Comte's Memoirs of China*, p. 306. *Du Halde*, as before, p. 330.

Inhabitants
Classes.

Ways: By the Colour; by several little Holes, which are made in it by the melting Pot; and by divers small Circles, which the Air makes on the Surface of the Metal, when it cools after melting. If the Colour be white, the Holes small and deep; if the Circles be many, close, and very fine, especially toward the Center of the Piece; then the Silver is pure: But the more it differs from these three Qualities, so much the more Alloy it has ^a.

None coined.

THEIR Silver is not coined, as in Europe; but cast into Ingots ^b, and so cut into Pieces, great or small, as Occasion requires, and its Value rated by the Weight. These Ingots, which are the finest Silver, are used only in paying large Sums. The Difficulty is to make use of them in the Retail-Way; for sometimes they are forced to put the Wedge in the Fire, and beat it thin with a Hammer, in order to cut it more easily into Bits; whence it happens, that they are always longer in making the Payment, than the Purchase. They own it would be more convenient to have Money of a fixed Value, and Weight: But then, they say, the Provinces would swarm with Clippers and Coiners; who are not to be feared, so long as they cut the Silver. As in cutting it so often, it is hard to avoid losing some small Particles; so you will see poor People very busy in gathering and washing the Dirt, that is thrown out of the Shops into the Streets; the Trifle they find being sufficient to subsist them ^c.

Their Scales.

To weigh their Silver, they generally carry about them, in a neat japanned Case, a Pair of small Scales, not unlike the Roman Balance. It is composed of a little Plate, or Dish, an Ivory, or Ebony Beam, and a Weight that slides up and down it. The Beam, which is divided into minute Parts on three Sides, is suspended by silken Strings at one of the Ends, in three different Points, that they may more easily weigh Things. This Sort of Balance is exceeding exact; for any Money, from fifteen or twenty Taëls down to a Sou, and less, may be weighed therein, with so great a Nicety, that the thousandth Part of a Crown will sensibly turn the Scale.

Copper Money.

COPPER-MONEY is the only Sort that has any Characters stamped thereon, and is of use in Retail-Business: These are small, round Pieces,

with a Hole in the Middle, which they use separately for small Change, or string by Hundreds, to the Number of a thousand. The Metal is neither pure, nor hammered. Ten of these Pieces go to a Sou ^d, ten Sols make the tenth Part of a Chinese Crown ^e, called *Lyang*, and by the Portuguese, *Taël*, which are in Value about an hundred Sols of French Money ^f. These small Pieces, which have been the current Money of China in all Times, are collected by the Curious ^g.

Money.
Coin.

OUR Author, *Du Halde*, gives an Extract from a Book concerning Coins, written under the Dynasty of the Song ^h, and sent to him (we presume, translated) by *Dentrecolles*, one of the Missioners of his Society; from whence we have selected the following Particulars.

THE Word used for Money is *Tsyen*: Thus they say *Tong-tsyen*, Copper Money; *In-tsyen*, Silver Money ⁱ. The small Copper-Coin, of a good Alloy, have four Parts in ten Lead. Hence the red Copper loses both Colour and Sound; and the Money, though thick, may be broken with the Fingers.

UNDER the Reign of *Yu*, Founder of the first Dynasty, mentioned before ^k, Gold and Silver were current, as well as Copper. There were Emperors also of other Races, who permitted the Use of foreign Coin in those Metals. There was beside, Money made of Tin, Lead, Iron, and even baked Earth; on which Figures and Characters were stamped. Certain little Shells, called *Pwey* in China, and *Kori* in Bengal, have likewise served for small Money; several of them going for one of the Copper-Pieces: But they did not continue long in Use.

Gold and
Silver Money.

WITH respect to the Form of Money, it has been of different Figures, under different Reigns. Since the Time of the preceding Dynasty, the Copper Pieces have always been round, and with a square Hole in the Middle, edged with a Border, rising a little, for Conveniency of stringing them. In the Time of the Han Families ^l, the Money was pierced in the same Manner. In the Beginning of the first Dynasty, besides the round Money, there were current some in the Shape of a Cutlafs, and thence called *Tau*: Another Sort resembled the Back of a Tortoise; and for this Reason was named *Quey*: Lastly, others termed

Shape of
Money.

^a *Le Comte's Memoirs of China*, p. 305, & seq.

^b *Magalhaens*, p. 136, says, in Form of a Boat, and of different Sizes and Weights, from half a Crown (or Ounce) to an hundred Crowns.

^c *Du Halde's China*, p. 330.

^d A Sou, or Sol, is little more than an English Halfpenny.

^e The Author had better have said a Chinese Ounce of Silver, which the *Lyang* properly denotes; there being no Silver Coin of that, or any other Denomination, as hath been observed before.

^f Rather, an hundred and fifty-seven Sols, since elsewhere the Author makes it equivalent to seven Livres ten Sols. But it goes only for six Shillings and Eight-pence English.

^g *Le Comte*, as before, p. 305, & seq. *Du Halde*, as before, p. 330.

^h Which began in the Year 960.

ⁱ So at Kanton they term the Piaffers and French Crowns.

^k P. 119. d.

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Classes.

Pu, of an odd Figure. The round Money was commonly an Inch, or an Inch and an half Diameter; and some twice as large. Those called *Pu* and *Tau*, were five Inches long, and seem to have resembled the *Cupans* of *Japan*: But, being very inconvenient for use, were put-down.

Ancient
Coin.

UNDER the *Song*, there were Pieces so small, that they were called *Geese Eyes*; so thin, that they swam on the Water; and in handling were in Danger of being broken. It required no fewer than ten thousand of them to buy a Measure of Rice, sufficient to subsist a Man ten Days. But this Money did not continue long in Use; because People refused to take them in the Way of Trade.

UNDER the first Dynasty of the *Tang*, the Banks of the *Yellow River* having tumbled down, there were found three thousand three hundred Pieces of Money with three Feet; but the Characters were defaced. This Coin, doubtless, was current under the Emperors of the three first Races, who kept their Court not far from that great River.

Stamp and
Marks.

THE Chinese Money is not stamped like those of *Europe*, with the Head of the Prince; it being deemed disrespectful to the Majesty of the Emperor, for his Image to be perpetually passing through the Hands of Dealers, and the Dregs of the People. The Inscriptions on their Coin are commonly the pompous Titles given by the reigning Princes, to the different Years of their Reign: As, *The eternally Shining*; *The supremely Peaceful*; *The Magnanimous*.

ON other Money may be seen the Names of the reigning Family, of the Tribunal that presides over the Mint, or of the City where it was coined. Some are marked with the Value set upon them by the Prince; as, *Pwan-lyang*, that is, half a *Tail*. There is another Sort, whose Inscription is *Quey-yu-ching-ti*, that is, *Money has its Run, and at length returns to the Emperor*. With regard to the Characters on the ancient Money, such as the *Pu* and *Tau*, none at present understand them.

THERE are three Sorts of ancient Coin, consisting of a Mixture of Silver and Tin, which are engraven all over with Figures. The first Sort, which is round, and weighs eight *Tails*, represents a Dragon in the midst of Clouds. On the second, which is square, and weighs six *Tails*, there is a Horse galloping. The third, weighing four *Tails*, is oblong, and shaped like the Back of a Tortoise, with the Word *Vang*, or *King*, in

every Compartment of it. These are attributed to the Founder of the *Shang* Race.

Weights,
Measures.

Value uncertain.

IT is scarce possible to assign the Value of the ancient Coin: For though the Weight is marked thereon, some of them pass for much more than their intrinsic Value came to. When there has been a Scarcity, owing to the People burying it in troublesome Times, or Foreigners invading the Country, and carrying it away by Ship-loads, the Emperor has been forced to raise the Value of the very small Copper Pieces ten Times more than they went for before; which has, sometimes, occasioned popular Tumults, because the Merchants raised the Price of Commodities in Proportion. Copper was once so scarce, that the Emperor caused near fourteen hundred Temples of *Po* to be demolished, and all the Copper Images to be melted down, in order to coin them into Money. At other Times, the People have been prohibited the Use of Copper Vessels, or other Utensils, and obliged to deliver them in at the Mint.

Paper-Money.

IN the Beginning of the Reign of *Hong-wu*, Founder of the *Ming* Family, Money was become so scarce, that they paid the *Mandarins* and Soldiers partly in Silver, and partly in Paper; giving them a Sheet sealed with an Imperial Seal^a, which passed for a thousand little Copper Pieces, or a *Tail* of Silver. But the Quarrels, Law-Suits, and other Inconveniencies, which happened every Day, obliged the Emperor to put it down. These Sheets are yet much sought after by the People, and even some of the Quality, to hang-up to the chief Beam of their Houses; being so simple as to imagine, that they preserve them from all Misfortunes. This Sort of Paper-Money had been introduced before, with as little Success, under the Dynasty of the *Yuen*. It was made of the Bark of the *Ku-chu*, and not of the Mulberry-Tree, as *Marco Polo* affirms^b.

THERE are many ancient Coins remaining; some of them belonging to foreign Countries, of which no Account can be given. The same may be said of those stamped with the *Fang-whang* and *Ki-lin*, two fabulous Birds: With regard to which Money, the People entertain several superstitious Notions.

Uncertain
Coin.

MONEY was always coined in the Emperor's Name; none of the Princes ever claiming that Right, even in those Times when they were so powerful as to assume the Title of Kings. It was formerly minted at twenty-two Places; but, at present, is coined only at Court, being cast in a Mould.

^a *Magalbaens*, p. 137, calls these *Paper Tickets*.

^b *Du Halde* gives the Figures of them among the rest.

^c L. 2. c. 18. *Magalbaens* supposes, *M. Polo*, in affirming Paper-Money was current in his Time, was deceived by the counterfeit Gold and Silver Paper-Money, which the *Bonzas* burn with the dead Bodies; making the People believe, that they will turn into real Gold and Silver in the next World. Of this Sort of Paper-Money you may see whole Shops filled for Sale.

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IF Silver was coined, it is probable, there would be many Debasers of Money, since the small Pieces of Copper are often counterfeited. This is Death by the Law; yet some Princes have been contented with ordering the Hand to be cut-off; others, with banishing the Offender. Knaves mix these false Money with the genuine; and even cut Pieces of Pasteboard in the same Form, and string them among the rest.

Collection of
Coins.

THE late Emperor *Kang-hi* had a Cabinet of all Sorts of Coin, ranged according to the Order of the Dynasties: Among them there is a great Number belonging to the Order of the three first Dynasties, *Hya*, *Sbang* and *Chew*; especially the last, which (supposing them to be genuine) is a concurrent Testimony of the Truth of the *Chinese* History. As the Coin belonging to these latter Ages are wanting, as well as those of the most distant Times, they have supplied the Deficiency with Pasteboard-Money curiously made, according to the Account given of them by the ancient Books; which are so nicely imitated, that they look like the real ^a.

Chinese
Weights.

FOR the better understanding the Value of Money, whether ancient or modern, it must be observed, that the *Chinese* divide their Pound into sixteen *Lyang*, or Ounces; the *Lyang* into ten Parts, called *Tsyen* ^b; the *Tsyen* into ten *Fwen* ^c; and the *Fwen* into ten *Li* of Silver. The Beam of the *Chinese* Scales carries these Divisions no farther; and yet, with respect to Gold or Silver ^d of a considerable Weight, the Division extends in the same decimal Manner to almost imperceptible Parts: For which Reason, it is scarce possible to convey a just Idea of them in our Language. They divide the *Li* into ten *Wba*; the *Wba* into ten *Se*; the *Se* into ten *Fu*; the *Fu* into ten *Chin*; the *Chin*, which signifies a Grain of Dust, into ten *Ya*; the *Ya* into ten *Myau*; the *Myau* into ten *Mo*; the *Mo* into ten *Tyun*; and the *Tyun* into ten *Sun* ^d.

And Mea-
sures.

MEASURES were invented as early as the Reign of *Whang-ti*, the third Emperor. A Grain of Millet was taken to determine the Dimensions of a Line; reckoning ten Lines to an Inch, ten Inches to a Foot, &c. But these Grains being of an oval Figure, the various Ways of ranging them have occasioned a Diversity in the Measures ^e, under different Dynasties.

UNDER the present Dynasty there are three Sorts of Measures: 1. The Foot of the Palace, ^f

(established by *Kang-hi*) which is to the *Paris* ^{Mechanics.} Foot ^f, as ninety-seven and an half to an hundred of the Feet used in the Tribunal of Mathematics. 2. The Foot of the Tribunal of public Works, called *Kong-pu*, used by Workmen, is shorter by one Line than the *Paris* Foot. ^{Content of a} 3. The Taylor's Foot, made use of also by the ^{Degree.} Mercers, is seven Lines larger than the *Kong-pu*.

THE first was the Measure constantly used by the Missioners in surveying the Empire; which differs from the other *Chinese* Feet, and even from that formerly used in the Tribunal of the Mathematics ^g. By this Foot, *Thomas*, the Jesuit, found a Degree to be two hundred *Li*'s, or *Chinese* Furlongs; each consisting of an hundred and eighty *Chinese* Fathoms of ten Feet. As then the twentieth Part of a Degree, according to the Experiment of the Academy at *Paris*, contains two thousand eight hundred and fifty-three Toises, each containing six Feet of the *Châtelet*, it is just equal to one thousand eight hundred *Chinese* Toises, or ten *Li*'s; consequently, one Degree comprising twenty *French* great or marine Leagues, contains two hundred *Li*'s ^h.

S E C T. IV.

Class of Mechanics, and their manual Arts.

Toys and Furniture. Great Artists: Painting and Filigran: Their Tools: Work abroad. Itinerant Barbers. Fishing with Birds: Fishing with Boards: Shooting Fish. Japanned Works. Varnish how used. Another Method. Its lost Beauty, how restored. Silk, its Original, and Encouragement: Goodness, how known: Finest, where made. Gold Brocades, how made. Silks most in Use: Sorts unknown in Europe. Open Silks. The Silk of wild Silk-Worms. Woollen Manufactures: Cotton and Linen. China-Ware. ^e

A GREAT deal might be said of this Rank ^{Toys and Furniture.} of People. *China* abounds with Workmen of all Sorts that can be imagined, and in such Numbers, that it is prodigious. The Curiosities they make and sell in the Shops amaze all *Europeans*. If four large Galeons were sent to *Nan-king*, *Sü-chew fû*, *Hang-chew fû*, or any other City like them, they might be loaden with a thousand Varieties of Curiosities and Toys.

^a Du Halde's *China*, p. 331, & seqq.

^d *Taël*; and the *Tsyen*, *Max*.

^c Each *Fwen* is equivalent to a *French* Sol, or Sou.

^e *Le Comte*, p. 307, says, the Measures differ in different Provinces; and hence the Difference in the Reports of Missioners.

^f The *Paris* Foot is to the *English*, as 1068 to 1000, or 12 $\frac{8}{1000}$ Inches.

^g *Le Comte* reckons the Difference between this and the *Paris* Foot, as ninety-nine to an hundred.

^h *Du Halde*, as before, p. 141. Also his Preface, p. 11.

Way of Catching Fish by Boards, jap-
paned with white Varnish, which if Fish
mistaking by Moonlight for Water,
leap on and are taken.



Way of taking Wild Ducks by Men go-
ing into Water with their Heads
in the Shells of large Gourds, with
Holes to see and breath through.





*The LOU-WA or FISHING BIRD
w.th the manner of fishing from Kinschou*

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Inhabitants
Classes.

Great Ar-
tists.

Painting and
Filigran.

Their Tools.

Workabroad.

The Furniture of a Palace may be had ready-made in any of the aforesaid Cities, and all at very reasonable Rates ^a.

THE *Chinese* are great Proficients in Arts; though they have not brought them to that Perfection which is seen in *Europe*. This may be owing to the Laws which have prescribed Bounds to the Expences of private Persons: For the Workmen are extraordinary industrious; and if they be not so good at Invention as the *Europeans*, yet they easily comprehend their Directions, and imitate their Models tolerably well ^b; which is evident from the Glafs, Watches, Pistols, Bombs, and many other Pieces of Workmanship made in several Places of the Empire. But they have had Time out of Mind, Gun-powder, Printing, and the Use of the Compass; novel Arts in *Europe*, and for which, perhaps, we are obliged to them ^c.

THEY paint Flowers, Birds, and Trees indifferently ^d; but fall short in the Shadowing, and are very bad at human Figures ^e, very much admiring our Paintings, though they are but ordinary ones: Yet some of them, who have learned at *Manilla* and *Ma-kau*, have proved great Artists. The Filigran the *Chinese* make at *Manilla*, which they learned of the *Indians*, has astonished the *Europeans*. The *Italians* now begin to imitate it in some Measure. In *Kanton* they make very good Spectacles, prospective, burning, and looking Glasses so like ours, that it is hard to know them asunder. Not long before the Author came from thence, he understood, that they made them of Pebbles ground small, for want of fine Sand; which they have not.

THE Tools Mechanics use are much like ours, except here or there one. The Taylors use no Thimble, but only a Rag tied about the Ball of the Thumb: They, for the most Part, sew standing; only leaning against a Table, on which their Work lies ^f.

THERE are Mechanics, of all Sorts, in every City: Some work in their Shops, others go-about the Streets to be hired; but the greater Part are employed in private Families. For Instance, if you want a Suit of Cloaths, the Taylor comes betimes in the Morning to your House, and returns home in the Evening: It is the same with respect to other Handicrafts, who all bring their

Tools along with them, even to the Smith with his Anvil and Stove ^g, to make Things of common Use.

THE Barbers carry on their Shoulders a Stool, their Bason, their Pot, and Fire, with a Towel and Clouts: They give Notice of their Approach with a little Bell, and, when called, very dextrously on the Spot, whether it be in the Street, in the Middle of a Square, at the Door of a House, or any-where else, shave the Head, set the Eyebrows in Order, clean the Ears with proper Instruments, stretch-out the Arms, and rub the Shoulders; all for eighteen Deniers (or less than a Halfpenny) which they receive with a great many Thanks; and then ring the Bell again in Quest of another Jobb ^h. The Shoemakers go-about the same Way: They mend Shoes, and sole them for Three-pence, so as to last a Year or two, with such as do not go much: But the Author knew not after what Manner, or what it is they use to tan so rarely ⁱ.

THE Fishermen, besides Nets and Lines, the first used in their great Fisheries, the latter in their small, in several Provinces fish with a Kind of Cormorant, resembling a Raven ^k; which they train for the Purpose, as we bring-up Dogs to catch Hares. At Sun-rise, one may see, on the Rivers, a considerable Number of Boats, and several of these Birds sitting at the Head of them; who, at the Signal given, by striking the Water with an Oar, fly into the River, one here, another there; and diving to the Bottom, seize the Fish they light-on by the Middle; then rising, carry it to the Bark: The Fisherman receiving it, takes the Bird, and holding its Head downwards, passes his Hand along the Neck, to make it disgorge the small Fish that it had swallowed, but is hindered from going into the Gullet, by a Ring put-on the lower-Part of the Neck; which, after the Fishing is quite over, they take-off, and give them something to eat. When the Fish happens to be too large for one Bird, they mutually assist each other; one takes the Tail, another the Head, and bring it to the Boat to their Master.

THEY use another easy Way of taking Fish: For this Purpose they have long, narrow Boats, nailing on each Side, from one End to the other, a Plank two Feet broad. This Plank is japan-

^a Navarette's Description of China, p. 53.

^c Le Comte's Memoirs of China, p. 229.

Birds, and Flowers, of Silk, better than they paint them.

At *Nan-king*, they make them of Wax, to such Perfection, that the Missioners were amazed at them.

^e Du Halde, p. 281, says, they paint Flowers, Animals, and Landscips, with Skill; but are very ignorant in drawing human Figures; maiming and disfiguring themselves in such a Manner, that they look more like Scaramouches than *Chinese*.

^f Navarette's Description of China, p. 53.

^g The same Author says, their little Bellows is as useful, and much more convenient than those in *Europe*.

^h Du Halde's China, p. 277.

ⁱ Navarette, as before, p. 54.

^k See the Figure, and Vol. III. p. 418.

^b The same Author says, they imitate any Thing to Perfection.

^d The Author observes, that they make Trees,

^e Du Halde, p. 281, says, they paint Flowers, Animals, and Landscips, with Skill; but are very ignorant in drawing human Figures; maiming and disfiguring themselves in such a Manner, that they look more like Scaramouches than *Chinese*.

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^g The same Author says, their little Bellows is as useful, and much more convenient than those in *Europe*.

^h Du Halde's China, p. 277.

ⁱ Navarette, as before, p. 54.

^k See the Figure, and Vol. III. p. 418.

Inhabitants
Glasses.

ned with very white, shining Varnish, and slants a gently, till it almost touches the Top of the Water. In the Night-time, when it is used, they turn it towards the Moon, that the Reflection may increase its Splendor: So that the Fish, which are sporting, easily mistaking the Colour of the japanned Plank, for that of the Water, leap often on that Side, and fall either on the Plank, or into the Boat.

Shooting
Fish.

In some Places, the Soldiers shoot the Fish very dextrously with Arrows, which are fastened to the Bow with Packthread; as well to prevent their being lost, as to draw-out the Fish when it is shot. In other Places, there is such a great Quantity in the Mud, that Men standing-up to the Girdle in the Water, pierce them with a three-forked Spear ^a.

Japanned
Works.

Of all the Manufactures, which Art produces among the *Chinese*, the chief are varnished Goods, Silks, and China-Ware. They varnish Tables, Chairs, Cabinets, Bedsteads, and almost all Sorts of wooden Moveables, as well as Utensils of Copper, Tin, &c. This gives them a beautiful Lustre, and rich Appearance, especially when painted with Figures in Gold, or Silver. Indeed the Varnish-Works, made at *Kanton*, are neither so beautiful, nor so serviceable by a great deal, as those that come from *Japan*, *Tong-king*, and *Nan-king*, Capital of *Kyang-nan*: Because they are fitted-up too hastily, and only to please the Eye of the *Europeans*. To japan a Piece of Work well, requires at least a whole Summer: But the *Chinese* have rarely any such ready-made; for they commonly wait till the Arrival of Ships, before they begin, that they may do them according to Directions.

Varnish,
how used.

THE Varnish is neither a Composition, nor so great a Secret as some have imagined: It issues, like Gum, from a Tree; of which, and its Qualities, we shall speak hereafter ^b. We shall only mention here, how it is applied. This is done in two different Manners: The first, which is most simple, is immediately upon the Wood: After it has been well-polished, they do it over, two or three Times, with *Tong-yew*, a Kind of Oil; and when it is well-dried, lay-on their Varnish as often. It is so transparent, that the Grain of the Wood appears clearly through it; and, therefore, if they have a Mind to conceal the Materials, they apply the Varnish a great Number of Times; and then it becomes so glossy, that it resembles a Looking-Glass. When the Work is dry, they paint Flowers, Men, Birds, Trees, Mountains, Palaces, &c. with Gold, or Silver; over which they lay Varnish once more, but lightly; both to preserve, and give it a Gloss.

Mechanics.

Another Method.

A Beautiful Work, how restored.

And Encouragement.

Goodness, how known.

^a Le Comte's Memoirs of China, p. 237, & seqq. Du Halde's China, p. 316, & seqq.
^c Du Halde, as before, p. 336, & seqq.

^b In the Natural History.

^d The same, p. 353.

Inhabitants
Classes.

Hour together without breaking a Thread. The Mills are very different from those in *Europe*, and far less cumbersome. Two or three sorry Blades of Bambû, with a Cog-Wheel, are enough. It is surprizing to see with what simple Instruments they work the finest Stuffs.

Finest, where
made.

THE Silks of *Che-kyang* are, without Comparison, finer and better than those of other Provinces. Of this Silk are made the finest Stuffs in the Province of *Kyang-nan*; where are the greatest Number of good Workmen, and whence the Emperor is supplied with Silks for his own Use, and for Presents to his Lords. The Silk at *Kan-tou*, which comes from *Tong-king*, is not any Thing so good^a. The great Trade at that Port draws thither Crouds of the best Workmen^b, who could make as rich Silks as any in *Europe*, were they sure of Vent; but usually confine themselves to the plainest Sorts, because the *Chinese* chuse the useful before the agreeable.

Gold Bro-
cades, how
made.

FOR their Gold-Tissue, they do not draw the Gold into Wire, to twist with the Thread; but cutting a long Sheet of gilt Paper into small Slips, very artfully roll them about the Silk^c. These Stuffs look very fine when fresh; but being soon tarnished with the Air, they are unfit for Garments: None but *Mandarins* and their Ladies wear them; and that but seldom.

Silks most in
Use.

THE Silks most in Use among the *Chinese* are plain and flowered Gauzes, which are their Summer wear; Damasks of all Sorts and Colours; striped Satins, black *Nan-king* Satins, coarse Taffeties, or small Mohairs, which are very serviceable: Besides several other Sorts; some like flowered Grogam; others with open Flowers, like Gauze; some striped, in very good Taste, masqueraded, or embroidered with Roses, &c. Crapes, Brocades^d, Plush, and several Sorts of Velvet. That of the Crimfon-dye is the dearest; but often counterfeit: Yet, a few Drops of the Juice of Lemon mixed with Lime, and sprinkled here and there, discover the Cheat.

Sorts un-
known in
Europe.

IN short, the *Chinese* make an infinite Number of Silks that the *Europeans* have no Name for: But there are two Sorts most commonly worn among them: 1. A Sort of Satin, called *Twan-tse*, stronger and less glossy than what is made in *Europe*: Some are plain; others varied with Flowers, Trees, Birds, Butterflies, &c. 2. A particular Taffety, called *Cheu-tse*^e, of which they make Drawers and Linings. Though close, it is so

pliant, that neither folding nor squeezing it with the Hand ever crumples it^f: Besides, it will wash like Linen, without losing much of its Gloss; which they give it with the Fat of the River *Porpus*, called, by the *Chinese*, *Kyang-chu*, or *The Hog of the River Yang-tse-kyang*; where it is found. This Fat is purified by washing and boiling; then, with a fine Brush, they spread it over the Taffety from Top to Bottom, the same Way, on that Side they would give a Gloss to. The Workmen burn the same in their Lamps instead of Oil; the Smell driving away the Flies, which, otherwise, would damage the Silk^g.

Mechanics.

LE COMTE observes, that they make use of another Kind of Stuff in Summer, called *Cha*; which is neither so close nor glossy as *French* Taffety, but much more substantial: Although several People desire to have it smooth and even, yet most wear it powdered with great Flowers pierced through, and cut like *English* Lace: These Piercings are often so numerous, that one can scarce discern the Body of the Silk. Garments made thereof, are extraordinary convenient and neat; so that all Persons of Quality use them: Besides, a whole Piece, enough to make a long Vest and Surtout, will not cost above two Guineas^h.

THE Province of *Shan-tong* yields a particular Silk, found in abundance on Trees and in Fields. It makes the Stuff called *Kyen-chew*. This Silk is produced by a small Sort of wild Worms, very like Caterpillars; not in Cods, but very long Threads, which stick to small Trees or Shrubs: These make a coarser, but more lasting Silk than what the House-Worms spin: But the Worms eat the Leaves of other Trees besides the Mulberry. Such as are not acquainted with this Silk, would take it for a Russet-Stuff, or a coarse Drugget.

THERE are two Sorts of Worms which spin this Silk; one, called *Tjwen-kyen*, larger and blacker than ours; the other, *Tyau-kyen*, which is smaller: The Threads of the first are of a Russet-grey; those of the latter more black; and the Silk has a Mixture of these two Colours; the same Piece, sometimes, seeming to be divided into grey, yellow, and white Stripes. This Silk is very thick, never cuts, lasts long, washes like Linen; and when good, will not stain, even with Oil. It is in great Vogue among the *Chinese*; and, sometimes, as dear as Satin, or their

Wild Silks.
Worms.

^a Yet, *Le Comte* says, they are more valued by Foreigners, and go off best of any. ^b *Navarette*, p. 54, says, there were ninety thousand Looms at *Kanton*. ^c *Le Comte* says, sometimes, they weave the Slips of Paper in, without rolling it on the Thread. ^d The same Author says, the Figures on their Brocades are not raised upon the Ground by a Mixture of raw Silk, as is practised in *Europe*, which makes the Work not so durable: All the Silk in these is twisted; and the Flowers are distinguished only by the Difference of Colours and Shadowing. ^e Or, *Su-fa*. ^f *Le Comte* says, it is sold by Weight. ^g *Le Comte's* *Memoirs of China*, p. 138, & seqq. *Du Halde's China*, p. 354. ^h *Le Comte*, as before, p. 140.

Inhabitants
Classes.

best wrought Silks. They make a false *Kyen-chew* of the Waste of the *Che-kyang* Silk; by which, without Care, one may be easily deceived.

A SILK Manufactory has been set-up at *Kanton*, within these few Years, for making Ribbands, Stockings, and Buttons; which has had very good Success: The Stockings are sold for a *Lyang* a Pair ^a; and a Dozen of the largest Buttons, for no more than Six-pence ^b.

Woollen
Manufac-
tures.

ALTHOUGH Silk is the chief Wear of the *Chinese*, yet they are not without Woollen or Linen Manufactures. Wool is very common and cheap, especially in the Provinces of *Shan-si*, *Shen-si*, and *Se-chwen*, where they feed abundance of Flocks; yet the *Chinese* do not make Cloth. That wherewith the *English* furnish them, is highly esteemed; but, being much dearer than the finest Silks, they buy but little of it. The *Mandarins* make studying Gowns, for the Winter, of a Kind of coarse Russet, for want of better Cloth. As for Druggets, Serges ^c, and Tammies, there are scarce any better than theirs; they are usually wrought: Being worn by the *Bonzas*, they are commonly the Manufacture of their Wives; and there is a great Trade driven with them throughout the Empire.

Cotton and
Linen.

COTTON-CLOTH is very common ^d: They use also, for the Summer, Nettle-Linen for long Vests: But the Cloth which is most valued, and to be found no-where else, is called *Ko-pu*, because made of the Plant *Ko*, found in the Province of *Fo-kyen*. It is a Kind of creeping Shrub, spreading over the Fields, whose Leaves are much bigger than the Ivy: They are round and smooth, green within, and downy on the Out-side: The Stems of some are as thick as one's Finger, very pliable, and cottony, like the Leaves. When they begin to dry, they leave them to rot in Water; as they do Flax and Hemp. The first Skin is peeled-off and thrown-away: The second, which is much more fine and delicate, they divide by the Hand into very slender Threads, and weave it, without either beating or spinning it. This Linen is transparent, and pretty fine; but so cool and light, that one would think he had nothing on his Back ^e.

China-Ware.

As for the *China Ware*, which is the third great Article in their Mechanic Arts, some Particulars have been already mentioned relating to it. But, that the Reader may have a more complete Account both of this and the Silk Manufacture, we shall insert Abstracts of two Treatises relating to them, sent from *China* to *Du*

Halde, by *Dentrecolles*, a Jesuit Missioner. The first, relating to Silk and Silk Worms, was extracted by him from a *Chinese* Author. The second, concerning the *China Ware*, was the Produce chiefly of his own Enquiry.

1. The Manner of breeding Silk-Worms, and procuring Silk.

Wild Mulberry-Trees, how to be managed: The right Trees, how pruned. A proper Soil: When old, how renewed. Apartment for the Silk-Worms, how furnished. Worms, how fed: How chosen, and garbled: Females, how disposed: Eggs to be rejected: Bath for the Eggs: Directions for hatching some: After the hatching, Young how treated: The Nurse, how chosen. Rules concerning Worms: Their Antipathies: Their Diseases: Their Mewing: The oftener they eat, the more Silk they yield. How dieted. Diseases from Cold: From Heat, and Want of Room. How treated while spinning their Cods. Some kept for Breed: The rest destroyed; and how: Another Way. Season best for raising Silk-Worms. How to preserve Eggs, and spin Webs. The Manufacture.

ACCORDING to a *Chinese* Author, who wrote of the Silk-Worms, under the *Ming* Family, which began in 1368, there are two Sorts of Mulberry-Trees. The one called *Sang*, or *Ti-sang*, cultivated for Sake only of the Leaves. The other, called *Che*, or *Ye-sang*, growing in Forests, are little and wild; the Leaves small, rough, roundish, ending in a Point, and scalloped round the Edges. The Fruit is like Pepper, their Branches thorny, and in Clusters. Some Silk-Worms, as soon as hatched in the House, are laid on these Trees to spin their Cods; where they grow bigger than the domestic ones: And though their Work is not so good, yet it is valuable; as may be judged from what has been said before of the *Kyen-chew*.

THE Forests of these Trees must be cut into Paths, for the Keepers to weed them, and drive away Birds. The Leaves, not touched by the Worms in the Spring, ought to be pulled-off in Summer; for if left-on, those of the succeeding Spring will be corrupted by the Circulation of the Sap from those old Leaves. These Trees which are cultivated like the true Mulberries, ought to be planted thinly, and the Ground sown with Millet, to correct the Rankness of the small Leaves. If such Worms should be discovered in

^a Or Ounce of Silver, six Shillings and Eight-pence.

^b *Du Halde's China*, p. 104, and 354, & seq.

^c *Magalhaens*, p. 141, says, those of an Ash, or Cinnamon-Colour, are very fine and costly, worn by old People, and Persons of Quality.

^d The same Author, p. 141, says, it is incredibly plenty, and of many different Colours.

^e *Le Comte's Memoirs of China*, p. 141, & seq.

Inhabitants
Classes.

Europe, they should be gathered before they change into Moths, in order to preserve their Eggs from being lost; which being hatched next Year, the Worms should be laid again on the same Trees. The Worms that spin the Silk for the *Kyen-chew*, feed on young Leaves of Oak; and, perhaps, the House-Worms would feed on the same.

The right
Trees,

WITH Regard to the true Mulberry-Trees, those which shoot their Fruit before their Leaves, are unwholesome. The young Plants, with shrivelled Rinds, are not fit for Use: But those that have the Bark white, few Knots, and large Buds, produce large Leaves, good for Nourishment. The best Trees are those that yield the fewest Fruit, which divide the Sap. If you sow Mulberry-Seed steeped in Water, wherein has been steeped the Dung of Poultry, fed with Mulberries fresh from the Tree, or dried in the Sun, they will be barren as to Fruit.

How pruned.

YOUNG Trees, that have been stripped too much of their Leaves in the three first Years, become weak and backward: So do those which are not clean pruned. In the fifth Year the Roots gall: The Remedy is to unearth the Roots, and cutting-off the most entangled, cover them with a proper Mould, and sprinkle it with Water. When the Trees grow old, they may be recovered by lopping-off the exhausted Branches in *March*, and grafting sound Shoots in their Stead. They languish, if Worms lodge their Seed in them; but the Worms are killed with a little strong Oil poured on them.

A proper
Soil,

THE Soil for Mulberry-Trees ought to be neither strong, nor too hard: It may be mended with the Mud of Rivers, any Dung, or Ashes. Above all, they should be pruned in *January*, by a skilful Hand, leaving only those Branches that shoot-out from the Tree separately, and without bending, and four Buds on each Branch. At the End of Autumn, before the Leaves grow yellow, they should be gathered, and dried in the Sun; then being pounded small, and kept in Earthen-Pots close stopped with Clay, where no Smoke comes, in Spring it will be like Meal, and fit to feed the Worms after moulting.

When old,
how re-
newed,

WHEN Trees grow old, besides the Method of ingrafting, they also procure new Plants, either by twisting together quick and sound Branches in small Tubs, filled with good Mould; or by bending, at Spring, the long Branches left unpruned, and sticking their Ends in manured Soil: Thus taking Root in *December*, they are cut from the Body of the Tree, and transplanted in the proper Season. They also sow the Mulberry-Seed, which must be chosen from the best Trees, and from the Fruit that grows about the Middle of the Branches. This Seed ought to be mixed with

the Ashes of the burnt Branches. Next Day the Whole is to be stirred in Water: The useless Seed floats; the good sinks to the Bottom: These, after being dried in the Sun, must be sowed, mixed with an equal Quantity of Millet, which defends the Trees in growing from the Scorching of the Sun.

WHEN the Millet is ripe, they set Fire to it in windy Weather. The ensuing Spring, the Trees shoot with a great deal more Strength. The Branches must be pruned away till the Plants are grown to a proper Height, and then the Tops cut, to make the Branches shoot-out on the Sides: At length the young Trees are transplanted, at the Distance of eight or ten Paces, in Lines four Paces asunder; but not directly opposite to each other, perhaps to prevent their overshadowing.

THE Apartment of the Silk-Worms ought to be on a dry, rising Ground, and near a Rivulet; because the Eggs must be washed often in running Water; and far from Dunghills, Sinks, Cattle, and all Noise; for disagreeable Smells, and the least Fright (even the Barking of a Dog, or Crowing of a Cock) disorders them, when newly hatched. The Room should be square, and Walls very close, for Sake of Warmth: The Door South, at least South-East, but never in the North; and covered with a double Mat, to keep-out chill Air: Yet there should be a Window on every Side, that the Air may have a free Passage, when requisite. At other Times they are kept shut: They are of white, transparent Paper, with moveable Mats behind, to admit, or exclude the Light on Occasion: Also to keep-out pernicious Winds; such as the South, and South-West; which should never enter the Apartments. In opening a Window, to let-in a refreshing Breeze, Care must be taken to keep-out Gnats and Flies; for they leave their Ordure on the Silk-Cases, which renders the Winding extremely difficult: So that it is best to hasten the Work before the Fly-Season. Small Lizards, and Rats, which are very greedy after Silk-Worms, must be destroyed by Cats.

THE Chamber must be furnished with nine or ten Rows of Shelves in Stories, about nine Inches one above the other, ranged in such a Manner, as to form an open Space in the Middle, leaving a free Passage quite round. On these they place Rush-Hurdles pretty open, that the Warmth first, and then the cool Air may easily penetrate them. Upon these Hurdles they hatch and feed the Worms, till ready to spin. As it is very material, that the Worms should hatch their Eggs, sleep, waken, feed, and cast their Skins together; a constant and equal Warmth should be kept in their Apartment, by having Fire covered in Stoves at the Corners of the Room,

*Inhabitants
Closets.*

Room, or else a Warming-Pan carried up-and-down it; the Fire being covered with Ashes to suppress the Flame and Smoke, which is hurtful. Cow-Dung dried in the Sun is the most proper Fuel for this Purpose, the Worms liking the Smell of it.

*Worms, how
fed.*

THEY spread over each Hurdle a Bed of dry Straw, chopped small; and upon that put a long Sheet of Paper, softened by gentle Handling: When the Sheet is fouled by their Ordure, or Leavings, they cover it with a Net; and this with Mulberry-Leaves, the Smell of which draws-up the Swarm: Then taking it off again gently, place it upon a new Hurdle, whilst they clean the old one. The *Chinese* Author advises farther, that there should be a Wall, or close Palisade, at a little Distance round the Chamber, especially on the West-Side, that in letting-in the Air on this Side, the setting Sun might not strike upon the Worms.

How chosen,

THE Cods, which are a little pointed and close, fine, and less than the others, contain the Male Moths; those rounder and bigger, thicker and more clumsy, the Females: They chuse their Brood often in the Cods. Those which are clear, somewhat transparent, clean, and weighty, are the best. But it is better to do it when the Moths are come-out; which happens a little after the fourteenth Day of their Retirement. Those which break-forth a Day before the rest, must not be used; but such as come-out the next Day in Crouds, are to be chosen. The latest must be rejected; so must those which have bending Wings, bald Eye-brows, a dry Tail, and a reddish Belly, without Hair. These rejected Moths must be put in a Place by themselves.

And garbled.

WHEN the Choice is made for Breed, they lay the Males and Females together upon Sheets of Paper, which must be made of the Mulberry-Tree Bark, (not of hempen Cloth) and strengthened with Silk or Cotton Thread, glued on the Back-side; because, when they are covered with Eggs, they must be dipped three Times in a proper Water. These Sheets must be spread on Mats, well covered with Straw; and when the Moths have been together about twelve Hours, the Males must be taken away, and placed with the rejected Moths. Should they continue any longer Space, the Eggs of that later Conception would not be hatched with the others; which Inconveniency should be avoided.

*Females, how
disposed.*

IT is proper to give the Females Room, and cover them; for Darkness hinders them from scattering their Eggs too-much. When they have done laying, they must be kept covered for four or five Days: Afterwards, all these Moths, with those which were set aside, or taken dead

out of the Cods, must be buried deep in the Earth; for it would infect any Animal to touch them. Some assert, that if they were buried in several Places of a Field, it would neither produce Brambles, nor any prickly Shrubs, for several Years: Others pretend, there is nothing better to fatten Fish kept in Ponds.

As to the Eggs; those which stick together in Clots must be thrown away; and then the Sheets hung-up to the Beam of the Room, which must be opened in the Front, so that the Wind may come-in, but the Sun not fall upon them, that Side of the Sheet, on which the Eggs are laid, must not be turned outwards: The Fire which heats the Room, must neither blaze nor smok. Care must be taken likewise, that no hempen Ropes come near either the Worms or Eggs. When the Sheets have hung thus for some Days, they are taken-down, and rolled-up loosely, with the Eggs inwards; and then hanged-up again during the Summer and Autumn.

At the End of *December*, or in *January*, when there is an intercalary Month, they put the Eggs into cold River-Water, or Water with a little Salt dissolved in it, taking care that it does not freeze; and clap a China-Dish over them, that the Sheets might not swim. After two Days, they take them out, and hang them up again: When they are dry, they roll them up a little tighter, and inclose each separately, standing on one End, in an Earthen Vessel. After that, once in about ten Days, in a sheltered Place, where there is no Dew, they expose the Sheets, for about half an Hour, to the Sun, shining bright, after a Shower; and then close them up as before. Some put them into a Lye, made of Mulberry-Tree Ashes, for a whole Day; and then lay them some Moments in Snow-Water, or else hang them up three Nights on a Mulberry-Tree, to receive the Snow or Rain, if not too violent. Any of these Sorts of Baths render the Silk closer and stronger, as well as easy to wind: But their chief Use is, to cherish the internal Heat in the Eggs.

THE Time to think of hatching the Eggs, is when the Mulberry-Trees begin to have Leaves, for they are hastened, or hindered, according to the different Degrees of Heat, or Cold, imparted to them. They are forwarded, if the Sheets be often spread abroad, or rolled-up loosely in laying them by: By doing the contrary they are hindered. When they are ready to come-out, the Eggs swell, and their Roundness becomes a little pointed. The third Day before they are hatched, about Ten of the Clock, in a clear Sky, a little Wind stirring (as is common at that Season) the Rolls of Paper are taken-out of the

*Inhabitants
Glass.*

Vessel, stretched at Length, and hung-up with a Summer, the Evening Autumn, and the Night *Silk-Worms.*

the Back-sides towards the Sun, till they acquire a kindly Warmth: Then they are rolled-up close, and set upright in the Vessel, in a warm Place. Next Day the same Operation being repeated, the Eggs are observed to change Colour, and turn of an Ash-grey: Then they clap two Sheets together, and roll them tighter, tying the Ends.

*After the
hatching*

THE third Day, towards Night, they unroll the Sheets, and stretch them on a fine Mat; the Eggs then appear blackish: If there are any Worms hatched, they must be cast-away; for those Worms, which are not hatched with the rest, never agree with them in the Time of casting their Slough, of waking, of eating, nor, which is the principal, of making Cods. These odd Worms would much increase the Care and Trouble, and occasion Loss by putting Things out of Course: After this they roll three Sheets together very loose, and carry them into a pretty warm Place, sheltered from the South-Wind. Next Day, about Ten or Eleven of the Clock, taking-out the Rolls, and opening them, they find them full of Worms, like little black Ants. The Eggs not hatched in about an Hour afterwards, must be thrown-away; as well as those with a flat Head, that are shrivelled, and as it were scorched, of a sky-blue, yellow, or Flesh-Colour; the good Sort being the Colour of a Mountain seen at a Distance.

*Young, how
created.*

It is advisable first to weigh the Sheet containing the new-hatched Worms; then to hold it sloping, and turned almost upside-down, upon a long Sheet of Paper strewed with Mulberry-Leaves, prepared in the Manner before-mentioned. The Smell will attract the little hungry Worms; but the most sluggish may be helped down with a Feather, or by gently slapping the Back of the Sheet; which being weighed by itself, will give exactly the Weight of the Worms: Whence they compute, very nearly, how many Pounds of Leaves will be necessary to feed them; also the Weight of the Cods they ought to produce, barring Accidents.

*The Nurse,
how chosen.*

THEY next provide a Woman to take Care of the Brood. Before she takes Possession of the Room, she must wash herself, and put-on proper Attire, that hath no ill Smell: She must not have eaten for some Time before, nor handled wild Succory; the Smell of which is very prejudicial to the tender Worms: She must be clothed in a single Habit, without Lining, that she may judge the better of the Degree of Warmth in the Place, and accordingly augment, or diminish the Fire; for these Insects must be very nicely managed before their first Moulting. Every Day is a Year to them, and has in it the four Seasons: The Morning is Spring, the Middle of the Day

It has been found by Experience, that, 1. As long as the Eggs are kept before they are hatched, they require much Cold. 2. When hatched, and like Ants, they want as much Heat. 3. When become Caterpillars, and near Mewing-Time, they need a moderate Heat. 4. After the great Mewing, they must be kept cool. 5. When upon the Decline, and growing old, they ought to be warmed by Degrees. 6. A great Heat is necessary when they are working their Cods.

EVERY Thing ought to be removed that might incommode them: They have a particular Aversion to Hemp, wet Leaves, or those heated by the Sun, and when newly hatched, to Dust raised by Sweeping; to the Moisture of the Earth, Flies, and Gnats; the Smell of broiled Fish, burnt Hair, Musk, Smoak; Breath smelling of Wine, Ginger, Lettice, wild Succory; all great Noises, Nastiness, the Rays of the Sun, the Light of a Lamp in the Night; Air passing through Holes or Chinks, a high Wind, much Cold, or Heat, and especially a sudden Change from one to the other. With respect to their Food; Leaves covered with Dew, those dried in the Sun, or a high Wind, or tainted with an ill Savour, are the most common Causes of their Distempers. The Leaves should be gathered two or three Days before-hand, and kept in a clean, airy Place, where there is Room enough; not forgetting, during the first three Days, to give them the tenderest Leaves, cut into little Threads with a sharp Knife, that they may not be bruised; which would spoil their Taste. Observe also, that, in stocking yourself with Leaves, you make use of a wide Net, to prevent their being squeezed too close; and that they may dry in carrying, and not wither.

At the End of three or four Days, when they begin to turn white, augment their Food; but cut it not so small: When they become blackish, they must have a greater Quantity of Leaves, whole as from the Tree: As they turn white again, and eat with less Appetite, lessen their Meals a little; lessen them more as they grow yellow: When they become quite yellow, and are ready to mew, then give them nothing: Every Mewing-time they must be treated in the same Manner.

To be more particular: These Worms eat equally Day and Night. After they are hatched, they must have forty-eight Meals the first Day; two every Hour: The next thirty; but the Leaves not cut so small: The third Day, they must have less still. If their Food be not proportioned to their Appetite, they will be overheated, which would ruin all. As cloudy and rainy

Inhabitants

Classified.

The more
Silk they
yield.

How dieted.

Diseases
from Cold,From Heat
andWant of
Room.

rainy Weather takes away their Stomach, immediately, before their Repast, light a Wisp of very dry Straw, the Flame of which must be all alike, and held over the Worms, to free them from the Cold and Moisture that benumbs them; or else, remove the Blinds from the Windows, and let in the full Day-light.

EATING so often hastens their Growth; on which the chief Profit of the Silk-Worms depends. If they come to Maturity in twenty-three or twenty-five Days, a Hurdle covered with them, whose Weight amounted to a *Tsyen*, (which is a little more than a Drachm) will produce twenty-five Ounces of Silk; but if not till twenty-eight Days, they yield no more than twenty Ounces; and but ten, if they are a Month or forty Days in growing.

WHEN they come to full Growth, give them an easy Food, a little at a Time, and often, as when young. If they digest it not, when they begin to spin, the Cods have a saltish Moisture, that renders the Silk very difficult to wind. In a Word, when they have been hatched twenty-four or twenty-five Days, the more their Work is deferred, and the more Leaves they consume, the less Silk they will produce. After they have cast their Skin, which is a sickly Affair, you must give them Leaves cut small, a few at a Time, but often.

THEY contract Diseases from either too much Cold or Heat. To prevent the former, a just Heat must be kept in their Room. But if a Cold has seized them, by the Windows not being close shut, or the Mulberry Leaves well dried, it destroys their Appetite, and causes a Sort of Flux; for, instead of Clots, they void a watery Slime: In that Case, the Smell of burnt Cow-dung will strangely revive them.

THE Disorders proceeding from Heat, are occasioned either by letting the Worms fast too long, by the Quality and Quantity of their Food, by an inconvenient Situation, or by the Air becoming sultry hot of a sudden. In this last Case, they open one or more of the Windows; but never on that Side the Wind blows: And if the Air be too hot, they set a Vessel full of Water before the Window. The Room may also be sprinkled with Water. For an Excess of internal Heat, they strow over their Food, a little moistened, the above-mentioned Meal of Mulberry Leaves, reduced to a very fine Powder, which invigorates them; but abate an Ounce of Leaves for every Ounce of the Meal.

THE most common and dangerous Sickness among the Worms proceeds from Over-heatings, caused by an inconvenient or strait Situation: For, as soon as they are hatched, they require a great deal of Room; especially when they are

a grown Caterpillars, and abound in Moisture.

Though not cleanly themselves, they suffer much by Nastiness: Their Clots, which they cast in abundance, quickly ferment, and heat them, if not timely swept-off with a Feather, or, which is better, by often removing the Worms from one Hurdle to another; especially when near Mewing. They must all be removed at the same Time, and very gently. The least Squeeze, or Fall, would enfeeble them. Some, for a speed Relief, throw upon them dry Rushes, or Straw, cut small, and strowed over with Mulberry Leaves; which draw them out of the Clots that over-heat them. When they become pretty well grown, the Worms belonging to one Hurdle must first be divided, and put on three new ones; afterwards on six; and so on to the Number of twenty or more: For being full of Humours, they must be kept at a due Distance one from another.

THE critical Moment for removing them, is when they are of a bright yellow, and ready to spin, into a proper Apartment ready prepared for them to work in. The *Chinese* Author proposes a Sort of rough Piece of Timber-work, or long Roof, very little sloping, and the Inside clear. This must be divided all round into Partitions, each with a Shelf, where they place the Silk-Worms; who will afterwards range themselves each in his District. This Machine ought to have Room for a Man to go-in, and keep a small Fire in the Middle, to defend the Worms from Moisture and Cold, which are much to be feared at this Time. There must be but just Fire enough to yield a gentle Heat; which makes the Worms more eager at Work, and the Silk more transparent.

THIS numerous Swarm must be surrounded with Mats at a little Distance, which must also cover the Top of the Machine, to keep-off the outward Air; and, because the Worms love to work in the Dark. However, after the third Day's Work, they take away the Mats from one o'Clock to three, to let the Sun into the Room; but so, that the Rays may not strike upon these little Labourers. They are preserved from the Terror of Thunder, and the Lightning, by being covered with the Sheets of Paper that were used when on the Hurdles.

IN seven Days, the Cods being finished, they are gathered, and laid in Heaps, till they have Time to wind-off the Silk. But they first set apart the Cods, designed for Propagation, upon a Hurdle, in a cool, airy Place: For the Moths being bruised, or over-heated, by the Cods lying upon one another, will not succeed so well; especially the Females, which would lay none but sickly Eggs. In about seven Days more, the

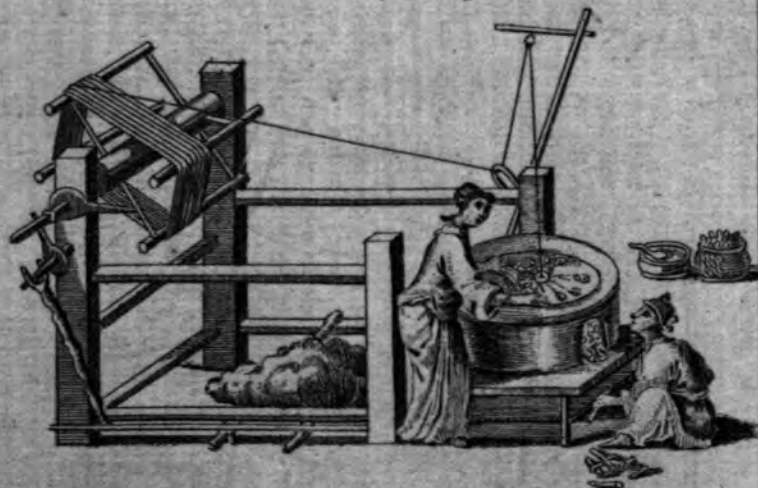
Moths

Silk-Worms.

How treated
whileSpinning
their Cods.Some kept for
Breed.

The SILK MANUFACTURE in CHINA.

Winding from the Cods in y^e Cauldron.



*Balneum Mariae
to kill y^e Worms in
the Cods.*

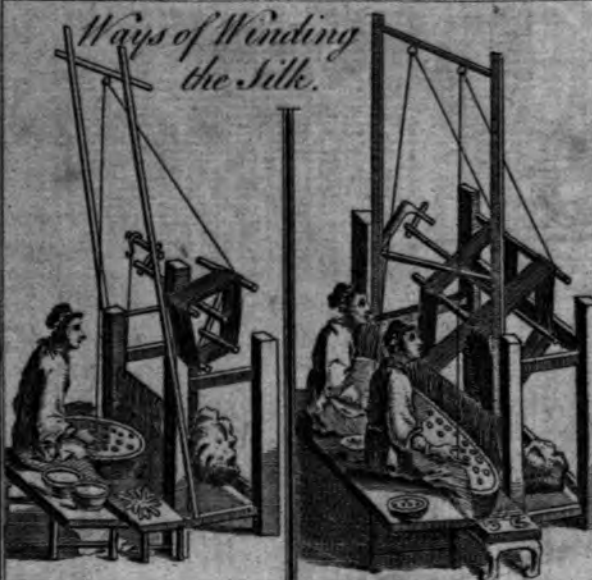


*Taking the Cods from y^e
Mats after smother'd in
the Earthen Pots.*

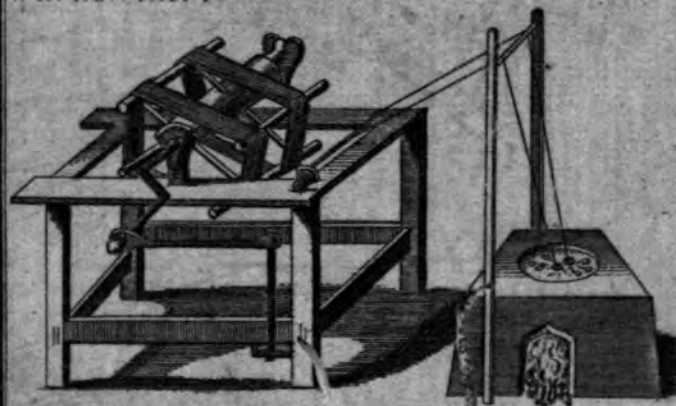
*Hanging up y^e
Sheets of Paper
with Eggs on
them.*



*Ways of Winding
the Silk.*

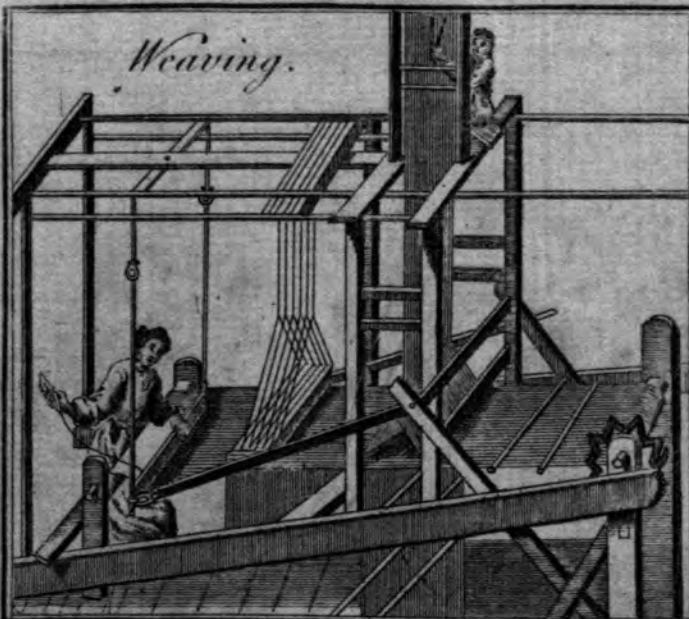


*Winding from the
Cods in a Copper of
Warm Water.*



The SILK-MANUFACTURE in CHINA.

Weaving.



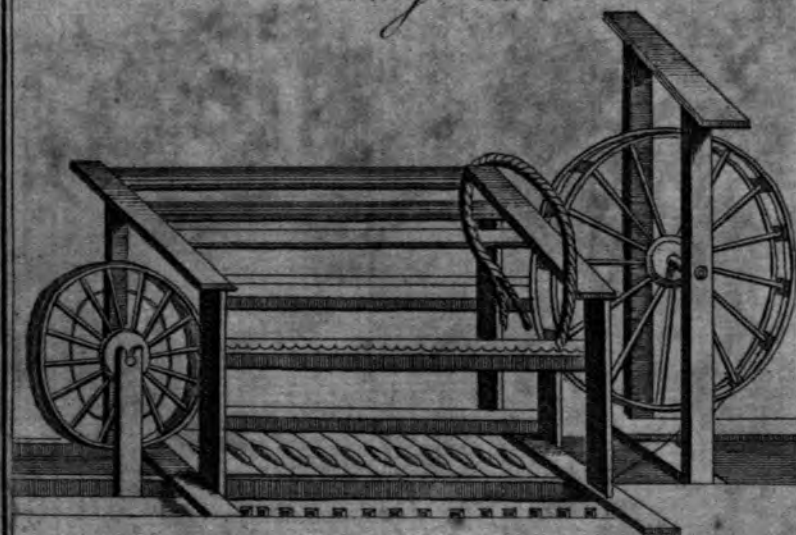
Reeling & Doubling.



Warping.



A Twisting Mill.



Winding from the Clews to the Bobbins.



Inhabitants
Glasses.

The rest de-
stroyed.

Moths come out of their Cods. To kill the Moths in those you would not have bored, without damaging the Work, is the next Care.

THEY must not be put into the Kettle, but as they can be wound-off; for if they were to soak too long, it would hurt the Silk: The best Way would be, to employ Hands enough to wind them off all together. The Chinese Author affirms, that five Men may wind-off thirty Pound of Cods in a Day, and supply two others with as much Silk as they can make into Skains, that is, about ten Pounds: For want of this, he directs three Ways to preserve the Cods from being bored.

FIRST, To let them lie a whole Day in the Sun; which, though prejudicial to the Silk, certainly kills the Flies. Secondly, To put them in *Balneo Mariæ*; throwing an Ounce of Salt, and half an Ounce of Rape-Oil, into the Copper; which are supposed to make the Silk better, and easier to wind.

And how.

THE Machine which holds the Cods must go very strait into the Copper; the Top of which must be covered and luted, so that no Steam may get out. But if this Bath is not rightly ordered, a great Number of the Flies will bore their Cods: Therefore the firm and hard Cods, whose Silk is coarser, may be left longer in *Balneo Mariæ* than the fine and slender Cods. When the Flies are killed, the Cods must be spread upon Mats, and covered, when a little cool, with small Willow or Mulberry Branches.

The third
Way.

THE third, and best Way of killing the Moths is, to fill great Earthen Vessels with Cods, in Layers, of ten Pounds each; throwing-in four Ounces of Salt with every Layer, and covering it with large dry Leaves, like those of Water-Lily; then stopping the Mouth of the Vessels very close, the Flies will be stifled in seven Days: But if the least Air gets in, they will live long enough to pierce their Cods. In laying the Cods in the Vessels, separate the long, white, and glittering ones, which yield a very fine Silk, from those that are thick, dark, and blue, like the Skin of an Onion, which produce a coarse Silk.

Season best
for

So much for the Method of raising Worms in the Spring, which is the general Season; although some hatch Eggs in Summer and Autumn, and almost every Month after the Spring-Crop: But were all to do so, the Mulberry-Trees would hardly furnish Food enough: Besides, if they are exhausted in one Year, they decay, and fail entirely the Spring following. For this Reason the Author holds it best, to hatch but few Worms in Summer, and only to provide Eggs for Au-

tumn. He prefers this Season to the Spring for raising Worms: 1. Because the Spring being the Season for Rain and Winds in the Southern Parts, the Profit expected from the Labour of these Insects is more uncertain than in Autumn, when the Weather is generally serene. 2. Though, in Autumn, the Worms cannot have such tender Leaves as in the Spring, yet they have nothing to fear from the Stings of Gnats and Musketos.

THE Silk-Worms bred in Summer must be kept cool, and the Windows covered with Gauze to keep-out the Gnats. Those raised in Autumn, are to be kept cool at first; but after their Mews, and when they spin, they must be kept warmer than in the Spring, because of the cold Night-Air. In short, the Eggs, they lay, do not always answer.

If you keep the Summer-Eggs to be hatched in Autumn, inclose them in an Earthen Pipkin, and set it in a large Pan of cold Spring-Water, which must reach as high as the included Eggs: For if the Water be higher, they will perish; if lower, many will miscarry for want of Strength. These Directions being observed, they will hatch in twenty-one Days; if they be longer, they either die, or make a very bad Sort of Cods.

WHEN the Silk-Worms are ready to spin, if you lay them on the Top of a Cup, covered with Paper, they will spin a Piece of Silk flat, thin, and round, like a large Wafer. These are not clogged with that viscous Matter which the Worms emit in the Shells, when long inclosed. They are likewise as easy to wind as the Cods, without requiring to be wound in so much Hurry.

WHEN the Silk is wound-off, they immediately set upon manufacturing it; for which the Chinese have very simple Instruments. But as Figures will convey infinitely a better Idea of them than Words, we have inserted Plates, representing the various Utensils that serve in managing the Worms, with the several Tools and Instruments employed in working those fine and beautiful Silks which come from China.

II. Of the China-Ware, and its Manufacture.

The Name: Where made: Account, how procured. Heads treated of.

WHAT we call China, and China-Ware, is by other Nations of Europe called Porcelain. This last Word is not used (as some have supposed) by the Chinese, who cannot pronounce the Syllables; not having the Sounds in their Language, nor even the Letter r: But, probably, came from the Portuguese, who call a

* Du Halde's China, p. 359, & seq.

*Inhabitants
Call it*

Cups, or *Pong-inger*, *Porcellana*; although they generally give to this Kind of Ware the Name of *Loca*, and the *Chinese* that of *Tse-ki*.^a They ever, make no Mention of the Inventor of *China-Ware*, nor whether the Discovery was owing to Chance or Design: They only say, that it was exquisitely white, without any Defect; and, that whatever was exported, had no other Name but *The precious Jewels of Jau-chew*.

PORCELAIN is so common in the Empire, besides Earthen-Ware of the usual Kinds, that the ordinary Utensils of the House are made of it; as, the Dishes, Plates, and Cups, Flower-Pots, Jars, and other Vessels, which serve for Ornament as well as Use. The Chambers, Closets, and even Kitchens, are tumbered with it. The very Masons employ it to cover Roofs; and, sometimes, to incrust Marble Pillars and the Outside of Buildings.^b

Where made, THE fine China-Ware, which is of a lovely shining White, and a clear Sky-blue, comes all from *King-te-ching*, a Village or Town of the Province of *Kyang-si*; but exceeding large and populous^c. It is not above three Miles^d distant from *Few-lyang*, a City of the third Rank, whereon it depends, lying in the District of *Jau-chew fu*^e, one of the Cities of the first Rank in that Province. This curious Ware is made in other Provinces; as those of *Quang-tong* and *Pe-kyen*: But Strangers cannot be deceived therein, being quite of a different Colour and Fineness: For that of *Pe-kyen* is as white as Snow, but has no Gloss, and is not painted with various Colours. The Workmen of *King-te-ching*, allured by the great Trade driven by the Europeans at *A-mui*, formerly carried thither all their Materials, but lost their Labour; for they could never make it there with Success. Others succeeded no better at *Pe-king*; whither they were brought by Order of the late Emperor *Kang-hi*: So that *King-te-ching* alone has the Honour to supply all the World with Porcelain; which is sought for even by the *Japannese*.

*Account, how
prepared,*

As *Dentrecolles*, the Jesuit, had a Church in *King-te-ching*, and there were several among his Converts, who both made China-Ware, and traded in it, he obtained from them an exact Knowledge of every Thing relating thereto: Besides, he had seen every Thing himself, and consulted the *Chinese* Books that treat on this Subject; especially the History or Annals of *Few-lyang* before-mentioned: For it is a Custom in *China* for every City to print a Description of its District, comprehending its Situation and Extent, Nature of the Soil, and Manners of the Inhabitants; the Persons distinguished for Arms, Learning, or Integrity; the extraordinary Events; above all, the Merchandizes, and Provisions, which are exported or sold there. These Annals, how-

WHATEVER relates to this Manufacture, according to the Jesuit, may be reduced to the following Heads, viz. The Materials whereof composed, and their Preparation with the Oil or Varnish with which the China is glazed: The different Kinds of Porcelain, and the Manner of making it: The Colours which embellish it, and the Art of laying them on: The Baking, and Method taken to give it a proper Degree of Heat. In the last Place, he makes some Remarks on the ancient and modern Porcelain; and shews, why the European Patterns cannot always be imitated by the *Chinese* Workmen.^f

(1.) The Materials of China-Ware, and how prepared; with the Oil or Varnish used for glazing it.

First Earth, how prepared. Second Sort of Earth: Its Qualities: How prepared. The She-kau. Oil of Stone, for glazing. Oil of Lime and Fern. Varnish of burnt Gold. Gilding and Painting with the Violet Colour.

PORCELAIN consists of two Sorts of Earth, *Pe-tun-tse* and *Kau-liu*; which are brought down the River in Barks from *Ki-mwen*, in Form of Bricks^h: For *King-te-ching* produces no Materials fit for the Purpose. The *Kau-liu* is mixed with shining Particles. The *Pe-tun-tse* is simply white, and of a very fine Grain. This latter is made of Stones; but all Sorts are not fit. The right Sort ought to have a greenish Cast. When they have dug the Pieces of Rock out of the Quarries, they break them with great Iron Mallets, and then, in Mortars, reduce them to very fine Powder. This is cast into a great Jar full of Water, and stirred-up strongly with an Iron Shovel: Then having rested a few Minutes, there rises, on the Surface, a Sort of Cream four or five Inches thick; which they take-off, and pour into another Vessel full of Water. This Work they repeat so long as there appears any Scum at-Top; after which they take-out the gross Parts at Bottom, and pound them afresh.

^a Du Halde's China, p. 339.

^b Le Comte's Memoirs of China, p. 150.

^c See before, p. 30.

^d Rather, Leagues.

^e *King-te-ching* is about forty Miles from *Jau-chew*.

^f This Account is taken

from the *Lettres Edifiantes*, where there are two Pieces written by *Dentrecolles* on the Subject. ^g Du Halde, as before, p. 338, & seq.

^h Some Authors pretend, that Porcelain is composed of Egg-Shells, or Shells of a certain Fish, buried for twenty, thirty, or an hundred Years.

Inhabitants
Classes.

WITH REGARD to the Second Jar, they wait a till there is formed at the Bottom a Kind of Paste; then pouring the Water gently off, throw the Paste into large wooden Moulds, to dry: But before it is quite hard, they divide it into small Bricks, which they sell by Hundreds; and to this Shape, and its Colour, it owes the Name of *Pe-tun-tse*: But as the Makers generally mix it with grosser Matter, the Workmen are obliged to purify it again at *King-te-ching*, before they use it.

Second Sort
of Earth.

THE *Kau-lin* is found in pretty deep Quarries, in the Heart of certain Mountains, whose Surface is covered with a reddish Earth. It is found in Lumps, and made into Bricks in the same Manner as the *Pe-tun-tse*. The fine Porcelain receives its Firmness from the *Kau-lin*: Though they have lately found-out a Kind of soft Stone, or Crayon, which is used in the Room of *Kau-lin*, called *Wba-shê*, because it is glutinous, and partakes something of the Nature of Soap. The China made of it is scarce, and much dearer than the other Sort: The Grain of it is exceedingly finer, and the Painting far better: It is also vastly lighter, but much more brittle; and it is difficult to hit upon the true Degrees of baking it. Some content themselves to make a fine Glue of it, wherein they dip the Porcelain when it is dry, that it may take one Lay before it receives the Colour and Varnish; by which Means it acquires a good deal of Beauty.

Its Qualities.

How pre-
pared.

WHEN they have taken the *Wba-shê* out of the Quarry, they wash it in River, or Rain-Water, to separate the yellow Earth that sticks to it. They then break it, and put it into a Tub of Water to dissolve, preparing it in the same Manner as the *Kau-lin*. It is affirmed, that Porcelain may be made of it, thus prepared, without any Mixture. One of the Jesuit's Converts, to eight Parts of it put two of *Pe-tun-tse*: They say, if more of the latter be added, the Porcelain will sink down in the Oven, for Want of a Body, or rather a proper Cohesion of the Parts. Sometimes they dissolve a Parcel of the *Wba-shê* Bricks in Water, and making a very clear Paste of it, with a Pencil dipped therein, trace several Fancies upon the Porcelain; to which, after it is dry, they give the Varnish. When it is baked, these Designs appear, being of a different White, and not unlike a thin Vapour spread over the Surface. The White of the *Wba-shê* is called *White of Ivory*.

* The Author believes, that the white Earth of *Malta*, called *St. Paul's Earth*, is of the same Nature, though without the shining Particles.

° The Author says, a Load of *Wba-shê* costs a Crown; that of *Kau-lin*, but twenty Sous.

c This, says the Author, is not strange, since it is pretended, that Stones are formed of the Salts and Oils of the Earth.

d Formerly, besides Fern, they used the Wood of the Tree, which bears a Fruit like a Medlar, called *Se-tse*: But it is now scarce; and hence, perhaps, the China-Ware made at present is not so beautiful.

THEY paint Figures on the Porcelain, also with *She-kau*, a Kind of Stone, or Mineral like Alum; which gives another Kind of white Colour. Before it is prepared, it must be burnt; afterwards they break it, and manage it like the *Wba-shê*, in order to procure the Cream.

China-Ware.
The She-
kau.

BESIDES the Barks loaded with *Pe-tun-tse* and *Kau-lin*, which lie along the Bank-Side at *King-te-ching*; there are others full of a whitish liquid Substance: They call it *Pe-yew*, or Oil of Stone; but the Name *Tsi*, or Varnish, would be more proper than that of *Yew*, or Oil. It is produced from a very hard Stone; which they chuse before the *Pe-tun-tse*; because whiter, and the Spots of a deeper Green. The History of *Few-lyang*, though it does not enter into Particulars, says, the Stone proper for the Oil has Spots of the Colour of Cypress-Leaves, or red Marks on a brownish Ground, much like the Plant called *Toad-Flax*.

Oil of Stone
for glazing.

THIS Stone having been prepared like the *Pe-tun-tse*, and the Cream, or purest Part, put into the second Jar; to about an hundred Pounds thereof they add a Pound of *She-kau*, made red-hot in the Fire, and beaten small. This is, as it were, the Rennet which gives it a Consistence, though they take Care to keep it always liquid.

THIS Oil of Stone is never used alone; but is mixed with another, which is, as it were, the Soul of it. They make several Strata, or Lays of quick Lime, reduced to Powder (by throwing on a little Water with their Hands) with Lays of dry Fern between; and then setting Fire to the Fern, when the Whole is consumed, divide the Ashes between five or six new Lays of dry Fern; or, if more, the Oil will be so much the better. Having gotten a sufficient Quantity of the Ashes of Lime and Fern, they throw them into a Vessel full of Water, adding one Pound of *She-kau* to an hundred Pound of it. By stirring the Mixture well, a Skin or Cruft appears upon the Surface, which is put into a second Vessel; and when there is formed a Kind of liquid Paste at the Bottom, they pour-off the Water; and this is the second Oil, which is to be mixed with the preceding for this Purpose. Both ought to be equally thick, which they try by dipping small Bricks of *Pe-tun-tse* into each. Ten Measures of Oil of Stone ought to be mixed with one of the Oil of Fern and Lime-Ashes: The most sparing never put-in less than three Measures. This Oil may be adulterated and increased, by putting Water to it; and, to conceal

Oil of Lime
and Fern.

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Classes.*

*Varnish of
burnt Gold.*

*Gilding and
Painting
with Violet.*

*The Manu-
factory.*

the Fraud, adding *She-kau* in Proportion; which a hinders the Matter from being too liquid.

THERE is another Kind of new-invented Varnish, called *Tsi-kin*, that is, *Varnish of burned Gold*: But the Author should rather call it *Varnish of the Colour of Cast-Brass, of Coffee, or of a dead Leaf*. This is drawn from common yellow Earth, in the same Manner as the *Pe-tun-tse*; and, when prepared, they use none but the finest Matter, which they cast into Water, and make a Kind of Glue of, about the Thickness of the *Pe-yew*, or common Varnish, with which it is mixed. Both must be of an equal Consistence; and if the Varnishes enter the *Pe-tun-tse* Bricks, when dipped in them, they are deemed fit for incorporating. They likewise put into the *Tsi-kin*, Oil of Lime and Fern-Ashes, of the same Consistence as the *Pe-yew*; mixing more or less of these two Varnishes with the *Tsi-kin*, according as they would have it, deeper or clearer; to know which, several Trials must be made. For Instance, they put two Cups full of the *Tsi-kin* to eight of the *Pe-yew*; and to four Cups full of this Mixture, they put one Cup of Varnish made of Lime and Fern.

A FEW Years ago they found the Art to paint with the *Tsui*, or Violet-Colour; and to gild the China. They have also tried to apply a Mixture of Leaf-Gold with Varnish and Powder of Flint, in the same Manner as they do the red Oil: But they found, that the *Tsi-kin* Varnish looked more beautiful and glossy. At one Time they made Cups, laying the gilt Varnish on the Outside, and the pure White within: But they have varied their Method since, by sticking in one or two Places, a round or square Piece of wet Paper; which, as soon as the *Tsi-kin* was laid-on, they took-off, and then painted the Spots with red or blue; varnishing them also when the Ware was dry. Some filled-up these empty Spaces with a blue or black Ground, in order to gild them after the first Baking.

(2.) Manner of making China-Ware.

The Manufactory. Materials, how prepared, and mixed. China made with the Wheel; and in Moulds. Mould, how used; and how made.

IN the least-frequented Part of *King-te-ching*, they have inclosed a Place with Walls, where they have built vast Penthouses, under which appears abundance of Earthen-Vessels, in Rows one above another. Within this Inclosure an infinite Number of Workmen live and work, each having his particular Task. One Piece of China-Ware, before it is fit for the Furnace,

passes through the Hands of above twenty Persons, and of seventy before it is baked.

THE first Labour consists in purifying the *Pe-tun-tse* and *Kau-lin*, from the grosser Parts: The former is managed in the same Manner as it was by the Maker. The Pieces of *Kau-lin* being put whole into a very clean Basket, and so let-down into a Vessel full of Water, dissolve of themselves.

THESE two Materials being thus prepared, must be mixed in a just Proportion: For making fine China-Ware, there goes an equal Quantity of each; for the middle Sort, they put four Parts of *Kau-lin* to six of *Pe-tun-tse*; and for the worst, they allow one Part of the former to three of the latter. This done, they throw the Mass into a large hollow Place, well-paved, and plaistered, where they tread, and knead it till it grows hard. This Work is very laborious, and continually going forward to supply the Workmen. The Matter being thus wrought, they spread Pieces of it on Slates, where they knead and roll it every Way, taking Care that there be no hollow Places in it, or any foreign Matter mixed with it; for a Hair, or a Grain of Sand, would spoil the Ware: And if the Mass is not well-kneaded, the China will crack, split, run, and warp. Of this PASTE the Porcelain-Vessels are made; some with the Wheel, others in Moulds only, and afterwards finished with the Chisel.

ALL the smooth Ware are made with the Wheel. A Tea-Cup, when it comes from that Engine, is very imperfect, not unlike the Crown of a Hat, before it is formed on the Block. The Workman gives it the Wideness and Height required, and parts with it almost as soon as he has taken it in Hand; for he gets but three Deniers (or the Value of Half a Farthing) for a Board; and every Board contains twenty-six Pieces. The Foot of the Cup is nothing then but a shapeless Piece of Earth, which is hollowed with a Chisel, when the Cup is dry, and has received all the Ornaments intended for it. From the Wheel it passes to a second Workman, who places it on its Foot; and soon after to a third, who puts it in a Mould (fixed on a Sort of turning Wheel) and gives it the Figure: A fourth polishes the Cup with a Chisel, especially towards the Edges; and to make it of a proper Thinness, to render it transparent, scrapes it several Times, moistening it a very little, if dry, lest it should break. When the Cup is taken-out of the Mould, it must be rolled gently thereon, without pressing it more on one Side than the other; for else it would not be exactly round, or would warp.

THE great Pieces of Porcelain are made at

^a Rather *Tsui*. See afterwards.

^b *Du Halde's China*, p. 339, & seqq.

twice:

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Glasses.

twice: One Half is supported upon the Wheel a by three or four Men, while it is shaping; and the other Half being almost dry, is joined to it, by Means of some of the same Matter moistened in Water, which serves instead of Mortar, or Glue. When the Whole is quite dry, they trim the joining Place with a Knife, on both Sides; which, when varnished, looks as smooth as the rest. By the same Means they apply Handles, Ears, Relievs ready prepared, and other Parts, to the Vessels. In like Manner Mould-Works, that are fluted, or representing Animals, grotesque Figures, Idols, Busts, bespoken by the Europeans, and the like, consist of three or four Pieces, which are joined, and finished with Instruments proper to hollow, polish them, and add several Touches wanting in the Mould. Flowers and other Ornaments, that seem, as it were, engraved, are impressed on the China with Seals and Moulds.

Mould, how
used,

WHEN a Model is given them, which they cannot imitate by the Wheel, they take the Impression with a Sort of Earth; and then separating the Mould, in several Pieces, from the Model, let it dry gently. Having set this Mould near the Fire for some Time before they use it, they put-in Stuff, according to the Thickness the China is to be of, and press it in every-where with the Hand: Then placing it for a Minute or so at the Fire, the Figure loosens from the Mould; and the different Parts thus worked separately, are united again with the Stuff made somewhat liquid. The Author had seen Figures of Animals thus made quite solid. They first let the Mass harden; then giving it the Figure proposed, finished it with a Chisel, or added Parts that were made separately. It is next varnished and baked; then being painted and gilded, is baked a second Time. Such Sort of Works, which are very troublesome to make, and extremely dear, ought to be sheltered from the Cold; for when they do not dry equally, the Parts that are moist, crack; to avoid which, they sometimes make Fires in the Laboratories.

And how
made.

THE Moulds are made of a yellow, fat Earth, found not far from King-te-ching. They first knead it, and when it is become somewhat hard, beat it very much; then giving it the Figure required, finish it upon the Wheel. To hasten a Work, a great Number of Moulds are made, for employing several Workmen at the same Time; and with Care they will last a long While: When cracked too, or flawed, they may be repaired.

(3.) Colours for embellishing China, and the Art of laying them on.

China-Ware Painters. The Azure, or Lapis Armenus, how prepared: Where found. The red Colour. Other Colours, how made. Red Oil Colour. The blown Red. Compound Colours: Of White: Of Green: Of Yellow: Of Black: Of Violet-Colour, and how prepared. Unvarnished China: Colours proper for it. Black China-Ware. Pinked China. Marbled China. Olive China. Transmutation China. Gilding and strengthening the Edges. Exceeding white Varnish. Cautions in Baking. Figured China: A curious Sort. Art in Varnishing.

THE Wha-pei, or Painters, are as poor as the other Workmen: They are ignorant of all Rules, and generally perform no better than an European, who had served at the Trade but a few Months: For all this, they have a Knack of painting Porcelain, as well as fine Gauze, Fans, and Lanthorns, with Flowers, Animals, and Landscips; which are justly admired.

THE Painting-Part is divided, in the same Work-house, among a great Number of Hands. It is the sole Business of one to strike the first-coloured Circle, near the Edges of the Ware: Another traces the Flowers; which are painted by a third. It belongs to one to draw Rivers and Mountains; to another Birds, and other Animals: As for the Figures of Men, they are commonly the worst done of all.

CHINA is made of all Colours. The Ground of some is like our Burning-Glasses; that of others is quite red, done either with Oil-red, or Blown-red, and frosted with little Points, like our Paintings in Water-Colours. In short, some are painted with Landscips, set-off with Gilding: All these Sorts are very beautiful, but extremely dear.

THE Annals of King-te-ching say, that formerly People made use only of white Porcelain. It was first painted with the Lyau, or Azure; which is thus prepared: First, They calcine it, by burying it for twenty-four Hours in the Gravel of the Furnace, before it is heated, inclosed in a Porcelain Box well luted; then they reduce it to an impalpable Powder, as they do other Colours, in great Porcelain Mortars, whose Bottoms, as well as Pestel-Heads, are unglazed; and passing it through a Searse, put it into a glazed Vessel, pouring thereon boiling Water: Then stirring it about, they take-off the Scum, and decant the Water very gently. This must be

China-Ware
Painters.

The Azure,
how prepared.

* Du Halde's China, p. 342, & seq.

† This is Lapis Armenus.

repeated

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Class.*

repeated twice. After which, they grind the a by mixing seven Drachms of prepared White *China-White* Blue, while yet moist, and like a very fine Paste, with three Drachms of the Copperas Red. The above-mentioned Colours applied to Porcelain, after it has been varnished and baked, do not appear till it has received the second Baking. According to the *Chinese* Book, they are laid on with Ceruse, Saltpetre, and Copperas: But the *Christian* Potters mentioned nothing but White-Lead; which is mixed with the Colour when dissolved in Gum-Water.

Where found.

THE Author was assured, that this Azure is found in Coal-Pits, or among the red Earth that lies near them; wherever any of it appears on the Surface, more will be found by digging. It exists in the Mine in small Pieces, about the Bigness of the middle Finger; but flat, and not round. The coarse Azure is common enough; but the fine is very scarce, and not easily distinguished by the Eye: They try it by painting a Cup, and then baking it. Could Europe furnish this fine *Lyau*, or *Azure*, and the beautiful *Tsyu*^a, which is a Kind of Violet, they would be charming Commodities for *King-te-ching*. The latter is sold for a *Lyang* and eight *Tsyen*, or nine *Francs*, the Pound; and a Box of fine *Lyau*, containing only ten Ounces, for two *Lyangs*, which is twenty Sous an Ounce.

The red Colour.

THE Red is made of *Tsau-fan*, or Copperas. c They put a Pound of it into a Crucible, which they lute well to another. On the Top of this last there is a small Opening, covered in such a Manner, that it may be easily uncovered when there is Occasion: Then they put kindled Charcoal all about it; and, to make the Reverberation the stronger, enclose it with Bricks. The Matter is not brought to Perfection till the black Smoak ceases, and a Kind of a small, thin Cloud succeeds. Then taking a little of this Matter, d and moistening it with Water, they try it upon Fir-wood: If it produces a bright Red, they take away the Fire; and when it is quite cold, they find a small Cake of Red at the Bottom of the Crucible: But the finest Red adheres to the Crucible that is above. A Pound of Copperas yields four Ounces of Red.

Other Colours, how made.

THOUGH the Porcelain is naturally white, and becomes still more so by Means of the Glazing, yet a white Colour is sometimes used in painting e it. This White is made with a Powder of transparent Flint, calcined in the Furnace, after the same Manner as the *Lapis Armenus*, or *Azure*. To half an Ounce of this Powder they add an Ounce of powdered Ceruse, or White-Lead; which also enters into the Composition of the Colours. For Instance, to make a Green, to one Ounce of Ceruse, and half an Ounce of powdered Flint, they add three of what they call *Tong-wba-pyen*; which, according to the Information the Author could get, must be the finest Scales of hammered Copper. The Green thus prepared, becomes the Mother of the Violet, which is made by adding a Quantity of the White; and is the deeper, the more there is of the Preparation of Green. The Yellow is made

b THE red Oil-Colour, called *Yew-li-hong*, is *Red-Oil Colour* made with the Powder of red Copper, and that of a Stone, or Flint, which has a reddish Cast. A *Christian* Physician told *Dentrecolles*, that this Stone was a Kind of Alum, used in Physic. They beat the whole in a Mortar; mixing with it young Mens Urine and the Oil of *Pe-yew*: But the Author could never discover the Quantities of these Ingredients; which they make a Secret. They lay this Composition on the China, without employing any other Varnish; taking Care, that, in the Baking, it does not run to the Bottom of the Cup. This Copper-Powder is made of the Copper and Lead separated from the Silver Ingots of base Alloy used for Money. Before the melted Copper congeals, they dip a Brush slightly in Water, and, striking the Handle of it, sprinkle the Water on the Copper. This causes a Skin to rise upon the Surface, which they take-up with small Iron Tongs, and plunge into cold Water: Whence the Copper-Powder is made; which increases as often as they repeat the Operation. The Author is of Opinion, that if the Copperas was dissolved in *Aqua-fortis*, this Powder of Copper would be fitter for the Red. But the *Chinese* have not the Art of making either that or *Aqua-regia*.

To make the other Kind of Porcelain, with *The blown* *Che-wi-hong*, or Blown-red: They take a Pipe, *Red*, and covering one End with a fine Gauze, apply it gently to the red Powder ready prepared, which the Gauze takes-up; then blowing through the other End upon the China, it appears covered with small red Specks. This Sort of Ware is still dearer and scarcer than the former; because more difficult to make. The Blue is blown on with more Ease. They could dust it over with Gold and Silver in the same Manner, if any would be at the Expence. They sometimes blow the Varnish on, when the Porcelain is so fine and slender that it cannot be handled, unless laid on Cotton: Of which Sort some were made for *Kang-hi*.

f THEY compound the Red, which is made of *Compound* *Tsau-fan*, or Copperas, thus: To a *Lyang*, or *Colours*, *Tail*^b, of Ceruse, they put two *Tsyen* of this Red, and mix them dry, by passing both together through a Searse. Then they incorporate them

^a Called *Tsui* before, p. 148. c.

^b See the Weights, p. 136.

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Classes.*

with Water and common Glue, reduced to the Consistence of Fish-Glue. This causes the Red to stick when applied to the China, and prevents its running.

Of White.

To make a White, they add to one *Lyang* of Ceruse, three *Tsyen*, and three *Fwen* of the impalpable Powder of the most transparent Flints, calcined in the Gravel of a Furnace, as before-mentioned; making use of Water, only to incorporate them.

Of Green.

THEY make a deep Green, by adding to a *Lyang* of Ceruse, three *Tsyen*, and three *Fwen* of the Powder of Flints, with eight *Fwen*, or near a *Tsyen* of *Tong-wha-pyen*. This last is nothing but the Dross of the Scales of Copper, that fly-off on hammering it, when melted, freed from the least Particles of that Metal which are not proper for a Green.

Of Yellow.

As for the yellow Colour; it is made by adding a *Lyang* of Ceruse, three *Tsyen*, and three *Fwen* of the Powder of Flints, and one *Fwen*, eight *Li*, of pure Red: But some put two *Fwen* and an half of this last. One Part green to two Parts white, makes a very bright Sea-green. Two Cups full of a deep Green to one of a Yellow, make the *Ku-lu* Green; which resembles a Leaf somewhat faded.

Of Black.

To make a Black, they reduce the Azure with Water to a thickish Liquid, mixing therewith common Glue macerated in Lime, and boiled to the Consistence of Mouth-Glue. When they have painted the Porcelain, that is to be baked over-again, with this Colour, they cover the Places with White; and, in baking, the White incorporates with the Black, like the common Varnish with the Blue.

*Of Violet
Colour.*

A *LYANG* of Ceruse, three *Tsyen*, and three *Fwen* of the Powder of Flints, and two *Li* of Azure, make a deep Blue inclining to a Violet. Some think, there should be eight *Li* of the Azure. The deep Violet is made of the *Tsyu*; which is a Stone or Mineral resembling *Roman Vitriol*. The Author, by the Answers he received to his Questions, concludes it to be gotten-out of the Lead-Mines; and that hence it insinuates itself, like the Ceruse, into the China. It is found at *Kanton*: But that which comes from *Pe-king* is best; being sold for a *Lyang* and eight *Tsyen* a Pound. When melted, or softened, the Goldsmiths use it like Enamel; putting it on a slight Lay of either common or Fish-Glue, to prevent its wearing-off.

How prepared.

To prepare the *Tsyu*, they reduce it to a fine Powder, which they cleanse by stirring it in a Vessel full of Water; the Crystal falling to the Bottom. The Mass thus moistened, loses its

a fine Colour, and seems inclinable to an Ash; but recovers its Violet Hue again, as soon as the Porcelain is baked. The *Tsyu* will keep as long as they desire; and when they go to paint, it is sufficient to moisten it with Water, mixed, if they think proper, with a little common Glue. This, as well as the other Colours before-spoken of, is used only upon China baked a second Time.

To gild or silver China-Ware, they add two *Fwen* of Ceruse to two *Tsyen* of Gold or Silver Leaves, carefully dissolved. The Silver has a great Lustre upon the Varnish *Tsi-kin*. But the silvered Vessels ought not to remain so long in the little Furnace, or Oven, as those that are gilt; because the Silver would disappear before the Gold would attain a proper Lustre.

THEY sometimes take Dishes, that have been already baked in the great Furnace, but not varnished, and dip them in the Vessel wherein the Colour is prepared, if they would have them all of the same Colour: But, if of different Colours, like the Ware called *Whang-lu-wan*, which are divided into Squares, one green, another yellow, &c. they lay-on these Colours with a large Pencil. This is all they do to this Sort of China; unless, that, after it is baked in the great Oven, they put a little Vermilion on the Mouths of some Animals, or the like: For this Colour disappears in the Fire, neither is it very lasting. Likewise, in baking them a second Time, they must be placed at the Bottom of the Furnace, and under the Vent-Hole, where the Fire is not so fierce; because a strong Fire would discharge the Colours.

COLOURS proper for this Sort of Porcelain are prepared thus: To make a Green, they take *Tong-wha-pyen*, Saltpetre, and Powder of Flints; but in what Proportion, the Author could not learn. When they are reduced separately into an impalpable Powder, they are to be incorporated together with Water. The most common Blue, mixed with Saltpetre and Powder of Flints, makes a Violet. The Yellow is made by adding, for Instance, three *Tsyen* of Copperas-Red to three Ounces of Powder of Flints, and three Ounces of White-Lead. To make the White, they put four *Tsyen* of the Powder of Flints to a *Lyang* of Ceruse.

THE Colour of the black Porcelain, called *Black China-Ware*, is of a Lead Kind, resembling that of burning Glasses; and the Gold they add, makes it yet more agreeable. They mix three Ounces of Azure with seven of common Oil of Stone, and lay it on when the China is dry. By varying the Proportion, you may have the Colour

* *Du Halde's China*, p. 343. & seqq.
eight Shillings and Three-pence.

b Before called *Tsui*.

c That is, nine Livres, or about

more.

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more or less deep. After baking it, they apply a grind the Gold small, and dissolve it in a China Cup, till it settles into a Kind of Hemisphere. They there let it dry; and when they want it, dissolve it by Bits in Gum-Water. With thirty Parts of Gold they incorporate three Parts of Ceruse, and lay it on the Ware as they do Colours. As the Gold thus applied grows dull after a-while, they restore it, by moistening the China with fair Water, and rubbing the Gilding afterwards with a Piece of Agate. But they must be careful to rub the Vessel always the same Way; for Instance, from Right to Left.

Pinked
China.

THE shining or Looking-Glass Black, called *U-king*, (which owes its Origin to a Caprice of the Furnace) is given to the China by dipping it in a liquid Mixture of prepared Azure, a little thickish: To ten Ounces of powdered Azure (the finest is not necessary) they put one Cup of *Tsi-kin*, seven of *Pe-yew*, and two of Oil of Ashes of Fern burnt with Lime. This Mixture carries its Varnish along with it in baking. This Sort of Ware ought to be placed towards the Middle of the Furnace, and not near the Arch, where the Fire is most fierce.

THEY make a Kind of Porcelain, almost pierced through, like pinked Work, with a Cup in the Middle; which makes but one Piece with the Part that is pinked. This Sort the Author had not seen: But he saw other Ware, whereon the *Chinese* and *Tartarian* Ladies were painted to the Life; the Drapery, the Complexion, and Features, being curiously expressed, and, at a Distance, appeared to be enamelled.

Marbled
China.

IT is observable, that when the Oil of white Flints only is used on the Ware, it becomes a particular Sort, called *Tsui-ki*, being marbled, and full of an infinite Number of Veins; so that, at a Distance, it seems as if it had been broken to Pieces, and put together again; exhibiting a Sort of *Mosaic* Work^a. The Colour that this Oil gives is a White, a little upon the Ash; and in case the China be blue, on applying this Oil, it will appear marbled, and as if it were cracked, when the Colour becomes dry.

Olive China.

PORCELAIN, called *Long-tsun*, inclining to an Olive-Colour, was the Fashion in China when *Dentrecolles* wrote. Some of it is named *Tsing-ko*, from a Fruit much like an Olive. They give the China this Colour by mixing seven Cups of the *Tsi-kin* Varnish with four Cups of the *Pe-yew*, two Cups, or thereabouts, of Oil of Lime and Fern-Ashes, and one Cup of *Tsui-yew*, or the Oil of Flints. The *Tsui-yew* causes a Number of small Veins to appear on the Porcelain; but if applied alone, the Ware is brittle, and yields no Sound.

Transmuta-
tion China.

THEY brought the Author a Piece of Porcelain called *Yau-pyen*, or *Transmutation*; perhaps, owing either to the Defect or Excess of Heat in the Furnace. The Workmen intended to make Vessels of Blown-red, but an hundred Pieces were entirely lost; and that in Question came out of the Furnace like a Kind of Agate.

Gilding, and

WHEN they are ready for Gilding, they

^a This is the Sort with which *Le Comte* was much taken; and supposes to be effected by exposing the baked China, when hot, to the cold Air. See his *Memoirs of China*, p. 150.

^b They affirm, the Ashes of the Rind would make the China crack in the Furnace.

^c If a Copper Farthing was put a-Top of one of the upper Piles, it would, when melted, pierce all the Cases and Vessels immediately under it, making a Hole through every one of them.

Strengthen-
ing the
Edges.

Exceeding
white Var-
nish.

Cautions in
baking

To prevent the Edges of the China from flawing, they strengthen them with powdered Charcoal made of Bambú, stripped of its green Rind^b; mixing it with the Varnish, which it renders of an Ash-Colour-Grey. They lay this Mixture with a Pencil on the Edges of the dry China, going to be put on the Wheel. The Author believes, that Charcoal, made of the Willow, or, rather, Elder-Tree, which partakes something of the Nature of Bambú, may supply the Want of it in Europe. He also observed, that before the Varnish is laid on the China, (the fine especially) they smooth it, by taking-off the smallest Inequalities with a Pencil made of very small Feathers, which they just moisten in Water, and pass lightly over all the Vessel.

WHEN they would give the Ware an uncommon Whiteness, either for Sake of that Colour, or to paint, gild, and bake it again, they put thirteen Cups of *Pe-yew* to one Cup of Fern Pot-Ashes, made equally fluid. The China on which this Varnish is laid, may be exposed to the intensest Heat of the Furnace. But it is so strong, that when they intend to paint the Ware blue, they put only seven Cups of *Pe-yew* to one Cup of the Lime and Fern-Ashes Varnish; otherwise, after baking, the Colour will not appear through it.

IT is proper to observe, that the Porcelain done-over with the Varnish, which contains much Fern-Ashes, ought to be baked in a temperate Part of the Furnace, that is, next the three first Rows, about a Foot or Foot and half from the Bottom: For if placed at-Top, the Ashes would quickly melt, and run to the Bottom of the Ware^c. The same happens to the Oil-red, the Blown-red, and the *Long-tsun*, occasioned by the Copper-Powder, an Ingredient of this Varnish: That Station is proper for the China done-over with the *Tsui-yew* Varnish, which produces the Veins.

WHEN the Vessel is to be entirely blue, they

dip

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Glasses.*

dip it into *Lyau*, or Azure, prepared and moistened in Water to a proper Consistence. As for the Blown-blue, called *Tswi-tsing*, they use the finest Azure prepared in the Manner already explained: They blow it on the Vessel; and when dry, give it the ordinary Varnish, either alone, or mixed with *Tswi-yew*, if they would have it veined.

*Figured
China.*

THERE are Workmen who trace upon the dry Azure, whether blown or otherwise, Figures, with a long Needle, which appear when the Ware is varnished and baked. There is not so much Labour bestowed as one would imagine on the China embossed with Flowers, Dragons, and such like Fancies: For, after tracing them with an Engraver, they only make slight Notches about them to give a Relievo, and then lay-on the Varnish.

THERE is a Kind of Porcelain which is made in the Manner following: They, first, lay-on the ordinary Varnish, and bake it; then, painting it, bake it again. Recourse is often had to the second Baking, purely to hide Defects, by applying Colours to the faulty Places. The Load of Colours on this Sort of China recommends it to a great many People; but one usually perceives Inequalities in it.

THE Colours being incorporated with the baked and varnished China-Ware, by Means of the Ceruse, gave Rise to a Conjecture of the Author, that if White-Lead was likewise used in the Colours painted on Glass, and the Glass afterwards baked a second Time, the Art of painting thereon might be recovered.

*A curious
Sort.*

ON this Occasion he observes, that the Chinese had once the Art of painting Fish, or other Animals, on the Sides of a Porcelain Vessel; which did not shew themselves till the Vessel was full of Liquor. They call this Kind of China-Ware *Kya-tsing*, that is, *Azure put in a Press*. What they have preserved of the Art is as follows: The Vessels, to be painted in this Manner, must be very thin. They lay-on the Colour pretty strongly on the Inside; and generally paint Fish, as most proper for the Purpose. The Colour being dry, they spread on it a thin Lay of Porcelain Paste; then varnishing the Inside of the Vessel, put it on the Wheel. They make the Outside as thin as possible; and then dipping it in the Varnish, bake it in the common Furnace. It may be said, that, even at present, the finest Azure revives upon the China, after having disappeared: For when they lay it on the Ware, it is of a palish Black; but when dry and varnished, it is entirely hidden, the Ware becoming white; but the Fire discloses all the Beauty of the Colours.

AFTER all, there is a great deal of Art in laying-on the Oil, or Varnish, with respect both to Quantity and Equality. China that is thin and slender, is done over with it twice very slightly: For if the Lay should be too thick, the Ware would warp immediately. These two Lays are equivalent to one, commonly given to the fine Porcelain of a stronger Make; and are applied, the first by sprinkling, and the other by dipping. They take the Cup by the Outside in one Hand, and holding it sloping over the Pot of Varnish, with the other throw into it as much as will sprinkle it all over: This is repeated to a great Number of Cups; and as soon as the first becomes dry, to oil them without, they put one Hand within the Cup, and, with the other, applying a small Stick to the Middle of the Foot, dip it quick into the Vessel.

It has been said before, that the Foot of the Cup is left unfashioned; and, in reality, it is not put-on the Wheel to be hollowed, till after it has been varnished. Within the Hollow they paint a small Circle, and, often, a Chinese Character; and then varnish it, which is the finishing Stroke: For immediately after, it is carried from the Laboratory to the Oven.

(4.) *The Furnaces, or Ovens, for baking the China.*

Furnace, how built. Vessels, how ranged. Oven, how heated. Cases for baking the China: How piled: What Earth made of. Structure of the Oven. The Spy-Holes. Baking, how managed. Signs when finished. The Quantity of Wood.

THE Furnaces of this Kind, when small, may be made of Iron; but they are generally of Earth. That which *Dentrecolles* saw, was about a Man's Height, and almost as bulky as a Wine-Cask. It was built with a Sort of large square Tiles, about half an Inch thick, a Foot and half long, and a Foot broad, placed one upon another, and very well cemented; having been so ordered, before they were baked, as when laid-together, to suit the Roundness of the Furnace. It stood about half a Foot from the Ground, upon two or three Ranges of thick, but narrow, Bricks; with a firm Inclosure of Brick-work round it, which had at the Bottom three or four Vent-Holes. Between this Inclosure and the Furnace, was a Space left of about half a Foot, except in two or three Places; which being filled-up, were a Kind of Buttresses to the Furnace.

THEY fill it with the Porcelain that are to be baked a second Time, piled one upon another, putting the smaller into the larger; but so, that

* *Du Halde's China*, p. 345, & seqq.

Inhabitants
Gloss.

the Sides that are painted may not touch; for that would spoil them. When the China cannot easily be piled in this Manner, they place them by Ranges in the Furnace, from Bottom to Top; covering each with Plates made of the same Earth the Furnace is of, or even with Pieces of the Cafes belonging to the Porcelain.

Oven, how
heated.

THIS done, they cover the Top with Bricks, such as the Sides are made of; which jamming one within another, are cemented with Mortar, or tempered Earth; only a Hole is left in the Middle, for inspecting the Ware. They afterwards kindle a good Quantity of Charcoal, both under the Furnace, and on the Top; from whence they throw it into the Space between the Inclosure and the Oven. When the Fire is fierce, they look, from Time to Time, through the Opening, which is covered only with a Piece of a broken Pot; and when the Vessels appear with a Gloss, and the Colours bright and lively, they first withdraw the Fire, and then the China. The Author has often been surprized to see a Porter carry steadily on his Shoulders, two long narrow Boards ranged with China-Ware; and pass in that Manner through several Streets full of People, without breaking any of his Cargo.

Cafes for
baking

In a Kind of Porch, before the Furnaces, stands a Heap of Boxes and Cafes made of Earth, for enclosing the China-Ware: Every Piece, however inconsiderable, having its Cafe; as well those with Lids as those without. These Lids, which stick but weakly to the lower Part, during the baking, are easily severed by a little Stroke given them. As for the smaller Pieces, such as Tea and Chocolate-Dishes, one Cafe serves several. Within the Cafe, they put a Bed of very fine Sand, spread over with the Dust of *Kau-lin*, that the Sand may not stick to the Foot of the Cup. Over this Cafe another, furnished likewise with China-Ware, is put within it, so as to cover it entirely, without touching the Vessels below: Thus they fill-up the Oven with large Piles of Earthen Cafes, or Boxes.

The China.

As for the small Ware, inclosed in large round Cafes, each Piece is set on an Earthen Saucer, two Crowns thick, and sufficiently broad; whose Base also is sprinkled with the Dust of *Kau-lin*. When these Cafes are somewhat large, they put no China-Ware in the Middle, because it would be too far from the Sides; and so, for want of Strength, might open and give-way, which would endamage the whole Pile. These Cafes are four Inches in Height; and Part of them are unbaked, as well as the Ware. In putting the China into the Cafes, the Workman does not handle it, for Fear of soiling, denting, or breaking it, (for nothing is more brittle;) but he takes it off the Board, by Means of a little String fastened to the two Prongs, somewhat crooked,

a of a wooden Fork; this he holds in one Hand, while with the other he disposes the two Ends of the String crosswise, to inclose the Vessel; which he thus lifts gently up, and places in the Cafe on its Saucer, with incredible Quickness.

THE two Bottom-Cafes of each Pile are empty; because there the Heat is not strong enough: And, besides, Part of them is covered with the Gravel, placed at the Bottom of the Furnace, the better to support the Piles of China, which in the Middle are at least seven Feet high: For the same Reason, the Top-Cafe of the Pile is empty likewise. The Oven is filled in every Part, except immediately under the Vent-Hole: In the Middle stand Piles of the finest China, at the Bottom the coarser Sort, and at the Mouth that which is strongly coloured. All the Piles are placed very near each other, and join together at Top, at Bottom, and in the Middle, by Pieces of Earth, placed so skilfully, as to admit a free Passage for the Flame on all Sides.

ALL Earth is not proper to make Cafes. There are three Sorts used: One is yellow, and common enough; of which they make the Bottoms: Another, called *Lau-tu*, is a strong Earth: The third, being oily, is named *Yew-tu*. These two last are gotten in Winter from certain deep Mines, not to be worked in Summer: They are made not far from *King-te-ching*. If they are mixed in equal Proportion, the Cafes cost somewhat more; but last a long While: When the yellow Earth prevails, they seldom last above two or three Bakings before they break to Pieces. If a Cafe is cracked, or even split, they bind it with an Osier; which, though it takes Fire, for this once preserves the Vehicle. They take Care not to fill the Oven with new Cafes; one Half, at least, must have been baked before: These are placed at Top and Bottom of the Piles, and the unbaked ones in the Middle.

THE Ovens, or Furnaces, are placed at the farther End of a long Porch, which serves instead of Bellows, and is withal a Warehouse: It is of the same Use as the Arch in Glass-Houses. The Ovens formerly, according to a Chinese Author, were only six Feet high, and six broad: They are now two Fathom (or twelve Feet) high, and almost four wide: The Arch (or Rounding at Top) grows narrower as it approaches the Vent-Hole, and is, as well as the Body of the Oven, so thick, that one may walk upon it without being incommoded by the Fire.

BESIDES this Mouth, the Furnace has five or six Openings about its Head, like so many Eyes; which are covered with broken Pots, to allay the Air and Fire of the Oven. When they want to see how the China is baked, they uncover the Eye, which is nearest the great Vent-Hole, and with Iron-Tongs open one of the Cafes. If the Ware

*Inhabitants
Classes.*

Ware is done enough, they discontinue the Fire, and keep the Door of the Oven remaining shut for some Time. This Oven has a deep Hearth of equal Extent with itself, and a Foot or two wide. They ascend by a Plank to place the Ranges of China in the Oven: When the Fire is lighted, they immediately shut the Door, leaving only an Opening to throw-in thick Pieces of Wood, a Foot long. At first the Oven is heated for a Day and a Night; and then two Men relieving each other, continually throw-in Wood. One Baking generally consumes an hundred and eighty Load. Formerly, according to a *Chinese* Author, they burned two hundred and forty Load; and twenty more, if the Weather proved rainy; although the Ovens were less by one half, than they are now. They kept but a small Fire during seven Days and Nights; and on the eighth Day made a very brisk one.

*Baking, how
managed.*

It must be observed, that the Cases containing the smaller Ware had been baked before by themselves, and that they did not open the Oven-Door till five Days after the Fire was out: They kept that of the large Ware shut for ten Days: At present, indeed, they delay taking the large Vessels out of the Oven for a few Days; because otherwise they would crack: But as for the small, if the Fire ceases in the Evening, they will withdraw them next Morning, that they may save Wood, perhaps, in the next Baking. As the China-Ware is then burning-hot, the Operator, who takes it out of the Oven, makes use of long Slings hung-about his Neck.

*Signs when
finished.*

The Porcelain baked in the small Oven, is fit to take-out, if on Inspection they find, that all the Ware appears fire-red to the Bottom; that they are distinguishable one from another, as placed in the Pile; that those which are painted look smooth, and that the Colours are incorporated with the Ware, in the same Manner as Varnish is with the fine Blue, by the Heat of the great Oven. As for the Ware baked a second Time in the great Oven; this they judge sufficiently baked, 1. When the Flame comes-forth no longer red, but whitish. 2. When they see the Cases red-hot. 3. When after taking a Vessel from one of the Top-Cases, and letting it cool, they find the Varnish and Colour to their Liking. And, lastly, when they can see the Gravel shine at the Bottom of the Oven.

*The Quantity
of Wood.*

THE Author has been surprized to find, that after burning at the Entrance of the Oven an hundred and eighty Load of Wood in one Day, on the next no Ashes should be found on the Hearth. The People should be well-seasoned to the Fire who feed these Ovens. It is said, they put Salt in their Tea, that they may drink as

much as they will without being incommoded: But how should salt Liquor quench Thirst? *China-Ware.*

FEW Bakings succeed quite well, and oft the Whole is lost, both the Ware and Cases being reduced to a Mass as solid as a Rock. Too fierce a Fire, or insufficient Cases, may ruin all. It is no easy Matter to regulate the proper Degree of Heat; for the Alteration of the Weather has an immediate Effect on the Fire, Fuel, and China itself: Thus an hundred Workmen are ruined for one who grows rich; an hundred ruin themselves by still trying their Fortunes, in Hopes to get enough to set-up a Merchant's Shop. No Wonder then, that *China* is so dear in *Europe*. Besides, what is sent thither, is almost always made from new Models, often so whimsical, that it is difficult to succeed; and the *Europeans* refuse it for the least Defect: In which Case it must stick on the Master's Hands; because it is not in the *Chinese* Taste.

(5.) Skill of the Workmen, and the Porcelain of different Times compared.

Surprising Workmanship. Impracticable Patterns. *China-Ware*, Patron of. Musical Instruments. Ancient and modern Ware. Large Jars. Counterfeit *China*. *China*, how pieced. Walls of King-te-ching, how built.

IT must be confessed, that the Workmen perform such surprising Works, as Strangers would think impossible. For Instance, the Author has seen a large Lanthorn, like that of a Ship, all of one Piece of *China*; through which one Candle sufficiently enlightened a whole Room. The hereditary Prince ordered this to be made seven Years ago. In like Manner, he saw Jars above three Feet high without the Lid; which rose like a Pyramid a Foot high. They consisted of three Pieces, so artfully put together, that the Joining could not be perceived. But he was told, that only eight out of twenty-four, succeeded well; the rest being spoiled. These Urns were bespoke by the Merchants at *Kanton*, for the *European* Trade; Wares of so high Price not taking in *China*.

THERE is another Kind of Porcelain, difficult to make; and therefore very scarce. It is exceeding thin, and smooth within and without: Yet you see Ornaments, as a Round of Flowers, or the like, engraven on it. As soon as it is off the Wheel, they clap it on an engraved Mould: Thus the Inside takes-off the Figures; and the Outside they make thin with a Chisel.

HOWEVER, the *Chinese* Workmen cannot perform every Work that is required of them.

* *Du Halde's China*, p. 348, & seqq.

*Inhabitants
Classes.*

The *European* Merchants require, sometimes, a and representing Animals: They make Ducks, *China-Ware*, and Tortoises, that will float on the Water. The Author has seen a Cat painted to the Life: In her Head they had placed a Lamp, the Flame of which made the two Eyes; and they assured him, that the Rats were frightened with it in the Night. They also make abundance of Statues of *Quan-in*, a Goddess famous in *China*; who is represented holding a Child in her Arms, and is invoked by barren Women. She may be compared to the antique Statues of *Venus* and *Diana*, with this Difference, that those of *Quan-in* are extremely modest.

Fruitless Attempts.

THE History of *King-te-ching* mentions several Works commanded by Emperors, which were attempted in vain. The Emperor *Kang-bi*'s Father ordered some to be made, almost in the Fashion of our Orange-Tree Tubs; therein to breed the red, golden, or silver Fish. They were to have been three Feet and an half high; the Bottom, half a Foot, and the Sides four Inches thick. They laboured three Years together on these Works, and made two hundred Vessels; but not one succeeded. The same Emperor ordered Slabs for the Front of a Gallery, each three Feet high, two and an half broad, and half a Foot thick; but they could not be made. The hereditary Prince likewise bespoke divers Instruments of Music; particularly a Sort of small Organ, called *Tjeng*, about a Foot high, consisting of fourteen Pipes, whose Harmony is agreeable enough; but it could not be executed.

*China Ware,
Patron of,*

THE Statue of *Pu* (for every Profession has its Patron Saint) owes its Origin to these Models, which the Workman cannot succeed in. It seems, one of the Emperors, having commanded them to make him some Pieces, after a Pattern he gave them; and the Officers treating the poor Men with Rigour, for representing the Thing as impracticable: At length one of them, weary of the ill Treatment, in Despair threw himself into the burning Furnace, and was consumed in an Instant. However, the *China-Ware* then in the Oven proving perfectly fine, and to the Emperor's liking, this Desperado passed ever after for a Hero, and became the Idol presiding over the Porcelain-Works.

*And musical
Instruments.*

ALTHOUGH the Workmen could not make an Organ, they answered the Prince's Expectation with regard to Flutes, Flagellets, and an Instrument named *Yun-lo*, composed of nine small round Plates, a little concave, of different Tones. They hang them in a Frame at different Heights, and striking them like a Dulcimer, they return a little tinkling Sound, which agrees in Concert with other Instruments, and the Voice. But they succeed best in the grotesque Work,

WITH respect to the Porcelain of different Ages, the *Chinese* are divided in their Opinions; some giving the Preference to the ancient, whilst others cry-up the modern. It is an idle Notion which prevails in *Europe*, that the best Porcelain requires a long Time to be buried in the Earth. It is true, that in digging old Ruins, and on cleansing Wells long out of Use, sometimes, fine Pieces are found, which have been hid in troublesome Times. On the other Hand, the Author has found some in such Places which, probably, were ancient, but not comparable to the present Works; whence, he concludes, there was then, as now, Porcelain of all Prices. For the least Utensil of the earliest Emperors, *Yau* and *Shun*, which have preserved their Beauty, wherein alone their Value consists, they will give the greatest Sums. All that the Porcelain gets by lying in the Ground, is a Change of its Colour or Complexion, like Ivory or Marble, which shews it to be old.

ACCORDING to the Annals of *King-te-ching*, *Large Jars*, there were formerly Jars of fifty-eight or fifty-nine * *Lyangs* Price, which is more than eighty Crowns. These Annals add, that for each an Oven was built on Purpose, and no Expence spared. The Mandarin of *King-te-ching*, who was the Author's Friend, made Presents to his Patrons at Court, of the *Ku-tong*, or old Porcelain, which he had the Art to make himself, or, rather, to counterfeit: For this Purpose he employed a great many Workmen. The Matter of these false Antiques is a yellowish Earth, gotten near *King-te-ching*. They are made very thick: A Plate, which the Mandarin gave *Dentrecolles*, of his own Manufacture, having been as heavy as ten common ones.

THERE is nothing particular in this Sort of *Counterfeit China*, *China-Ware* excepting the Varnish, which is made of a yellow Stone; and being mixed with a larger Quantity of common Oil, dyes the Vessels a Sea-green: When baked, they throw them into very fat Broth, made of a Capon, and other Meats; then bake them again, and lay them in

* About eighteen Pounds.

*Inhabitants
Cliffes.*

the nastiest Puddle they can find, for the Space a of a Month, or more: After they are taken-out, they pass for Pieces three or four hundred Years old, or, at least, of the preceding Dynastie of the Ming, when Porcelain, of this Thickness, was the Court Taste. These false *Ku-tong* so far resemble the true, that they do not ring when stricken, nor yield the least Noise if held to the Ear.

*China, how
pieced.*

ALTHOUGH Porcelain be not so transparent as Glass, it is less brittle. Good Porcelain hath a clear Sound, as well as Glass. A Diamond cuts Glass; so also they use a Diamond to piece broken Porcelain; making little Holes, as with a Needle, in the Ware, and twisting therein very fine Brass Wire, render it fit for Service again, the Place where it was broken being scarce perceptible; which Business is a Trade in China.

*Walls of
King-te-
ching.*

KING-TE-CHING has been enlarged with the Dross and Rubbish of the broken Ware and Ovens. They build every Day; and there is not an House but is surrounded with Walls. The Bricks, which are long and broad, are not laid flat-ways, but on the Edge; being placed alternately with their Faces and Ends outward, a slight Lay of Mortar laid round the middle Bricks, bind them and the cross Bricks together. The Back of the Wall is made in the same Manner. These Walls grow narrower as they rise, till, at Top, they are no more than a Brick's Length or Breadth; the Spurs, or cross Bricks, being so placed as not to meet those on the opposite Side.

How built.

THUS they build the Walls hollow, or like Cases, with two Sides; and as they run-up every two or three Rows of Bricks, fill the Cavity with the broken Pots, throwing over it Earth tempered like a thinnish Mortar; which binds the Whole into one Mass, and holds the Bricks together. At a Distance, these Walls appeared as if made of fine grey Stone polished: And, what is surprizing, if covered at-Top with good Tiles, will stand an hundred Years. The Truth is, they do not bear any Timber-work; which is always sustained by massy wooden Pillars.

THE rest of the Rubbish is commonly thrown on the Banks of the River below *King-te-ching*, where it gains on the Stream, and, at length, becomes fit to build Streets on.

III. The Paper, Ink, and Pencils of China; with the Manner of printing and binding Books.

1. Of the Paper Manufacture.

Boards used to write on. Paper made of Bark.

^a Du Halde's China, p. 351, & seqq.

Cotton-Paper. New Kind invented. Hempen-Paper. Very large Paper. Vast Consumption. Bambu-Paper, how made. Another Sort. Paper-Moulds. Sheets, how dried. Paper most in Use. Fanning the Paper. Art of Silvering with prepared Talc; and of renewing old Paper. Many Sorts of Paper.

THIS Manufacture, among the Chinese, is so curious, that it deserves Notice no less than the Silk and Porcelain. In the most remote Ages of their Empire, they had no Paper (which they call *Chi*) but wrote upon Boards, and broad Pieces of Bambu. Instead of a Pen, or Pencil, they made use of an Iron Stile, or Bodkin: They wrote also on Metal; and the Curious still preserve Plates, on which there are Characters very neatly traced. It is a great While, however, since the Use of Paper was found out. Their Paper is so fine, that many Europeans have thought it was made of Silk; not considering that Silk cannot be beaten into a Paste.

THE Chinese make their Paper of the Bark of the Bambu, and other Trees, using only the second Skin of it, which is soft and white: This they beat in clear Water. The Frames they make use of to take-up this Matter, are long and broad; so that they have Sheets ten or twelve Feet long, and sometimes more: They dip every Sheet into Water, wherein *Fan*, or Alum, is dissolved, which serves instead of Size; and hence it is called *Fan-Paper*. This Alum hinders the Paper from soaking-in the Ink, and gives it a Lustre as if silvered over, or varnished; but then makes it liable to crack. This Paper is more white, soft, and compact, than the Paper of Europe; without having the least Roughness that can stop the Pencil, or separate the Hairs: But being made of Bark, it is apt to take Moisture, the Dust sticks to it, and the Worms insensibly get into it; which spoils their Books, unless they often beat them, and expose them to the Sun.

BESIDES this Sort, they have Paper made of Cotton, which is the whitest, finest, and most used; besides not subject to the Inconveniencies just now mentioned: For it keeps as well, is as durable, and as white as the European. What follows is taken from a curious Work, written under the present Tartar Family, which treats of the Invention of the *Chi*, or Paper; its Materials, Qualities, Form, and the different Sorts of it. The Author confesses, that although the Invention is very ancient, its Original is not precisely known. They wrote on little Pieces of Bambu, softened by Fire, and polished; but without stripping the Rind off. This appears

^b Yet this seems contradicted, p. 158. a.

from

*Inhabitants
Class.*

from the Characters *Kyen* and *Tje*, then used instead of *Chi*, to signify the Matter on which they wrote. They cut the Letters with a fine Graver; and of these little Plates, threaded one after another, they made a Volume: But being cumbersome, they were unfit for Use. Ever since the Dynasty of the *Tsin*, before Christ, they wrote upon Pieces of Silk, or Linen, cut to the Size they designed their Book. Hence the Letter *Chi* is composed sometimes of the Character *Se*, which signifies Silk; and sometimes of the Character *Kin*, which denotes Linen.

*New Kind
invented.*

At length, in the Year 95, under the *Tong-han*, or Eastern *Han*, in the Reign of *Ho-ti*, a great Mandarin of the Palace invented a better Sort of Paper, which was called *Tjay-beu-chi*, or Paper of the Lord *Tjay*. This Mandarin reduced, by boiling, the Bark of different Trees, worn-out Pieces of Silk, and old Hempen-Cloth, to a Kind of thin Paste; of which he made different Sorts of Paper. He made some also of the Knots of Silk, which they called *Flaxen Paper*. Soon after, the *Chinese* brought these Discoveries to Perfection, and found-out the Art of polishing their Paper.

*Hempen-
Paper.*

From another Book, intitled *Sû-i-kyen-chi-pû*, which treats of the same Subject, we learn, that in the Province of *Se-chwen*, the Paper is made of Hemp: That *Kau-tsung*, the third Emperor of the great Dynasty of the *Tang*, caused an excellent Paper to be made of that Plant, on which all his secret Orders were written: That in *Fo-kyen* it is made of soft Bambû: In the Northern-Provinces, of the Bark of the Mulberry-Trees: In *Che-kyang*, of Wheat, or Rice-Straw: That in *Kyang-nan*, they make a Parchment of the Skin found in the Cods the Silk-Worms spin, called *Lo-wen-chi*; which is fine and smooth, being fit for Inscriptions and Cartridges: In short, that in *Hu-quang*, the Tree *Chu*, or *Kû-chu*, furnishes the principal Materials for Paper.

*Large Pa-
per.*

SPEAKING of the different Sorts of Paper, our Author mentions one Kind, of which the Sheets are three, and sometimes five ^a *Chang* in Length: He shews how it is dyed of different Colours, and silvered over, without using any Silver; an Invention ascribed to the Emperor *Kau-ti*, of the *Tsi* Dynasty. He treats of the Paper of the *Koreans*, which he says is made of the Cods the Silk-Worms spin; and reports, that they paid their Tribute to the Emperor in Paper, even from the seventh Century.

*Fast Con-
sumption of
it.*

THE Consumption of Paper in *China* is exceeding great. Besides the prodigious Quantity

a that is used by the *Literati*, it is inconceivable how much is consumed in private Houses. One Side of their Rooms is nothing but *Safhes*, covered with Paper: On the Walls, which are plastered over, they paste white Paper, to preserve them white and smooth. The Cieling is made of Frames covered with Paper, on which they draw divers Ornaments. In short, in the greater Part of the Houses, there is nothing to be seen but Paper, which is renewed every Year.

*Paper-Ma-
nufacture.*

b ONLY the inward Bark of different Trees is used to make Paper: But the whole Substance of the Bambû and Cotton-Shrub is employed in this Manufacture. Out of a Wood of the largest Bambû's, they select Shoots of a Year's Growth, about the Thickness of the Calf of a large Man's Leg: Having stripped them of the first green Rind, and split them into strait Pieces of six or seven Foot long, they throw them in a Pond of muddy Water to macerate. In about a Fort-night they are taken-out of the Mud, washed in clean Water, and, being spread in a large dry Ditch, are covered with Lime. In a few Days they are taken-out again, washed a second Time, and reduced to a Sort of Threads, which are exposed to the Sun to dry and whiten: Then they are thrown into large Coppers, and thoroughly boiled; and, lastly, reduced by Pestles to a fluid Paste.

UPON Mountains, and in uncultivated Places, c they find a Plant, that shoots in long and slender Tendrils, like a Vine; the Rind of which is very smooth and slippery, as the Name *Hau-teng* expresseth: It is also called *Ko-teng*, because it produces little sourish Pears, of a whitish Green, that are good to eat. Its Branches, which are about as big as Vine-Shoots, creep along the Ground, or twine about Trees. According to our *Chinese* Author, when the Shoots of the *Ko-teng* are soaked four or five Days in Water, there comes-out an unctuous fizy Juice ^b, resembling a Sort of Glue or Gum. This they mix with the Paste which the Paper is made of; taking care not to put-in too much, nor too little: But the due Quantity, Experience must teach. When they have beaten this Mixture, till it becomes like a thick clammy Water, they pour it into large deep Reservoirs, made with four Walls Breast-high, and the Sides and Bottom so well cemented, that the Liquor can neither run-out, nor soak-in. Then the Workmen being placed at the Sides of the Reservoir, take-up with their Moulds the Surface of the Liquor, which almost instantly becomes Paper.

Another Sort.

^a A *Chang* is ten Feet. We have been informed, that there are in *London*, in private Hands, Sheets above seventy Feet in Length. It is surprizing how they can manage the Frames, or have Vats large enough to dip them in. ^b Perhaps for Want of *Ko-teng*, the Berries of Mistleto, naturally viscous, might be used; or the inner Bark of Holly, which being rotted and pounded, is reduced to Bird-Lime.

Inhabitants
Classes.
Paper-
Moulds.

THE Mould (whose Frame is easily taken to pieces, raised, or lowered) is made with Threads of Bambú, drawn fine as Wire, through Holes made in a Steel-Plate: Afterwards, they are boiled in Oil till thoroughly soaked, that the Mould may not sink deeper than is requisite to take-up the Sheets of Paper.

Sheets, soon
dried.

WHEN they would make Sheets of an extraordinary Size, the Frame is sustained by Strings, and a Pulley. The Moment it is drawn-up, the Workmen placed at the Sides of the Reservoir, assist to take the Sheet off with great Expedition. They then lay them on a hollow Wall, whose Sides are well whitened; into which, at one End, by Means of a Pipe, they convey the Heat of a neighbouring Furnace; the Smoke passing-out at the opposite End through a small Vent-Hole. By Help of this Sort of Stove, they dry the Sheets almost as fast as they make them.

FOR making Paper, they chuse those Trees which have most Sap; as, the Mulberry, Elms, the Body of the Cotton-Shrub, Hemp, and divers other Plants unknown in Europe. First, they scrape-off lightly the thin outside Bark of the Tree, which is greenish; then take-off the inner Rind in very long thin Slips; which having blanched in Water, and in the Sun, afterwards prepare them in the same Manner as the Bambú.

Paper most
in Use.

BUT the Paper most in use, is that made of the inner Rind of the Tree called *Chu-kú*, otherwise *Kú-chu*; which Paper, therefore, is called *Kú-chi*. When its Branches are broken, the Bark peels-off in long Slips, like Ribbands. By its Leaves, one would take it for a wild Mulberry-Tree; but its Fruit is more like that of the Fig-Tree. It grows to the Branches without any Stalk: If plucked before perfectly ripe, the Place yields a Sort of milky Juice, just like the Fig. It agrees in so many Particulars with the Fig and the Mulberry-Trees, that it might be thought a Sort of Sycamore: Nevertheless, it is more like the *Adrachne*, a Kind of Strawberry-Tree, which is of a moderate Height, and the Bark smooth, white, and glittering; but apt to crack in Summer for want of Moisture. The *Chu-kú*, as well as the Strawberry-Tree, grows on Mountains, and in stony Places^a.

Fanning the
Paper.

TO harden the Paper, and make it bear Ink, the Chinese dip it in Alum-Water: The Europeans call this *Fanning the Paper*, because *Fan* is the Chinese Word for Alum. Their Method of doing it is this: They cut six Ounces of very white and clean Fish-Glue, very small, and throw it into twelve Porringers of clean Water, which they boil; stirring it all the while, to prevent Lumps: Then they dissolve in it three Quarters

a of a Pound of Alum, white, and calcined. This Mixture is poured into a great wide Basin, across which they lay a small Stick, smooth and round; then, closing the Edge of every Sheet in a different Stick, cleft from one End to the other, they dip the Sheet gently; and drawing it out as soon as it is wetted, by sliding it over the round Stick, flick the other, that holds it, in a Hole in the Wall, where the Sheet hangs to dry. This gives the Chinese Paper, its Body, Whiteness, and Lustre. One of their Authors says, the Art came from Japan.

Paper-Man-
ufacture.

THEY have likewise the Secret of silvering Paper, with very little Charge, and without using Leaf-Silver: Take seven *Fwen*, or two Scruples, of Glue made of Neats-Leather, three *Fwen* of white Alum, and half a Pint of clean Water; simmer these over a slow Fire till the Water is consumed, that is, till there arises no more Steam: Then spreading, upon a very smooth Table, some Sheets of Paper, they daub over it with a Pencil, in an equal Manner, two or three Lays of the Glue: If it does not lie even, do it over again. Then take Powder of Talc, prepared as explained hereafter, which sift through a Sieve, or Piece of threaded Gauze, spreading it uniformly upon the Sheets: After which, they hang them in the Shade to dry. This done, they are laid a second Time upon the Table, and rubbed gently with clean Cotton, to take-off the superfluous Talc, which serves again for the same Purpose. With this Powder-diluted in Water, and mixed with Glue and Alum, you may draw any Figures upon Paper.

Art of Sil-
vering

TO prepare the Talc^b, take that which is fine, transparent, and as white as Snow. That which is brought by the Russians is better than what comes from the Province of *Se-chuen*. After boiling it about four Hours, it must be left in the Water a Day or two: Then wash it well, and, putting it into a Linen Bag, break it to Pieces with a Mallet. To ten Pound of this add three of white Alum, and grind both in a little Hand-Mill: Then sifting the Powder through a Silk Sieve, put it into Water just boiled-up; which must be poured-off when grown clear. The Matter which remains at the Bottom, and becomes hard on being exposed to the Sun, must be pounded in a Mortar, till reduced to an impalpable Powder. This Powder sifted again, is fit for Use.

With prepa-
red Talc,

THERE is a long Village before the Burying-Places, without one of the Suburbs of *Pe-king*, inhabited by People who renew old Paper, to answer the great Demand for that Commodity; having the Art of restoring it to its original

And resto-
ring old Pa-
per.

^a Du Haldé's China, p. 366, & seqq.

^b The Chinese call this Mineral *Tun-mwa-che*, which signifies the Stone pregnant with Clouds; because every Flake, which they break-off, is a Kind of transparent Cloud.

Beauty

Inhabitants
Classes.

Beauty and Usefulness. It matters not whether the Paper has been written-on, or stuck against Walls, pasted on Frames, or served for other Purposes. The Workmen, who purchase it very cheap out of the Provinces, keep a good Stock in their Houses (which have each an Inclosure of Walls that are very smooth, and well whitened :) And if there happens to be a pretty deal of fine Paper, sort it. They carry this old Stuff in flat Baskets near a Well, where, upon a little paved Place, which has a small Descent, they wash it with all their Strength; rubbing it with their Hands, and stamping-on it with their Feet, to get the Filth out. Afterwards, they boil the Mass; and having beaten it till fit to make Paper, pour it into a Reservoir, or Vat, for that Purpose. This Paper is but of a middling Size. When they have made a pretty large Heap of it, they carry it into the neighbouring Inclosure; where, separating the Sheets with the Point of a Needle, they stick them up wet against the Wall, to dry by the Heat of the Sun. This being done in a very little Time, they take them off, and collect them together ^a.

Paper, many
Sorts.

NAVARETTE says, Paper is so extraordinary cheap, that he bought above five hundred and fifty Sheets for two Ryals and an half, (Fifteenpence.) He adds, that there are a thousand several Sorts of Paper of different Fineness, and of different Colours; of which they make very curious Figures for their Houses and Temples ^b.

2. Chinese Ink, and Pencils, for writing.

Chinese Ink: Of its Materials and Form: When invented, and brought to Perfection: Receipts to make it: How made at Whey-chew: Its Goodness how known: To mend broken Sticks. Pencils for Writing.

Chinese
Ink.

THE Ink used in China, is made of Lamp-black, procured by burning several Sorts of Matter; but, chiefly, Pine-wood, or Oil ^c. To correct the Smell of which, they mix Perfumes with it. Of these Ingredients they make a Kind of Paste, which they put into wooden Moulds of various Shapes, and with different Ornaments. The usual Impressions are of Men, Dragons, Birds, Trees, Flowers, and the like. The Form of the Lump is commonly that of a Truncheon ^d, or of their Writing-Tables; and ^e

a one of the Sides is generally covered with Chinese Ink, Pencils. Characters. The best Ink is made at Whey-chew ^e, a Town in the Province of Kyang-nan. It is dearer, or cheaper, according to the Degree of Goodness. The Europeans have, without Success, endeavoured to counterfeit this Ink. It is useful in Drawing, because they can give it what Degree of Shade they please ^f. They have also a red Ink in China; but it is used chiefly in the Titles of Books. Every Thing which relates to Writing is so reputable among the Chinese, that even the Workmen, employed in making the Ink, are not looked upon as following a servile and mechanical Employment.

THE Author quoted in the Article of Chinese Paper, furnishes the following Particulars concerning their Ink: He affirms, that it has been invented Time out of Mind; but was many Years before it attained to its present Perfection. At first they used to write with a Sort of black Earth; as the Character *Me*, which signifies Ink, by its Composition imports. According to some, they drew a black Juice out of this Earth, or Stone. Others say, that by rubbing it, wetted, upon Marble, they procured a black Liquor. Others again, that it was calcined; and being reduced to a very fine Powder, was made into Ink. In short, this Stone is mentioned in a moral Reflection of the Emperor *Vu-vang*, who flourished eleven hundred and twenty Years before Christ.

UNDER the first Emperors of the *Tong*, about the Year 620, the King of *Korea* presented the Emperor with some Pieces of Ink, which were made of Lamp-black; produced by burning old Pine-Trees, and incorporated with Size made of Hartshorn, to give it a Consistence. This Ink had such a Lustre, that it looked as if it had been varnished over; which raised the Emulation of the Chinese, who, at length, about 900, brought it to its present Standard. ^{Brought to Perfection,}

IN 1070, they invented a Sort called *Yu-me*, or imperial Ink, because used in the Palace. It was made from Oil, whose Smoke was gathered in a brazen Concave, and a little Musk added, to give it a pleasant Odour.

THE following Receipt ^g, taken from the Receipts to Chinese, perhaps may suffice to make the Ink of make it. a good Black, which is looked-on as an essential Property. Burn Lamp-black, and Horse-Chestnuts ^h in Crucibles, till they have quite done

^a Du Halde's China, p. 369, & seq.

^b Navarette's Description of China, p. 49, & seq.

^c Le

Comte says, they generally use Hog's Grease mixed with Oil.

^d The Shape of the Sticks, commonly

called *Japan Ink*, which come to England, is an oblong Square, the Length of three Inches.

^e See be-

fore, p. 27. ^f Du Halde, as before, p. 370. Le Comte's Memoirs of China, p. 183.

^g Du Halde

gives another from a Chinese Author: But the Names of the vegetable Ingredients being unknown to Europeans, we have omitted it, as useless.

^h Without doubt, they mean the Horse-Chestnut Tree, or the true Chestnut made into Cakes, which comes from *Lyau-tong*.

Inhabitants
Classes.

smoking: Then dissolve some Gum *Tragacanth* a in Water, and when it becomes of a proper Consistence, add the other Ingredients, stirring all together with a Spatula, to make a Paste fit to put into Moulds; too much of the Horse-Chestnut will give it a Violet-black.

Another Method.

A MUCH more simple and easy Method was communicated to *Contaccin*, the Jesuit, by a *Chinese*, as skilful in this Matter as any one can be expected to be, considering how careful the Workmen are to conceal their Secrets. They b put five or six lighted Wicks into a Vessel full of Oil, and lay upon this Vessel an Iron Cover, in Shape of a Funnel, at a proper Distance, to receive all the Smoak. When it has gathered enough, they take it off, and, with a Goose's Feather, gently brush the Bottom; letting the Soot fall upon a dry Sheet of strong Paper: It is this Black that makes their fine and shining Ink. That which sticks fast to the Cover being coarser, is used for an ordinary Sort. When they have taken-off the Lamp-black, they beat it in a Mortar; adding Musk, or some odoriferous Water, with a thin Size of Neats-Leather, called *Nyerw-kyew*, to incorporate the Ingredients. When brought to the Consistence of Paste, they put it into Moulds; stamping upon the Ink, with a Seal, the Characters or Figures they desire, in Blue, Red, or Gold Colour; and then dry them in the Sun, or Wind.

How made
at Whey-
chew.

IN *Whey-chew fu*, before-mentioned, the Merchants have little Rooms, where they keep lighted Lamps all Day; every Room being distinguished by the Oil which is burnt in it, and, consequently, by the Ink which is made therein: For being so plenty and cheap, it cannot all be made of the Soot procured from the Oil of *Gergelin*, or *Sesamum*, as many of the *Chinese* imagine.

It is said, that, in the District of the same City, they have Furnaces, of a particular Structure, to burn old Pines, and to convey the Smoak through long Funnels into little close Cells hung with Paper. After a-while they open the Doors, and, from the Walls and Cielings, take-off the Soot in abundance. At the same Time the Rosin is drawn from the Fuel by Means of other Pipes, laid even with the Floor. They perfume the Cells by burning Musk and Drugs; whose Odours mixing with the Soot, the Ink made thereof has no ill Scent.

THE Missioner observes, that the Nature of the Wood, which is burnt, contributes greatly to the Goodness of the Ink; and thinks, that the Soot which is gotten from the Furnaces of Glass-Houses, and used by the Painters, is the properest for imitating *Chinese* Ink.

THE following useful Remarks are taken from the *Chinese* Author already quoted. 1. To distinguish the different Degrees of Goodness of Ink newly made, wet the Ends of the several Pieces, and rub them on a Vessel varnished with the finest Varnish, called *Twan-quang-tsi*: When the Proofs are dry, hold the Vessel to the Sun; and if the Colour of the Ink is entirely like that of the Varnish, you may be sure, that it is of the finest Sort. It is much inferior, if the Black be of a bluish Hue; but if it be Ash-coloured, it is the least valuable of all.

Ink, Pencils.
Its Goodness,
how known.

2. THE Way to preserve the Ink from any Damage, is, to shut it up in a close Box, along with some perfectly ripe Mugwort: If exposed to the Sun, it will crack, and fall in Pieces.

3. IF a Stick happens to break, reduce some of the same Ink to a Paste upon the Marble, then rubbing the broken Pieces with it, squeeze them together; and after lying a Day to dry, it will be as whole and firm as ever. *To mend broken Sticks.*

4. IF you would have your Ink delicate, before you temper it, let the Marble be well washed: For if ever so little of the Ink, used the Day before, be left thereon, it spoils the fresh Ink. Observe too, that the Marble must be washed with boiled Water, that hath stood till it is cold. The best and most proper Stones for preparing the Ink are called *Twan-she*.

5. WHEN the Ink has been preserved a long Time, it is never used for Writing; but becomes, according to the *Chinese*, an excellent Remedy for the Bloody-Flux, and Convulsions in Children. They pretend, that by its *Alkali*, which naturally absorbs acid Humours, it sweetens the Acrimony of the Blood. The Dose for grown Persons, is two Drachms in a Draught of Water or Wine.

THE *Chinese* do not use Pens, like the *Europe-ans*, but a Pencil made with Hair; particularly of the Rabbit, which is softest. When they write, they have upon the Table a little polished Marble, with a Hollow at one End to contain Water: In this they dip their Stick of Ink, and rub it upon the smooth Part; leaning more or less hard, according as they would have it more or less black. When they write, they do not hold the Pencil obliquely, as Painters do; but perpendicularly, as if they would prick the Paper. They write from the Right to the Left, and from the Top of the Paper to the Bottom. In like Manner they end their Books where we begin ours; and our last Page is with them the first.

THE Marble, Pencil, Paper, and Ink, are called *Pau-tse*, or *The four precious Things*; and

* *Du Halde's China*, p. 370, & seq.

Inhabitants
Classed.

the Men of Letters in *China* delight as much in having them neat, and placed in Order, as our military Gentlemen do in ranging their Arms in Form, and keeping them bright^a.

(3.) Printing and Book-binding.

Printing in China, and Europe, compared. Characters cut in Wood. Printing with Types: But without Presses. Their printing Ink; and Book-binding.

Printing in
China

THE *Chinese* have had the Art of Printing from Time immemorial^b; though in *Europe* it is still in its Infancy: But their Method of Proceeding is very different. As our Characters are but few, and represent simple Sounds, or Letters, by whose Combinations Words and Sentences are formed, unlike the *Chinese*, which express compound Sounds, or Words; we make use of separate Types, each the Figure of some Letter; which being put together, and ranged in Lines one after another, form, as it were, a solid Body of Metal of given Dimensions; from which being secured in a proper Frame, the Sheets are printed-off, by Means of a Press for that Purpose.

And Europe
compared.

ON the contrary, the *Chinese* having no Letters properly, but a new Character for every Word, they become infinite; and, therefore, it is thought more convenient to engrave, or cut their Compositions in Wood^c; than cast Types for them: The Use of which, after all, perhaps, their Multitude would render impracticable. It is true, the *Europeans* may employ as many Types, as the *Chinese* have Characters; but then that Number of Types is owing to there being many Thousands of a Sort. Thus the same Letters, which served in composing one Page, being separated again, may serve for the next; and so on for every other Page of the Book: Whereas the *Chinese* must have as many Blocks cut, as there are Pages in their Books: Whence it often requires a large Room to hold the Forms belonging to a single Volume.

Characters
cut in Wood.

WITH Regard to the Manner of doing this, the Missioners observe, that the Piece to be printed, being transcribed by some good Writer, upon a fine, transparent Paper, the Engraver pastes each Leaf upon a Plate, or Block of the Apple-Tree, Pear-Tree^d, or any other hard Wood; and carves-out the Characters, by cutting-away the rest of the Wood, so exactly, that it is hard to know the Copy from the Ori-

ginal, whether it be in their own, or the *European* Characters, which are cut in the same Manner, and printed in *China*.

Printing,
Book-binding

THIS Manner of printing is convenient; because it saves the Trouble of composing, and they print the Sheets only as they sell them, without running the Risque, as in *Europe*, either of printing many Hundreds more than they sell, or being at new Charges for future Impressions.

THE *Chinese*, nevertheless, are not ignorant^e of the Manner of Printing in *Europe*, having moveable Types in Wood, for the Convenience of correcting *The present State of China*, which is printed at *Pe-king* every three Months. It is reported, that at *Nan-king*, and *Su-chew fu*, they print in this Manner some little Books, very neatly and correctly.

IN Affairs that require Dispatch; as when an Order comes from Court, containing many Articles, and must be printed in one Night, they have another Method of doing it: They cover the Block with yellow Wax, and trace-out the Characters with a surprizing Quickness.

THEY use no Press, as in *Europe*; their wooden Plates, and unalumed Paper, would not bear it. ^{But without Presses.}

Their Manner of Printing is thus: Having fixed the Block, or Plate, level and firm, they dip a Brush, that may be used at both Ends, in the Ink, and rub the same with it; but so that it may not be wetted either too much, or too little: If too much, the Letters will be blurred; if too little, it will not print-off: Then they pass another Brush, oblong, and soft, gently over the Paper, and press it down more or less, as there is more or less Ink upon the Plate; which when once in Order, they can take-off three or four Sheets without dipping the Brush in the Ink.

To make this Ink, they take Lamp-black, and pound it well, expose it to the Sun: Then sifting it, the finer the better, temper it with a spirituous Liquor, till it comes to the Consistence of Size, or of a thick Paste; but it must not clot. This they dissolve over the Fire, putting to every ten Ounces of Ink almost an Ounce of Neats-Leather Glue, and then add Water, to bring it to a proper Thinness^f.

THEIR Paper being thin and transparent, will bear printing only on one Side; and hence it is, that every Leaf of the Book is folded; the Fold being at the Edges, which are placed very even, and the Opening at the Back; where, contrary to the *European* Method, they are cut, and sown together. There is a black Line drawn upon the Folds, which serve like the Holes made by

And Book-
binding.

^a *Du Halde's China*, p. 372. *Le Comte's Memoirs of China*, p. 184.

^b sixteen hundred Years before Christ.

^c The first Books printed in *Europe* were printed from Blocks, cut in the same Manner.

^d *Navarette* says, the Pear-Tree is best.

^e *Trigautius* and others say,

^f *Du Halde*, as before, p. 373.

Chinese Learning.

the Points in our printed Sheets, to direct the a Binder how to fold them truly.

THEY cover their Books with a neat Sort of Pafteboard, of a grey Colour; or elfe with

a fine Satin, or flowered Silk. Some are bound with red Brocade, interperfed with Gold and Silver Flowres. This Manner of Binding, though inferior to ours, is very neat and convenient *.

Their Aftronomy.

CH A P. IV.

Introduction.

ALTHOUGH the *Chinefe* have a Taffe b for Learning, and excellent Faculties for acquiring any Kind of Literature; yet they have made no great Progreff in the fpeculative Sciences; chiefly becaufe they are not among the Number of thofe, the Study of which is attended with Reward. However, as they could not tranfact their Affairs without fome Knowledge in Arithmetic and Aftronomy, Geometry and Geography, Natural Philofophy and Phyfic; they cultivate thofe Branches of Learning more c than the reft. But the Studies, to which they moft addict themfelves, and which, in Fact, are properly the Sciences of the *Chinefe*, are the Language and Rhetoric, their Hiftory and Laws, with Morality and Politics. To thefe Parts of Knowledge; which are certainly, of all others, moft ufeul to Man, and conducive to the Welfare of Society, they have wifely given the Preference; and to engage their Youth in general d the more diligently to bend their Studies that Way, have made the Attainment of them the only Road to Honours and Preferment.

SECT. I.

Of their Arithmetic, Geometry, and Aftronomy.

Their Arithmetic: Their Geometry. Aftronomy cultivated early; and Eclipses obferved. State of Aftronomy among the *Chinefe*: Their Year: Their Months. Method of calculating. Cycle e of fixty Years. Divifion of the Day. Sun-Dials. Ways for knowing the Watches. Tribunal of Aftronomy. Solemnity of notifying and obferving Eclipses. The *Chinefe* Kalendar. Three Tribunals. Three Sorts of Kalendars published, and Ceremony obferved in prefenting them to the Emperor, Princes, and great Officers: Distributed through the Empire. *Chinefe* Veneration for their Kalendar. The *Chinefe* Conftellations: Order of their Signs. Faults of the Kalendar pointed out by Verbieft. Arab Aftronomer reproved by the Emperor: Confefles his Ignorance. Verbieft's Prediction of the Length of the Sun's Shadow verified. The Manda-

rins Surprize. Ignorance of the Arab: Faults in his Kalendar ordered to be examined, by celeftial Obfervations. Charge proved. *Chinefe* Mandarins diffatisfied. Rafhnefs of one punifhed. Verbieft rewarded. Intercalary Month retrenched.

ACCORDING to the *Chinefe* Hiftory, they f have applied themfelves to the Study of Their Arith-
Mathematics from the earlieft Ages: They have matic.
the four principal Rules of Arithmetic, teaching how to add, fubtract, multiply, and divide: But it is not by Calculation that they put thefe Rules in Practice, having no arithmetical Characters, like ours, confifting of nine Figures and a Cypher.

In cafting-up Accounts, they make ufe of an Inftrument called *Swan-pan*, which is compofed of a fmall Board: Ten or twelve parallel Rods, or Wires, crofs it from Top to Bottom, each ftrung with feven little Balls of Bone, or Ivory, that flip up and down; and are fo divided by a Partition in the Middle, that there are two on one Side, and five on the other. The two, (which are in the upper-Part of the Board) ftand for five Units each; and the five in the lower-Part, ftand each for a fingle Unit. In joining, or feparating thefe Balls, they reckon much in the fame Manner as we do with Counters: But with fuch extraordinary Facility and Readinefs, that they will eafily keep Pace with a Man who is reading a Book of Accompts, let him read ever fo quick; and caft-up the moft confiderable Sums more expeditioufly than the Europeans can with Figures.

As for their Geometry, it is fuperficial enough; f Their Geo-
being very little verfed, either in the Theory, or metry.
Practice. If they undertake to folve any Problems, it is rather by Induction, than any fixed Principles: However, they want not Skill in meafuring their Land, the Extent and Bounds whereof they fettle accurately enough; their Method of furveying being eafy, and very exact b.

THE *Chinefe* pretend to have cultivated Aftr- Aftronomy
onomy from the Foundation of their Empire, and cultivated
early,

* Le Comte's Memoirs of China, p. 188. Du Halde's China, p. 373, & feq. p. 213, & feq. Du Halde, as before, vol. 2. p. 125, & feq.

b Le Comte, as before,

Chinese
Learning.

looked upon themselves as the greatest Masters a of that Science in the World; although their Progress is nothing so great as might have been expected from the Time they have spent in that Study. It must be confessed, that no Nation has applied more constantly to make Observations, Persons having in all Ages been appointed to watch the Motions of the Heavens, Night and Day; insomuch that it has ever been one of the principal Employments of the *Literati*. Their Assiduity, in this Respect, was looked-upon as a Thing of such Importance, that the Laws even punished with Death the Negligence of those to whom the State had intrusted that Employment. This appears from a Passage in the *Shu-king* ^a, one of their ancient Books, relating to *Hi* and *Ho*, two Astronomers; without whose Knowledge an Eclipse of the Sun had happened two thousand one hundred and fifty-five Years before Christ. This Eclipse has been verified by several Mathematicians among the Jesuits; and was of such a Kind, as could not be seen in any Part of *Europe* or *Asia*, except *China*.

And Eclipses
observed.

Of the thirty-six Eclipses of the Sun, related by *Confucius*, in his Book, intitled, *Chun-tsyü*; there are but two false, and two doubtful: All the rest have been often verified not only by the *Chinese* Astronomers under the Dynasties of the *Han*, the *Tang*, and *Ywen*; but also by several *European* Missioners. The Jesuits *Adam Schaal*, *Kegler*, and *Slavisek*, calculated many of them; (the first causing his Calculation to be printed in *Chinese*;) and *Gaubil* has examined them all; which, excepting four, agree exactly (as to the Time and Day marked by the *Chinese*) with his Calculus, according to the astronomical Tables he made use of ^b.

THE Eclipse of 776 before Christ, is in the Text of the *Shi-king*, and *Chinese* History, as well as in the Astronomy of the *Han*. The Eclipses found in the *Shu-king*, *Shi-king*, and *Chun-tsyü*, are calculated in the Astronomies belonging to the Dynasties of the *Tang* and *Ywen*, compiled in the Time of those Families. The other Observations, given by *Gaubil*, were taken from the Text of the Histories written in the Time of the Dynasties, under which the Observations were made.

State of
Astronomy

THIS last-mentioned Missioner, who made it his Business to discover how far the ancient *Chinese* were skilled in Astronomy, informs us ^c, that he had perused the State of the *Chinese* Heavens, composed more than an hundred and twenty Years before Christ; wherein is found

the Number and Extent of their Constellations, and what Stars then answered to the Solstices and Equinoxes, all by Observation; likewise the Declination of the Stars, with the Distance of the Tropics, and two Poles. He adds, that the *Chinese* were acquainted with the Motion of the Sun and Moon from West to East; likewise of the Planets and fixed Stars, though they did not determine the Motions of the latter till four hundred Years after Christ: They had also a pretty exact Knowledge of the Solar and Lunar Months, and gave nearly the same Revolutions to *Saturn*, *Jupiter*, *Mars*, *Venus*, and *Mercury*, as the *Europeans* do. It is true, they never had any Rules with respect to Retrogradation and the Stations: Yet in *China*, like as in *Europe*, some have supposed the Heavens and Planets to revolve about the Earth, others about the Sun: But the Number of the latter is small; nor is there any Appearance of this System even in their Calculations, it being to be found only in the Writings of some particular Persons. They expressed in Numbers the Quality of the Eclipses, the Quantity eclipsed, the Parts that were visible, &c. But he was not certain as to the Method used in calculating them. These Figures were written above an hundred Years before Christ. There are pretty exact Calculations of Eclipses in that Time; but the Numbers are obscure, and understood at present by few of the *Chinese* themselves.

Their Astro-
nomy.

KEGLER, President of the Tribunal of the Mathematics, had an old *Chinese* Map of the Stars, made long before the Jesuits landed in *China*; wherein were exhibited the Stars invisible to the naked Eye, whose Places are found by Telescopes to be accurately marked, Regard being had to their proper Motion.

Among the
Chinese.

EVER since the Dynasty of the *Han*, who reigned before the Coming of Christ, you meet with Treatises of Astronomy: By which Books it appears, that the *Chinese* have, for above two thousand Years, been acquainted with the Length of the Solar-Year, consisting of three hundred sixty-five Days and almost six Hours: That they even knew the diurnal Motion of the Sun and Moon, and how to observe the Sun's Meridian-Altitude by the Shadow of a Gnomon: That by the Length of those Shadows, they calculated tolerably well the Height of the Pole, and the Sun's Declination: That they knew pretty exactly the right Ascension of the Stars, and Time of their passing the Meridian; how the same Stars, in the same Year, rise or set with the Sun; and how they pass the Meridian some-

^a It is also in the Text of the most ancient History of *China*.
to sixteen of these Eclipses, have been published by *P. Souciet*, in his *Observations Math. Astron. Geogr.* vol. 1, &c. p. 17.

^b *P. Gaubil's* Calculations, with respect
^c In two Letters published by *Souciet*, in the Work before quoted.

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times at the Rising, sometimes at the Setting: That they have given Names to the Stars, and divided the Heavens into various Constellations: That to them they referred the Places of the Planets; that they distinguished the fixed Stars, and had particular Signs for that Purpose. In short, (concludes *Gaubil*) it is demonstrable from reading the *Chinese* History, that they have always had the Knowledge of many Things relating to Astronomy.

TRIGAULT, or *Trigautius*, who entered *China* in the Year 1619, and had read more than an hundred Volumes of their Annals, affirms, that the celestial Observations of the *Chinese* began soon after the Deluge; and that they made these Observations not like us, according to Hours and Minutes, but by whole Degrees: That they have observed a great Number of Eclipses, and set-down the Hour, Day, Month, and Year, wherein each happened; but neither the Duration, nor Quantity of the Obscurations: That, in short, they have taken more Notice of Comets and new Stars, than the *European* Astronomers: All which Observations, as well of Eclipses, as Comets and Conjunctions, are of great Service in ascertaining their Chronology ^a.

Their Year.

THE *Chinese* Year commences from the Conjunction of the Sun and Moon, or from the nearest New-Moon to the fifteenth Degree of *Aquarius*: Which Sign, according to us, the Sun enters about the End of *January*, New-Style; and stays therein almost all *February*. From this Point their Spring takes its Beginning; the fifteenth Degree of *Taurus* begins their Summer-Quarter; the fifteenth of *Leo*, their Autumn; and the fifteenth of *Scorpio*, their Winter.

Their Months.

THEY have twelve Lunar-Months; among which, there are some smaller, of twenty-nine Days; and some larger, consisting of thirty. Every five Years they have intercalary Months, to adjust the Lunations with the Course of the Sun. Their Year consists of three hundred and sixty-five Days, and somewhat less than six Hours; and according to an Epocha regulated from the Winter-Solstice (which was the fixed Point of their Observations, as the first Degree of *Aries* is of ours, reckoning from an hundred to an hundred Degrees) they calculated the Motions of the Planets, and adjusted every Thing by Equation-Tables. Some suppose, that they received them from the *Arabians*, who entered *China* with the *Tartars*: They had a long Time before the Science of Numbers, under which they veiled the Secrets of their Polity, which they taught only to Princes.

If you will believe their History, a Solar-

a Cycle, or Revolution, not unlike the Olympiads of the *Greeks*, has been in use among them above four thousand Years: This Cycle consists of sixty Years, and is among them a Sort of Age to regulate their Annals ^b. The Years of this Cycle are distinguished by the Names of their twelve Hours, diversely combined with ten other Terms which they have invented ^c.

THEY divide the Weeks, like the *Europeans*, according to the Order of the Planets: To each of which they assign four Constellations, allowing one for every Day in the Month, and reckoning the twenty-eight successively by seven and seven, throughout the Year.

THEIR Day begins, like ours, at Midnight; and ends at Midnight following; but is divided only into twelve Hours, each equal to two of ours; nor do they reckon, like us, by Numbers, but by Names, and particular Figures. They likewise divide the natural Day into an hundred Parts, and every one of these Parts into an hundred Minutes; so that it contains ten thousand Minutes: Which Division they observe the more exactly, as they are generally persuaded, that there are fortunate and unfortunate Minutes, according to the Position of the Heavens, and the several Aspects of the Planets. According to them, the Hour of Midnight is happy; because, say they, the World was created in that Hour. They believe also, that in the second the Earth was produced; and that Man was formed in the third ^d.

THE *Chinese* have no Clocks to mark the Time of the Day; but they make use of Dials, and other Sorts of time-keeping Instruments. They have very ancient Sun-Dials, which formerly were divided into four great Parts, and each of them into four and twenty lesser; making in all an hundred. This Sort of Dialling seemed very irregular to *Le Comte*, who could not see for what Use it was intended. But since they have received the new Kalendar from the Missionaries, they have regulated their Dials by Hours, and reckon their Time almost as the *Europeans* do, only their Hour is twice as large ^e.

IN all the Cities and Towns throughout *China*, there are two Towers; one called the Drum-Tower, the other the Bell-Tower; which serve to distinguish the five Watches of the Night, which are longer in Winter, than in Summer. They begin the first, by giving one Stroke upon the Drum; which is answered by another: And this is repeated at the Distance of a Minute or two, till the second Watch; during which they strike two Strokes, and so on through the rest of the Watches; and as soon as Day breaks, they redouble their Strokes, as they

Their Astronomy.
Cycle of sixty Years.

Division of the Day.

Sun-Dials.

Chi-Ways for knowing

^a *Du Halde's China*, p. 128, & seq.

^d *Du Halde*, as before, p. 132, & seq.

^b The same, p. 130.

^c *Le Comte's Memoirs of China*, p. 304.

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do at the Beginning of the Night: So that, let a Man wake when he will, he may know what Time of Night it is ^a.

THEY make Things of Perfume-Pastils, in the Shape of a Fardingale, to burn for any Number of Hours; which are marked on the Sides, for Sake of those who burn them in the Night, and would know how the Time passes ^b.

The Watches.

MAGALHAENS observes, that these Pastils, or Ropes, are made of Sanders, and other odoriferous Wood, beaten to Powder, then mixed into a PASTE, and formed in Moulds: Then they wind it round at the Bottom, lessening the Circle gradually, till it comes to be of a conic Figure; which enlarges, from Time to Time, to one, two, or three Hands Breadth, and sometimes more: Such a Roll lasts one, two, or three Days, according to the Quantity; and some made for their Temples, will burn, ten, twenty, or thirty Days. These Wicks resemble a Fisher's Net, or a String wound about a Cone; which they hang-up by the Middle, and light at the lower-End: There are generally five Marks upon them, to distinguish the five Parts of the Watch, or Night; and this Manner of measuring Time is so just, that you shall never observe any considerable Mistake. Persons who would rise at a precise Hour, hang, at the Mark, a little Weight; which, when the Fire reaches it, falls into a Copper-Bason, placed underneath; and wakes them with the Noise of the Fall ^c.

Tribunal of Astronomy.

ASTRONOMY has been always so highly esteemed by the Chinese, that they have erected, purely for its Service, a Tribunal; which is one of the most considerable in the Empire, and subordinate to that of Rites ^d. At the End of every forty-five Days, this Tribunal is obliged to present the Emperor with a Figure, exhibiting the Disposition of the Heavens: Wherein are set-down the Alterations of the Air, according to the different Seasons, with Predictions relating to Diseases, Drought, Scarcity of Provisions, and the Days on which there will be Wind, Rain, Hail, Thunder, Snow, &c. much in the Nature of what our Astrologers insert in their Almanacks ^e. Besides these Observations, the principal Care of this Tribunal is, to calculate Eclipses, and notify to the Emperor, by a Memorial, some Months before, the Day, Hour, and Part of Heaven, in which they will happen, how long last, and how many Digits will be obscured. These Eclipses must be calculated for the Longitude and Latitude of the chief City in every Province, and a Type thereof sent by the

Solemnity of notifying

Tribunal of Rites, and the *Ko-lau's* who keep these Observations and Predictions, throughout the Provinces and Cities of the Empire, that they may be there observed in the same Manner as at *Pe-king*, where the Court resides. The Ceremonies, on this Occasion, are as follow.

A FEW Days before the Eclipse happens, the Tribunal of Rites causes a Writing, in large Characters, to be fixed-up in a public Place, notifying the Circumstances thereof, as before related. Notice must be given also to the *Mandarins* of all Orders, that they may appear, in proper Habits, and with the Ensigns of their Dignity, in the Court of the astronomical Tribunal, to wait for the Commencement of the Eclipse: They have all great Tables, whereon the Eclipses being delineated, they employ themselves in considering, and reasoning about them. The Moment they perceive the Sun or Moon begin to be darkened, they fall on their Knees, and knock their Foreheads against the Ground. At the same Time there is heard a dreadful Rattling of Drums, and Kettle-Drums, throughout the City, pursuant to the ridiculous Notion which prevails, that by this Noise they succoured those useful Planets, and prevented the celestial Dragon from devouring them. Although the Learned, and People of Quality consider Eclipses as mere natural Effects; yet they are so wedded to their Customs, that they still continue their ancient Ceremonies.

And observing Eclipses.

WHILE the *Mandarins* are thus prostrate, there are others at the Observatory, who carefully examine the Beginning, Middle, and End of the Eclipse, and compare their Observations with the Schemes given them. They afterwards carry these Observations, signed and sealed with their Seals, to be presented to the Emperor; who likewise observes the Eclipses in his Palace, with equal Attention. The same Ceremonies are practised every-where else.

THE principal Work of this Tribunal, is the *Chinese Kalendar*, or Almanack, which is distributed every Year throughout the Empire. No Book in the World bears such a large Impression, or is published with so much Solemnity. There is always prefixed the Emperor's Edict, by which it is forbidden, under Pain of Death, either to make-use of, or offer to publish any other Kalendar, or to alter any Thing therein, upon any Pretence whatsoever. It is necessary to print several Millions of Copies; because every-body is desirous of having this Book for his Direction.

THREE Tribunals are established at *Pe-king* to Three Tribunals.

^a Magalbaens's Relation of China, p. 120. ^b Le Comte's Memoirs of China, p. 81.

scription of China, p. 54. ^c Magalbaens, as before, p. 125.

Mathematics, by the Missioners.

^d It is called also the Tribunal of

than the Europeans.

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prepare so many Kalendars, which must be presented to the Emperor. One of these Tribunals is near the Observatory: The second is a Kind of Mathematical School, where they explain the Theory of the Planets, and the Method of calculating: In the third, which is pretty near the Palace, all Affairs are managed, and Acts dispatched, that relate to Astronomy.

As there are three Tribunals for the Mathematics, there are likewise three Classes of Mathematicians; and, till lately, there was a fourth, composed of *Mohammedan* Astrologers. It is the first of these Classes which is employed in preparing the Kalendar, calculating Eclipses of the Sun and Moon, and making all the other astronomical Supputations.

Three Sorts of

THEY publish every Year three Kinds of Kalendars, both in the *Tartarian* and *Chinese* Languages: In the least of the three, which is the common Kalendar, you find the Year divided into Lunar-Months, with the Order of the Days in each; the Hour and Minute of the Rising and Setting of the Sun; the Length of the Days and Nights, according to the different Elevation of the Pole in every Province; the Hour and Minute of the Conjunctions and Oppositions of the Sun and Moon, that is, the New and Full Moons; the first and last Quarters, called, by Astronomers, *The Quadratures of this Planet*; with the Hour and Minute when the Sun enters into every Sign and half Sign of the Zodiac.

Kalendars published, and

THE second Kalendar contains the Motion of the Planets for every Day in the Year, not unlike *Argol's Ephemerides*; in which their Places in the Heavens are set down, with an exact Calculation of their Motion to every Hour and Minute: They add thereto, the Distance of each, in Degrees and Minutes, from the first Star of the nearest of their twenty-eight Constellations; with the Day, Hour, and Minute of its Entrance into every Sign: But mention no other Aspects, except the Conjunctions.

THE third Kalendar, which is presented in Manuscript to the Emperor only, contains all the Conjunctions of the Moon, with the rest of the Planets, and their Appulses to the fixed Stars, with the Extent of a Degree of Latitude; which requires a great Exactness in the Calculus and Supputations.

FOR this Reason there are five Mathematicians upon the astronomical Tower; who continually, Day and Night, observe the Heavens; one has his Eye fixed on the Zenith, and each of the others on one of the four Cardinal Points, that they may be thoroughly acquainted with all that passes in the four different Quarters of the Heaven; of this they are obliged to keep an exact Account, and tender every Day, signed with their Names and Signatures, to the Presidents of the Tribunal

of Mathematics, who present them to the Emperor. Their Astronomy. Ceremony observed

ON the first Day of the second Month, the Almanack for the Year following must be presented to the Emperor; who having seen and approved of it, the under Officers of the Tribunal add to each Day, the astrological Predictions and Judgments before-mentioned. Afterwards, by the Emperor's Orders, they are distributed among the Princes, Lords, and great Officers of *Pe-king*; and sent to the Vice-Roy of every Province, who remits it to the Treasurer-General of the same. This latter causes it to be reprinted, and distributes the Copies to all the subordinate Governors; keeping the Blocks, from whence the Impression is taken, in his Tribunal. At the Head of the Kalendar, which is printed in the Form of a Book, appears, in Red, the great Seal of the Tribunal of Astronomy, with the Emperor's Edict, forbidding, under Pain of Death, to sell or print any other.

THIS Kalendar is distributed every Year with a great deal of Ceremony: On that Day, all the *Mandarins* of *Pe-king* repair early in the Morning to the Palace. On the other Hand, the *Mandarins* of the astronomical Tribunal, in the Habits of their respective Dignities, and with the Ensigns of their Offices, according to their Degrees, resort to the usual Place of their Assemblies, to accompany the Kalendars. On a huge gilded Machine, in Form of a square Pyramid, consisting of several Stages, one above another, are placed the Kalendars to be presented to the Emperor, the Empress, and the Queens: They are in large Paper, covered with yellow Satin, and neatly inclosed in Bags of Gold Cloth. This Machine is carried by forty Footmen cloathed in Yellow, and followed by ten or twelve smaller Machines, gilt, and surrounded with red Curtains; upon which are placed the Kalendars intended for the Princes of the Blood; bound with red Satin, and inclosed in Bags of Cloth of Silver. Immediately after, several Tables advance, covered with red Carpets, on which are placed the Kalendars of the Grandees, the Generals of the Army, and the other Officers of the Crown, all sealed with the Seals of the astronomical Tribunal, and covered with a yellow Cloth; each Table bearing the Name of the *Mandarin*, or Tribunal, to which the Kalendars belong. In presenting them

THE Bearers set down their Burdens at the last Gate of the great Hall; and ranging the Tables on each Side the Passage, called *Imperial*, leave nothing in the Middle but the Machine that carries the imperial Kalendars. Lastly, The *Mandarins* of the Astronomical Academy take the Kalendars of the Emperor and the Queens, and lay them on two Tables, covered with yellow To the Emperor,

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low Brocade, which stand at the Entrance of the imperial Hall; where, falling on their Knees, and then prostrating themselves three Times on the Earth, they deliver the Books to the Stewards of the Palace; who walk in Order, according to their Rank, and present them to the Emperor: After which, the Eunuchs carry them to the Empress and Queens^a.

Princes, and great Officers.

MEAN-WHILE the astronomical *Mandarins* return to the great Hall; and among the *Mandarins* of all Degrees, who attend there, distribute the rest of the Kalendars in the following Manner: First, All the Princes send their chief Officers to the imperial Passage, where they receive, on their Knees, the Kalendars for their Masters, and the *Mandarins*, belonging to their Household: Those for the Court of each Prince, amounting, at least, to twelve or thirteen hundred. Afterwards, the Lords, the Generals of the Army, and the *Mandarins* of all the Tribunals, appear, and receive, on their Knees, a Kalendar from the astronomical *Mandarins*. When the Distribution is finished, they all resume their respective Ranks in the Hall; and turning themselves towards the most inward Part of the Palace, at the first Signal given, fall on their Knees, and make the usual Prostrations, in Acknowledgment of the Favour done them by the Emperor.

Distributed through the Empire.

IN Imitation of the Court, the Governors and *Mandarins* of the Province receive the Kalendar after the same Manner in the capital City; each according to his Rank. As for the People, there is no Family, be they ever so poor, but what buy it: For which Reason, they never print fewer than twenty-five or thirty thousand^b in every Province. In short, the Kalendar is so highly revered, and reckoned of so great Importance to the State, that, to declare one's self subject and tributary to the Prince, it is sufficient to receive his Kalendar; and to refuse it, is the same as setting up a Standard of Rebellion.

The Chinese Constellations.

THE *Chinese* Astronomers divide the Heavens into twenty-eight Constellations; wherein they comprehend all the fixed Stars, as well those which are in the Zodiac, as those that lie near it. This Division is said to have been made by the Emperor *Yu*, to distinguish the several Mansions of the Moon; the *Chinese* being guided more by the Lunations, than the Solar-Revolutions. The Spaces, which they allow to their Constellations, are not of equal Dimensions; but, all together, form a Circle of three hundred and sixty Degrees. Upon these Principles they make Quadrants; the Shadow of whose Style

marks the Revolutions of all the celestial Orbs; with the Hour and Quarter of the Day or Night in which each Constellation comes to the Meridian of *Pe-king*.

Their Astronomy.

IN Consequence of beginning the Year, by the nearest New-Moon to the Month of *February*, *Pisces* is their first Sign, *Aries* their second, and so on. Likewise, because twelve Signs are sufficient for the twelve Solar-Months, and the Lunations do not always quadrate with these Signs, they have intercalary Lunations, to which they ascribe the same Sign as the precedent had; thereby to recommence the Course of the Months according to the Signs attributed to them: Hence, some of their Months follow the Order of the Signs, others have Days out of the Signs, and some want Days.

Order of their Signs.

IN regard the *Chinese* were obliged, from Time to Time, to correct their astronomical Tables, which were imperfect, and that many enormous Faults had crept into the Kalendar published by their Astronomers, who succeeded *Adam Schaal*, they had Recourse again to the Missioners; who, at that Time, were in the public Prisons of the City, loaded with nine Chains, and closely guarded, by Means of an *Arabian* Astronomer, and *Yang-quang Syen*, a *Chinese* Mandarin, who had represented them, and their Religion, as teaching Doctrines destructive of the Government^c. The late Emperor *Kang-hi*, who was then young, and in the seventh Year of his Reign, sent four *Ko-lou's*, or chief Ministers of State, to ask them, if they knew of any Faults in the Kalendar, either for that, or the succeeding Year; which had both been made according to the ancient astronomical Tables of the *Chinese*. *Verbieft* answered, that they were full of Faults; particularly, in giving thirteen Months to the following Year. His Majesty having been informed of this and several other gross Errors, which that Jesuit pointed out, ordered the Missionaries to attend at the Palace the next Morning.

Faults of the Kalendar.

At the Hour appointed, *Verbieft*, accompanied with *Buglio* and *Magalhaens*, being conducted into the great Hall of the Palace, where all the *Mandarins* of the astronomical Tribunal expected them, discovered, in their Presence, the Errors of the Kalendar. Hereupon, the young Emperor, who had never seen them, sent for them, with the *Mandarins*, assembled on this Occasion, into his own Apartment; and causing *Verbieft* to be placed over-against him, *Can you*, said he, looking on him with a cheerful Air, make it evidently appear, whether the Kalendar

Pointed out by Verbieft.

^a Du Halde's *China*, vol. 2. p. 131, & seqq.

land; which falls vastly short of the Number of Families in *China*, or the Millions said to be published, p. 166. f.

^c See Vol. III. p. 504, & seqq.

^b This makes, in all, but four hundred and fifty thousand.

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agrees with the Heavens, or not? The Jesuit replied, "That it was a Thing easily demonstrated; and that the Instruments in the Observatory were made to the End, that Persons who were employed in Affairs of State, and had not Leisure to study Astronomy, might, in an Instant, examine the Calculations, and find if they agreed with the Heavens, or not. If your Majesty desires to see the Experiment, continued *Verbieft*, let there be placed in one of the Courts a Style, a Chair, and a Table, of what Size you please, and I will immediately calculate the Projection of the Shadow at any Hour proposed. By the Length of the Shadow it will be easy to determine the Altitude of the Sun; and from the Altitude, his Place in the Zodiac: Whence it may be judged, whether his true Place is marked in the Kalendar for every Day."

Arab Astronomer reproved

THE Expedient pleasing the Emperor, he asked the *Mandarins*, If they understood this Manner of Supputation, and could predict the Length of the Shadow? The *Mohammedan* boldly replied, that he understood it; and that it was a sure Rule to distinguish the true from the false: But added, "That Care ought to be taken how they made use of the *Europeans*, and their Sciences, which would become fatal to the Empire; and took Occasion to inveigh against the Christian Religion."

By the Emperor.

AT this, the Emperor changing his Countenance, said to him, "I have commanded you to forget what is past, and mind only to prepare a good Astronomy: Dare you launch out in such a Manner in my Presence? Have not you yourself presented me with several Petitions, desiring, that able Astronomers might be searched-for throughout the Empire? Though they have been these four Years sought-after, they are not found yet: And though *Ferdinand Verbieft*, who understands Astronomy perfectly well, was at Hand in this very Court, you never mentioned one Word of him to me. Hence you plainly discover yourself to be a very prejudiced Man, and that you do not act with Sincerity." His Majesty then resuming a cheerful Look, put several Questions to the Jesuit concerning Astronomy; and ordered the *Ko-lau*, with other *Mandarins*, to determine the Length of the Style for calculating the Shadow.

Confesses his Ignorance.

As these *Ko-lau's* went to work in the Palace itself, the *Mohammedan* Astronomer freely acknowledged, that he was not acquainted with *Verbieft's* Manner of supputing the Shadow;

whereof the Emperor being immediately informed, he was so offended with the Impudence of this Pretender, that he intended to have punished him on the Spot: But, considering it would be better to defer it till the Experiment had discovered his Imposture in the Presence of his Protectors, he ordered, that the Missionary should make his Calculation by himself that very Day; and, that, next Morning, the *Ko-lau's*, and other *Mandarins*, should go to the Observatory to inspect the Length of the Shadow cast by the Style precisely at twelve o'Clock.

Their Astronomy.

THERE was in the Observatory a square Brass Pillar, eight Feet three Inches high, erected on a Table of the same Metal, eighteen Feet long, two broad, and an Inch thick; which, from the Base of the Column, was divided into seventeen Feet, each Foot into ten Inches, (as they call them) and each Inch into ten Minutes. Quite round, along the Edges, was a small Channel made in the Brass, about half an Inch broad, and of the same Depth, filled with Water, to bring the Table to a parallel Position. This Machine served, formerly, to determine the Meridian-Shadows; but the Pillar was then much bended, and did not stand at Right-Angles with the Table.

THE Length of the Style being fixed at eight Feet, four Inches, and nine Minutes, *Verbieft* fastened to the Pillar a smooth Board, parallel to the Horizon, precisely at the determined Height; and, by Means of a Perpendicular let-fall from the Board to the Table, he marked the Point from whence he was to begin to reckon the Length of the Shadow; which, by his Calculation, was to be, next Day at Noon, sixteen Feet six Minutes and an half: For the Sun was then near the Winter-Solstice; and, consequently, the Shadows were longer than at any other Time of the Year.

ACCORDINGLY, at the Time appointed, the Shadow fell exactly upon the transverse Line which the Missioner had traced on the Table, to mark the End of the Shadow; at which all the *Mandarins* seemed strangely surprized.

The Sun's Shadow.

THE Emperor, who was mightily pleased with this Account, ordered, that *Verbieft* should perform the Experiment again, the next Day, in the great Court of the Palace; assigning two Feet two Inches for the Length of the Style. The Jesuit having prepared a Plank well planed, divided into Feet and Inches; and another, fixed perpendicularly, to serve for a Style, next Day, carried this Machine to the Palace where the *Mandarins* met. These Officers seeing the Shadow (whose

* This was a beautiful Rebuke, worthy the great Endowments of that most excellent Monarch, and much beyond his Years. ^b See before, p. 9, a Description of the Observatory. ^c It was made in the Night-time by *Magalbaens*, and had three Screws; by which it was easy to give it an horizontal Position.

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His Prediction verified.
Length, by the Calculus, was marked on the horizontal Board four Feet three Inches four Minutes and an half) appeared very long, because, as yet, it had not reached the Plank, but fell on one Side upon the Ground, the *Ko-lau's* whispered and smiled, believing, that the Missioner had mistaken the Matter. But, a little before Noon, the Shadow coming to the horizontal Board, shortened all of a sudden; and, appearing near the transverse Line, at the Hour, fell precisely upon it ^a.

The Mandarin's Surprise.
HEREUPON, the *Tartarian Mandarin* discovering his Surprise more than any of the rest, cried out, *What an extraordinary Master have we here!* The rest spoke not a Word; but, from that Moment, says our Author, conceived a lasting Jealousy against the Missioner. They acquainted the Emperor with the Success of the Observation, and presented him with the Machine; which he graciously received: But being unwilling to determine too hastily about an Affair, which appeared very nice to the *Chinese*, was desirous, that *Verbiest* should make a third Trial, next Day, in the Astronomical Tower; which he did with such Success, that his Enemies themselves, who, by the Emperor's Order, had assisted at all the Operations, could not avoid doing him Justice, and praising the *European Method*.

Ignorance of the Arab.
THE *Mohammedan Astronomer* had no other Knowledge of the Heavens than what he gathered from certain old *Arabian Tables*; which he followed in some Things. However, he had been labouring above a Year, by Order of the Regents of the Empire, at the Correction of the Kalendar, which they knew did not correspond with the Course of the Heavens. He had already made the Kalendar of the following Year, after his Manner, in two Volumes, and presented it to the Emperor, who ordered *Verbiest* to examine them. Nor was it a difficult Matter to find a great Number of Faults; for, besides every Thing being ill disposed, and worse calculated, they abounded with manifest Contradictions. It was a Medley of *Chinese* and *Arabic*; inso-much, that it might as well be called an *Arabian* as a *Chinese Kalendar*.

Faults in his Kalendar.
THE Jesuit made a small Collection of the most gross Errors in each Month, with respect to the Motion of the Planets, and put them at the Bottom of his Petition, which was presented to the Emperor; who, as if the Welfare of the whole Empire was at Stake, immediately called a general Assembly of the *Regulos* his Relations, the *Mandarins* of the highest Class, and the principal Officers of all the Orders and Tribunals of the Empire, and sent *Verbiest's* Petition to them,

a that they might consult what was proper to be done on the Occasion. *Their Astronomy.*

THE Governors, set over him by his Father, for whom he had long concealed an Aversion, having condemned the *European Astronomy*, and protected the *Chinese Astronomers*, his Majesty, by the Advice of some he most confided in, laid hold of the Occasion to cancel all the Acts they had passed; and, for that End, had made this Assembly as august and solemn as possibly he could.

THEY there read *Verbiest's* Petition: Whereupon the Lords, and principal Members of the Council, unanimously declared, that the Correction of the Kalendar, being an important Affair, and Astronomy a difficult Science, which very few understood; it was necessary to examine publicly, and by the Instruments of the Observatory, the Faults mentioned in the Petition, or Memorial. This Decree of the Council having been confirmed by the Emperor, *Verbiest*, and the *Mohammedan Astronomer*, were ordered to prepare, without Delay, for the Observations of the Sun and Planets that were to be made, and to write down the Manner of making them along with the Calculus. This the Missioner did, and presented the same to the *Mandarins* of the Tribunal of Rites. *Ordered to be examined*

THE first Observation being to be made on the Day the Sun enters the fiftenth Degree of *Aquarius*; a large Quadrant, which the Jesuit placed eighteen Days before, with his Seal affixed to it, on the Meridian, shewed, by its Ruler, the Altitude of the Sun for that Day, and the Minute of the Ecliptic, where he was to arrive at Noon. At which Time, precisely, the Sun passed through one of the Sights, and fell, as was expected, on the Hour; while a Sextant, of six Feet Radius, settled at the same Time to the Altitude of the Equator, shewed the Sun's Declination. Fifteen Days afterwards, he had the same Success in observing, with the same Instruments, the Sun's Entrance into *Pisces*. This Observation was necessary to determine, whether the intercalary Month ought to be taken-out of the Kalendar, or not: Which the Meridian-Altitude of the Sun, and its Declination that Day, plainly proved in the Affirmative. *By celestial Observations.*

WITH Regard to the Places of the other Planets, which were to be observed in the Night; he calculated their Distances from the fixed Stars, and several Days before, in Presence of certain *Mandarins*, marked on a Planisphere, those Distances at the Hour fixed by the Emperor. On the Evening appointed, he ordered his Instruments to be carried to the Observatory, where

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there was a vast Concourse of *Mandarins*; who were fully convinced, by seeing every Thing fall-out to a Tittle, as the Missionary had foretold and calculated, that the *Kalendars*, which the *Mohammedan* had presented the Emperor, were full of Faults. His Majesty, on being informed of this, ordered, that the Affair should be examined in his Council, where the Astronomers *Yang-quang-syen*, and *U-ming-when*, whose *Kalendars* were censured, found Means, contrary to Custom, to be present; and, by their Artifices, divided the Votes of the Assembly.

Chinese Mandarins dissatisfied.

THE *Mandarins*, who were at the Head of the Council, could not bear with Patience, that the *Chinese Astronomy* should be abolished, and that of *Europe* established in its Stead. They maintained, that it was inconsistent with the Majesty of the Empire to alter any Thing in this Science; and that it was better to retain the ancient Astronomy, although a little defective, than to introduce a foreign one. They ascribed to the two Astronomers, the Glory of standing-up for their Country, and looked upon them as zealous Defenders of the Grandeur of their Ancestors.

Rashness of one punished.

THE principal *Tartarian Mandarins* were of a contrary Sentiment, adhering to that of the Emperor, who favoured *Verbieft*. Both Parties argued with a great deal of Warmth; when at length *Yang-quang-syen*, depending on the Protection of the Ministers of State, whom he had gained, addressing himself to the *Tartars*, If you give Way to Ferdinand, said he, by receiving the *Astronomy* he has brought you, assure yourselves, that the Empire of the *Tartars* will not continue long in China. So rash a Declaration was received with Indignation by the *Tartarian Mandarins*; who immediately informing the Emperor of it, his Majesty commanded, that the Offender should be loaded with Irons, and confined in the common Prison.

Verbieft rewarded.

At the same Time *Verbieft*, receiving Orders to reform the *Kalendar*, and the *Astronomy* of the whole Empire, had the Direction of the Tribunal of the Mathematics conferred on him. Hereupon he presented a Memorial to the Emperor, setting-forth the Necessity of retrenching from the *Kalendar* the intercalary Moon, which, even according to their own Calculations, belonged to the following Year. The Members of the Privy-Council, to whom this Memorial was referred, looked upon it as a melancholy Thing, to lop-off a whole Month from the *Kalendar*, which they had so solemnly received: But as they neither could, nor durst contradict the new Director, they thought proper to send the chief President of the Council to him.

THE *Mandarin*, accosting the Missionary with a chearful Air, Take heed, says he, what you do: You are going to make us contemptible among the neighbouring Nations, who follow and respect the *Chinese Kalendar*, by letting them know we have been so grossly mistaken, that there was a Necessity of retrenching a whole Month from the present Year: Cannot you palliate this Matter, or find-out some Expedient to save our Reputation? If you can, you will do us great Service. *Verbieft* replied, that it was not in his Power to reconcile the Heavens with their *Kalendar*, and that there was an indispensable Necessity of striking-out that Month. They then immediately published an Edict throughout the Empire, importing, that, according to the Calculations of the Jesuit, it was necessary to take-away the intercalary Month; and all Persons were forbidden to reckon it for the future ^a.

Architecture, Geography, Intercalary Month retrenched.

SECT. II.

The Knowledge of the Chinese in the other Parts of Mathematics.

Fabulous Descriptions. Ignorance of foreign Parts, and Mathematics. Contrivance in Optics: Another in Catoptrics. Perspective Figures. Static Engine. Sailing Waggon. Meteors and Colours. Thermometers.

THE Account which has been already given of the imperial Palace, and public Works of the *Chinese* ^b, shews, that although their Architecture is very different from that of *Europe*; yet it has its Beauty and Order, as well as Conveniency. The *Atlas* of *Martini*, with the Maps he has published, taken from the *Chinese* Authors, and what has been observed elsewhere concerning the Provincial Surveys, and particular Topographies ^c of every City, shews also, that they have not neglected Geography, so far as relates to their own Empire: But as for other Kingdoms, which they say are seventy-two in Number, they place them, at random, round it in the Sea, like so many little Islands, without distinguishing them either by Longitude, or Latitude; they brand them with contemptible Names, and describe their Inhabitants as Monsters.

ONE they term *Syau-jin-que*, or the Kingdom, whose Inhabitants are all Dwarfs, and so little, that they are constrained to tie themselves several in a Bunch together, for fear of being carried-away by the Eagles and Kites. Another *Nyu-jin-que*, or the Kingdom where all the Inhabitants are Women; who conceived by looking-on their Shadow in a Well, or in a River, and

Architecture, Geography.

Fabulous Descriptions.

^a Du Halde's China, p. 136, & seqq.

^b See before, p. 11, and 100.

^c The same, p. 146. e.

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bring-forth none but Girls. A third *Chwen-sin-que*, or a Kingdom, whose Inhabitants have a Hole in their Breasts, into which they stick a Piece of Wood, and so carry one another from Place to Place. The fourth, a Kingdom where they have Bodies like Men, and Faces like Dogs. The fifth, a Kingdom where the People have such long Arms, that they reach down to the Ground; and the like. In short, they represent the Inhabitants of *Tartary*, the Island of *Japan*, the Peninsula of *Korea*, and the other Countries bordering on *China*, under the Title of *The four barbarous Nations*.

Ignorance of foreign Parts,

OF latter Time, having understood something of *Europe*, they have added it to their Maps, as if it was some desert Island. Hence it was, that the Vice-Roy of *Quang-tong*, in the Year 1668, after he had spoken of the Embassy of the *Portuguese*, in a Memorial which he sent to the Emperor, added these Words: *We find very plainly, that Europe is no more than only two little Islands in the Middle of the Sea*.^a When the *Chinese* first saw the *Europeans*, they asked, if they had any Cities, Towns, or Houses in *Europe*. But since then, they have often found their Mistake. One Day some of the *Literati* desiring *Chavagnac* the Jesuit to shew them a Map of the World, they sought a long Time for *China*; and at length took the Eastern Hemisphere for it, thinking *America* appeared too large for the rest of the World. The Missioner let them alone for a While in their Error, till one of them desiring an Explanation of the Letters and Names, he said; *The Hemisphere you look-upon contains Europe, Africa, and Asia: In Asia here is Persia, the Indies, and Tartary. Where then is China*, cried they? *It is this little Corner of the Earth*, replied he; *and these are the Bounds of it*. Upon this they looked astonished at one another, saying, in *Chinese*, *It is very small*. This Ignorance of theirs was owing to their Want of Commerce with foreign Countries.^b

And Mathematics.

THE other Parts of Mathematics were entirely unknown to the *Chinese*; nor is it above a Century since they began to perceive their Ignorance upon the Missionaries first Arrival in *China*. The late Emperor *Kang-hi*, whose favourite Passion was to acquire new Knowledge every Day, was never weary of seeing and hearing them; while the Jesuits, perceiving how necessary his Protection was to the Progress of their Religion, omitted nothing that might excite his Curiosity, and satisfy his Thirst. They first gave him an Insight into Optics, by presenting him with a pretty large Semi-Cylinder of a very light Kind of Wood; in the Middle of whose Axis was placed

a a Convex-Glass, which being turned towards any Object, exhibited the Image within the Tube in its natural Figure. The Emperor greatly pleased with this Contrivance, which was wholly new to him, desired, that a Machine of the same Kind might be made in his Garden at *Pe-king*, whereby, without being seen himself, he might see every Thing that passed in the Streets, and neighbouring Places. For this Purpose a large Closet, or *Camera obscura*, being built adjoining to the Garden-Wall, they made a large Window, shaped like a Pyramid; at the Point whereof, which looked towards the Street, they fixed a large Ox-Eye, or Glass, directly opposite to the Place where there was the greatest Concourse of People. With this Sight the Emperor was extremely pleased; but more his Queens, who never stirring-out of the Palace, could no otherwise behold what was doing abroad.

Mathematics Contrivance in Optics.

GRIMALDI produced another Instance of the Wonders of Optics, in the Jesuits Garden at *Pe-king*. He made, upon each of the four Walls, a human Figure of the same Length as the Wall; which was fifty Feet: There was nothing seen on the Front but Mountains, Forests, Chaïses, and the like; but from a certain Point you perceived the Figure of a Man, handsomely shaped, and well-proportioned. The Emperor honoured the Jesuit's House with his Presence, and beheld these Figures a long Time with Admiration. The *Grandeës*, and principal *Mandarins*, who came in Crouds, were not less affected: What surprized them most, was to see Figures appear with so much Regularity and Symmetry upon the Walls, which were very irregular, and in several Places pierced with Doors and Windows. It would be tedious to mention all the Figures that were drawn confusedly, and yet appeared distinctly from a certain Point, or were reduced to Order by Help of Conic, Cylindric, and Pyramidical Mirrors.

IN Catoptrics, they presented the Emperor with all Sorts of Telescopes and Glasses, for making Observations of the Heavens, and on the Earth; for taking great and small Distances; for diminishing, magnifying, multiplying, and uniting Objects. The first of this last Kind was a Tube made like an octogonal Prism, which being placed parallel with the Horizon, exhibited eight different Scenes; and in so lively a Manner, that they might be mistaken for the Objects themselves: This, joined to the Variety of Painting, entertained the Emperor a long Time. Their next Present was likewise a Tube, wherein was a Polygon-Glass; which, by its different Faces, collected several Parts of different Objects to form an Image: So that instead of Landships,

^a Magalbaers's Relation of China, p. 61, & seq.^b Du Halde's China, vol. 1. p. 280.

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Woods, Flocks, and an hundred other Things represented in the Picture, there appeared a human Face, an intire Man, or some other Figure, in a very distinct and exact Manner. Thirdly, They shewed him a Tube with a Lamp in it, the Light of which came through a little Hole of a Pipe, at the End whereof was a Convex-Glass: Then moving several small Pieces of Glass, painted with divers Figures, between the Light and the Glass, the Figures were thrown upon the opposite Wall, appearing either very large, or small, in Proportion to its Distance. This, from the Surprize it gives to those unacquainted with it, is called the *Magic-Lantern*.

Perspective Figures.

NOR was Perspective forgotten: *Bruglio* gave the Emperor three Draughts, performed according to Rules, and hung-up to View three Copies of them in the Jesuits Garden at *Pe-king*: The *Mandarins* who came to see them, were all surprized, not being able to conceive how it was possible, on a plain Cloth, to represent Halls, Galleries, Porticos, Roads, and Avenues, reaching as far as the Eye could see, so naturally, as at first Sight to deceive the Spectator.

Static Engine.

STATICS likewise had their Turn. They presented his Majesty with a Machine, consisting only of four Wheels, with Cogs, and an Iron-Handle; by Help of which a Child raised several thousand Weight without Difficulty, and stood his Ground singly against twenty of the strongest Men.

WITH Relation to Hydrostatics, they made, for the Emperor, Pumps, Canals, Wheels, and several other Machines proper to raise Water above the Level of the Springs: By one of this Kind, they conveyed the Water out of the River called the *ten thousand Springs*, into the Lands belonging to the Emperor's Demesne. *Grimaldi* made a Present likewise to that Monarch, of an Hydraulic-Engine of a new Invention; wherein appeared a continual *Jet d'Eau*, or Cascade, a Clock that went very true, the Motions of the Heavens, and an Alarm-Watch, equally just.

Sailing Waggon.

THE Pneumatic-Engines did not less excite his Majesty's Curiosity: They caused a Waggon to be made of light Wood, about two Feet long, in the Middle whereof they placed a brazen Vessel full of live Coals, and upon that an *Æolipile*^a, the Wind of which issued through a little Pipe upon a Sort of Wheel made like the Sail of a Windmill. This little Wheel turned another with an Axel-tree, and by that Means the Waggon was set a-running for two Hours together;

but, for fear there should not be Room enough for it to proceed constantly forward, it was contrived to move more circularly, in the following Manner. To the Axel-tree of the two Hind-Wheels was fixed a small Beam; and at the End of this Beam, another Axel-tree passed through the Stock of another Wheel, somewhat larger than the rest; and, according as this Wheel was nearer or farther from the Waggon, it described a greater or lesser Circle. The same Contrivance was likewise applied to a little Ship with four Wheels; the *Æolipile* was hidden in the Middle, and the Wind issuing out of two small Pipes, filled the little Sails, and made them turn round a long Time.

Mathematics

WHENEVER any extraordinary Phænomenon, such as a Parhelion, Rainbow, Halo of the Sun and Moon, &c. appeared in the Heavens, the Emperor immediately sent for the Missionaries to explain the Causes of them. They composed several Books concerning these natural Wonders; and, to support their Explications in the most obvious Manner, contrived a Machine to exhibit those Appearances in the Heavens. This was a Drum, made very close without, and whitened on the Inside; the inward Surface of which represented the Heavens. The Light of the Sun entered at a small Hole, and, passing through a triangular Prism of Glass, fell upon a little polished Cylinder, by which it was reflected upon the Concavity of the Drum, and there exactly painted all the Colours in the Rainbow; marking, at the same Time, the Parallel which the Sun moved in that Day. From a Part of the Cylinder a little flattened, was reflected the Image of the Sun: And by other Refractions and Reflections were shewn the Halos about the Sun and Moon, with all the rest of the Phænomena relating to celestial Colours, according as the Prism was more or less inclined towards the Cylinder.

Meteors and Colours.

THEY likewise presented the Emperor with Thermometers, to shew the several Degrees of Heat and Cold: To which was added, a very nice Hygrometer, to discover the several Degrees of Moisture and Dryness. It was a Drum of a pretty large Diameter, suspended by a thick String, made of Cat-gut, of a proper Length, and parallel to the Horizon: The least Change in the Air, contracting or relaxing the String, causes the Barrel to turn sometimes to the Right, sometimes to the Left; and also shrinks or stretches to the Right or Left, upon the Circumference of the Drum, a very small String, which draws a little Pendulum, that marks the

Thermometers.

^a An *Æolipile* signifies a *Wind Ball*: It consists of a Ball of Brass or Copper, with a long Pipe; and is to be filled with Water by heating the Ball, which rarifying the inclosed Air, makes Room for the Water, that presses in through a Pipe, when applied thereto; and when it is filled, the Water, by a brisk Fire, is rarified, or returned into Air; which issues from the Pipe with vast Force.

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several Degrees of Humidity on one Side, and a on the other those of Dryness.

ALL these different Inventions of human Wit, till then unknown to the *Chinese*, abating somewhat of their natural Pride, taught them to have a less contemptible Opinion of Foreigners, and begin to look-on the *Europeans* as their Masters ^a.

S E C T. III.

Their Skill in Natural Philosophy, and Medicine.

Natural Philosophy. Medicine in Esteem. Principles of Life. Body, Divisions of; compared to a Lute. Conformable Parts. Canals of Life through the Body: How composed, and governed by the Elements. Nature of the Pulse. Whole Art of Physic. Way of feeling the Pulse: Diseases discovered by it. Their Medicines: Chiefly, Simples. Visits and Fees. Different Pulses. Indications and Natures. Pulses presaging Death. Predictions from its Nature and Beats. Positive Judgments. Pulse, how felt. Tricks of Quacks. Cause of Diseases. Physicians Apothecaries. A Quack punished. Chief Remedy, Abstinence. Regimen. Way of Cupping. Chinese Herbal.

THE *Chinese* cultivate Natural Philosophy, and lay down certain Principles for explaining the Composition of Bodies, their Properties, and Effects ^b. They have a good many Books that treat of this Science, where there are very refined Reasonings upon the Nature of different Things. And the Errors to be met with in those Works, proceed rather from the small Commerce they have with other Nations, than from any Defect of Penetration in the Authors. Be this as it will, those Faults with which their Physics abound, have prevented their making any great Progress in Medicine; to which their small Skill in Anatomy, the other Foundation of the healing Art, is a farther Obstacle: For they scarce knew the Uses of the Parts of the human Body, and, consequently, were unacquainted with the Causes of Distempers; depending on a doubtful System of the Structure of the human Frame ^c.

Medicine in
Esteem.

HOWEVER, the Study of Medicine has always been greatly esteemed by this Nation: Not only because it is useful for the Preservation of Life, but because they believe there is a close Connection between it and the Motions of the Heavens. There were, formerly, imperial Schools for the Improvement of Medicine: But the Physicians, at present, in greatest Esteem, are those whose

Ancestors were Physicians before them, and transmitted their Knowledge from Father to Son.

Natural
Philosophy.

THE *Chinese* hold two natural Principles of Life, *Yang*, or *Vital Heat*, and *Yin*, or *Radical Moisture*; of which the Spirits and Blood are the Vehicles: Out of these two Names, and their Characters, they have made the Name and Character of Man, called *Yin* in their Language. These two vital Principles, according to them, are lodged in all Parts of the Body, in order to give them Motion and Strength.

THEY make three Divisions of the Body:

1. Into the right and left Part; to each of which belongs an Eye, an Arm, an Hand, a Shoulder, a Leg, and a Foot. 2. Into three Parts; the upper, extending from the Top of the Head to the Breast; the middle Part, from the Breast to the Navel; and the lower, from the Navel to the Sole of the Foot. 3. Into Members and Intestines.

THE principal Members wherein the radical Moisture is lodged are six; three on the left Side, the Heart, the Liver, and one of the Kidneys; three on the Right, as the Lungs, the Spleen, and the other Kidney; which last is called *The Gate of Life*.

THE Intestines, or Entrails, in which they place the vital Heat, are likewise six in Number; three on the Left, the small Guts, or *Pericardium*, the Gall-Bladder, and the Ureters; three on the Right, the great Guts, the Stomach, and the third Part of the Body.

THEY likewise acknowledge certain mutual Relations among the Members and the Intestines; as, between the small Guts and the Heart, the Gall-Bladder and Liver, the Ureters and Kidney, on the left Side; and on the Right, between the great Guts and Lungs, the Stomach and Spleen, the third Part of the Body and right Kidney. From these Parts the vital Heat and radical Moisture pass to all other Parts of the Body, by Means of the Spirits and Blood; the Circulation whereof seems to have been known to them from the earliest Ages.

THEY likewise suppose, that the Body, on account of the Nerves, Muscles, Veins, and Arteries, is a Kind of Lute, or musical Instrument; whose Parts yield divers Sounds, or, rather, have a certain Kind of Temperament peculiar to themselves, by Reason of their Figure, Situation, and various Uses; and, that the different Pulses, which are like the various Tones and Stops of these Instruments, are infallible Signs whereby to judge of their Disposition, in the same Manner as a String, touched in different Parts, either

Compared to
a Lute.

^a Du Halde's *China*, vol. 2. p. 126, & seqg.
Halde, as before, vol. 1. p. 394; and vol. 2. p. 183.

^b Le Comte's *Memoirs of China*, p. 213.

^c Du

strongly

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Parts.

strongly or gently, gives different Sounds, and shews whether it be too slack or too tight.

AFTER they had established these twelve Springs of Life in the Body of Man, they searched after outward Signs whereby to discover the inward Dispositions of those twelve Parts. These, they imagine, they have found in the Head, which is the Seat of all the Senses that perform the Animal Operations; and, supposing necessary Relations between these Senses and the Sources of Life, assert, that there is a Conformity between the Tongue and the Heart, the Nostrils and the Lungs, the Mouth and the Spleen, the Ears and the Kidneys, the Eyes and the Liver. They think likewise that, from the Colour of the Visage, Eyes, Nostrils, and Ears; from the Sound of the Voice, and the Relish which the Tongue either feels or desires, they can conclude, with Certainty, concerning the Temperament of the Body, and the Life or Death of a sick Person.

Canals of
Life.

FOR communicating the radical Moisture and vital Heat from their Fountains, above-mentioned, to other Parts of the Body, they have established twelve Ways or Canals. They say, that by one, called *Shau-shun-in-kin*, the radical Moisture passes from the Heart to the Hands: By the same Ducts, the Viscera, which are united to the Heart, convey the vital Heat; and this Canal of Heat is called *Shew-tay-yang-king*: These two Origins joined, make one of the Sources of Life: That the Liver sends the radical Moisture to the Feet, by the Canal *So-kue-in-king*; but the vital Heat is conveyed to them from the Gall-Bladder, by the Duct *So-shau-yang-king*: That the Kidneys send the radical Moisture through another Passage; and the Ureters the vital Heat. These Canals keep up the Communication of Life in the left Side of the Body.

Through the
Body.

THAT on the right Side, the Lungs convey the radical Moisture to the Reins, by the Duct *Shew-tay-in-king*; and the great Guts, the vital Heat, by the Canal *Sheng-yang-ming-king*. That from the Spleen the radical Moisture goes to the Feet, by *So-yang-ming-king*; and the vital Heat of the Stomach, by *So-tay-in-king*. That from the right Kidney, or the Gates of Life, the radical Moisture passes to the Hands, by *Shew-kue-in-king*; and the vital Heat of the third Part of the Body to the Feet, by *Shew-shyau-yang-king*.

WHEN this Knowledge of the Structure of a human Body (which is conformable to the ancient Anatomy of the *Chinese*, and, as plainly appears, not very accurate) is acquired, they then proceed to the Knowledge of the exterior Bodies; which may cause Alterations in the Body of Man.

How compo-
sed, and

THESE Bodies are the Elements, which, according to them, are five in Number; the Earth, Metals, Water, Air, and Fire: All these unite

a in composing a human Body; which is disposed in such a Manner, that one Element prevails more in some Parts than others. Thus, Fire predominates in the Heart, and the chief Viscera, which lie near it; and the South is the Point of the Heavens that principally hath Respect to these Parts, because Heat resides there. They also observe the Affections of the Heart in Summer. The Liver and Gall-Bladder are referred to the Elements of Air, and both have a Relation to the East, which is the Place from whence Winds and Vegetations proceed; and the Disposition of those Parts ought to be observed in Spring. The Kidneys and Ureters belong to the Water, and correspond to the North; whence Winter is the most proper Time to observe their Indications. The Lungs and great Intestines are governed by the Metals, as well as by the West and the Autumn, which is the Time of their Indications. Lastly, The Spleen and Stomach participate of the Nature of the Earth, and are referred to the Middle of the Heavens, between the four Cardinal Points; and the third Month of every Season is the particular Time of their Indications. The right Liver, and third Part of the Body, are subject to Fire and Water, and receive the Impressions of the Heart and Kidneys, which they communicate to all the other Parts. They reason much in the same Manner as the *European* Physicians do, concerning the Agreement and Disagreement of these Elements with the Body of Man, to account for the Alterations and Diseases incident thereto.

Governed by
the Elements.

By the different Kinds of Pulse, they pretend to discover, infallibly, the good or bad Condition of the several Parts of the Body, according to the following Principles. It is Motion, say they, that makes the Pulse, and this Motion is caused by the Flux and Reflux of the Blood and Spirits, which are conveyed to all Parts of the Body by the twelve Canals before-mentioned. Every Thing that moves, puts some moveable Body in Motion; and every Thing that is moved, either yields or resists: Thus, as the Blood and Spirits, being in a continual Motion, push against and press the Vessels in which they are conveyed, there must necessarily arise a Beating of the Pulse. By a thorough Knowledge of these Beatings and Percussions, the Disposition of the Body, and the Affections which they receive from the Elements, are discovered. By these Beatings one may know the Nature of the Blood and Spirits, with the Defects and Excesses that may happen therein: And it is the Part of skilful Physicians to regulate and reduce them to their due Temperament.

Nature of
the Pulse.

BLOOD-LETTING is very rarely practised among them, although they are acquainted with it. The Use of Clysters they learned from the *Portuguese* of *Ma-kau*: Yet, because it came from

Which Art
of Physic.

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from *Europe*, they call it the *Remedy of Barbarians*. In short, the whole Science of Medicine among them consists in the Knowledge of the Pulse, and the Use of Simples, which they have in great Plenty, and recommend as Specifics in divers Distempers. They pretend, by the Beating of the Pulse only, to discover the Cause of the Disease, and in what Part of the Body it resides: In Effect, their able Physicians predict, pretty exactly, all the Symptoms of a Disease; and it is chiefly this that has rendered them so famous in the World. In the Motion of the Pulse, there are two Things to be observed: The Place where it is perceptible, and its Duration. This has obliged the *Chinese* Physicians to point-out the Places of the Body, where the Pulse may be examined, and the Time of its beating.

Way of
feeling the
Pulse.

WHEN they are called to a sick Person, they first set a Pillow under his Arm; then placing their four Fingers along the Artery, sometimes gently, and sometimes hard; they take a considerable Time to examine the Beating, and distinguish the minutest Differences: According as the Motion is more or less quick, strong, or weak, uniform, or irregular, they discover the Cause of the Disease. So that without asking the Patient any Questions, they tell him where the Pain lies, whether in the Head, Stomach, or Belly; and whether it be the Liver, or Spleen, which is affected. They likewise foretel when his Head shall be easier, when he shall recover his Appetite, and when the Disorder will leave him.

Diseases dis-
covered by it.

OUT of many Instances that might be produced to put this Assertion beyond Doubt, the Author relates one: A Missionary falling dangerously ill in the Prison of *Nan-king*, the Christians, who perceived they were in Danger of losing their Pastor, prevailed on a topping Physician to make him a Visit. After he had well considered the Patient, and felt his Pulse, with the usual Ceremonies, he off-hand made-up three Medicines, which he had ordered him to take, one in the Morning, the other at One in the Afternoon, and the third in the Evening. The Patient found himself worse the following Night, lost his Speech, and was thought to be dead: But early next Morning there was so great a Change, that the Physician, after feeling his Pulse, assured him that he was cured, and that he need do nothing more than observe a certain Regimen, till he had thoroughly recovered his Health; which he did by this Method.

Their Medi-
cines.

SOME Physicians, when they visit their Pa-

tients, bring in their Chair, or by a Servant who follows them, a Chest, with several Drawers, divided into forty small Compartments, well-furnished with Roots and Simples, which are administered according to the Nature of the Distemper, and are either sudorific, or proper for purifying the Blood and Humours, for strengthening the Stomach, for dispelling Vapours, stopping Fluxes, or giving a gentle Purge. There are others who carry no Chest, but prescribe Physic, leaving their Patients at Liberty, either to take it of them, or to buy it of the Druggists, who have great Shops furnished with very excellent and costly Medicines: There are Fairs also, where nothing but Simples and Remedies are sold.

Physic, or
Medicine.

AFTER restoring Health by simple Decoction, in order thoroughly to extirpate the Disease, they make use of their Cordials, which they have of all Sorts, and are generally composed of Herbs, Leaves, Roots, Fruit, and dried Seeds. The *Chinese* Physicians allow their Patients to drink Water, but order it to be boiled; and commonly debar them from all other Nourishment: Nor are they suffered to eat more than a very small Matter, be their Hunger ever so great. The Reason they give is, that the Body being indisposed, the Stomach is not fit to perform its Functions, whence there proceeds a bad Digestion.

SOME think it beneath them to dispense Physic; and these commonly expect much more for their Visits, than others. What makes the Fortune of many, is their curing *Mandarins* of Distinction, or other rich Persons; from whom besides being sent every Visit, they receive very considerable Gratifications. The Fee required for these Visits, and for their Medicines, is very moderate. After the first Visit, they never attend the Patient any more, unless they are sent for: So that he is at Liberty to chuse another Physician, if he is not pleased with the Medicines given by the former; which frequently happens. One meets also with a Kind of Quacks, who pretend to cure Distempers by Means of a Parcel of Receipts, which they pick-up; agreeing to be paid conditionally that they recover the Patient.

ACCORDING to a *Chinese* Treatise, called the *Different Secret of the Pulse*, different Pulses are to be felt in different Diseases: In those of the Heart, you must consult the Pulse of the left Wrist; likewise in Diseases of the Liver: But it must be examined at the Joining of the Wrist, with the Bone of the Cubit. In Distempers of the Stomach, feel the Pulse of the right Wrist; and

^a Du Halde's *China*, vol. 2. p. 183, & seq.
in his Description of *China*, vol. 2. p. 184. It was

^b The Translation of this Tract is inserted by Du Halde, communicated by Harvisu, a Missioner of the same

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in those of the Lungs, that in the Joint of the same Hand. In Diseases of the Reins, the Pulse must be examined above the Joint at the End of the Cubit of the Hand, on the same Side as the ailing Kidney.

Their Indications,

THERE are, in the Pulse, a thousand Variations, according to the Difference of Sex, Age, Stature, and Seasons; each of which has its proper Pulse. The same Author mentions various Kinds of Pulses, which he divides into three Classes, putting seven in the first, eight in the second, and nine in the third. Of these he gives the Names, explains the Nature, and assigns the Indications. Among the rest, he observes, that the *Superficial* denotes Windiness; the *Hollow*, Want of Blood; the *Slippery*, Abundance of Phlegm; the *Full*, Heat; the *Long-tremulous*, Lassitude; the *Short-tremulous*, sharp Pain; the *Overflowing*, too much Heat; the *small Pulse*, too much Cold; the *Deep*, Pain from intercepted Air, or the Interruption of the Spirits; the *Slow*, a Kind of Rheumatism in the Breast; the *Sharp*, Barrenness, or a Disposition that Way; the *Sluggish*, Want of internal Heat; the *Flying-low*, Obstructions in the Blood-Vessels; the *Soft*, or *Fluid*, spontaneous Sweats, and a Disposition to a Consumption of the Lungs; the *Feeble*, a great Wasting, and dull Pains, as if in the Bones; the *long Pulse* indicates the Spirits to be plenty, and in good Order; the *Short*, that the Spirits fail, or are troubled; the *Slender like a Hair*, Failure of Spirits; the *Variable*, Disorder of the Spirits; the *Embarrassed and Confined*, excessive Heat; the *Empty*, Loss of Blood, Fears, and convulsive Motions; the *precipitate*, or *hurrying Pulse*, Inquietudes, and a Delirium; the *hard Pulse* denotes Loss of the Semen in Men, and of Blood in Women.

And Nature.

As to the Nature of each Pulse, he explains it often in such a Manner, as must seem strange to an *European*. For Instance, he says the *superficial Pulse* causes a Sensation like that of the Blade of a small Onion; that the *slippery Pulse* feels like Pearls under the Finger; that the *sharp Pulse* makes an Impression not unlike that of a Knife scraping a Bambù-Cane; that the *moveable Pulse* yields a Sensation like that made by Stones, when touched in the Water.

Pulse presaging Death.

THERE is something very fantastic, or quackish, methinks, in his Explication of the seven Pulses that indicate Danger of Death. 1. When the Pulse, being felt in the Morning, seems to bubble under the Fingers like Water over a great Fire, it is a sure Sign that the Patient has not long to live. 2. It is a Sign Death is equally near, if the Pulse seems like a Fish, whose Head is stopped, and cannot move, but sinks with its

a Tail not very regularly. 3. When the Pulse, after beating in a *Hurry*, becomes of a sudden *slow* and *sluggish*, there is Danger of Death, but not so near. 4. If the Pulse, by the Hardness of its Beats, resembles in some Sort a Bullet of Stone, or dried Earth shot out of a Cross-Bow, both the Lungs and Stomach want Spirits. 5. If the Pulse seem like Drops of Water that fall into a House through some Crack, or Hole in the Roof, and in its Return is scattered and disordered, much like the Twists of a Cord which is unravelled; then the Bones are dried-up to the very Marrow. 6. If the Motion of the Pulse, at the Extremity of the Cubitus in both Arms, resembles the Pace of a Frog embarrassed in Weeds, or that of a Toad, Death is certain. 7. If its Motion resembles the hasty Pecking of a Bird, then there is a Failure of Spirits in the Stomach, the Heart but ill performs its Function, and the Blood is in no good Condition. There are several Pulses more that indicate Danger, which the Translator has added.

In this Treatise, Directions likewise are given for feeling the Pulse, together with Prognostics from thence in various Diseases. The different Pulses in the Arms, and internal Parts, as of the Heart, Liver, Lungs, &c. are also considered; and lastly, you meet with Diagnostics and Prognostics taken from the Face of the Patient, and other Parts of his Body. The Author, or Authors of this Piece (for it seems to be a Collection from several) is very precise in his Decisions, determining, to a few Hours, the Fate of his Patient. For Instance, he observes, that when the *hard Pulse*, which denotes the Disease to be in the Kidneys, has a Motion like that of a Bird in pecking, the sick Person will die next Day between Nine and Eleven in the Morning, One and Three in the Afternoon, Seven and Nine in the Evening, or One and Three in the Morning following.

Predictions from the Nature

THEY pretend to no less Nicety in their Predictions, from the Number of Beats without Interruption. It is said, that according to an ancient Book, if the Pulse, after forty successive Beats, omits one; then one of the noble Parts is destitute of Spirits, and the Person will die four Years after in the Spring. All Authors since then agree, that when the Pulse beats fifty Times without stopping, the Person is in perfect Health, and good Constitution: But that if after fifty successive Beats one fails, then one of the noble Parts is destitute of Spirits, and Death will follow five Years after: If at the End of thirty Beats, three Years after. If the Pulse of the left Wrist, after nineteen Beats, sinks, rises, and sinks again; the Liver is quite decayed, and Re-

And Beats of the Pulse.

* See Du Halde's China, vol. 2. p. 184, & seq.

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Learning.

medies are vain. The same is remarked of the Pulse at the Extremity of the right Cubitus; and if after seven agreeable Beats it sinks, and sinks again, without rising for a long Time, the Patient has but a few Hours to live: If it stop after two Beats, he commonly dies in three or four Days; if after three Beats, he may live six or seven; if after four, he hardly outlives eight Days; and so of the rest in Proportion.

THIS may suffice to give the Reader a Notion of the Doctrine of the *Chinese*, concerning the Pulse. By being so very particular in every Respect, they seem to have taken a vast deal of Pains to compleat their System; but their Explanations and Judgments are so affected and positive, that the Whole seems rather the Fruits of the Physician's Invention to amuse the Public, than of his Experience. Let us return to the Remarks of the *Europeans*.

Positive
Judgments.

LE COMTE observes, that in feeling the Pulse, they hold the Patient's Hand a Quarter of an Hour at least; sometimes the Right, sometimes the Left, and sometimes both at the same Time: At last, as if inspired, they play the Prophet: *You were never troubled with the Head-ach, say they, but with an Heaviness that hath made you drowsy; or else you have lost your Appetite; but you will recover it again in three Days precisely. This Evening, about Sun-set, your Head will be freer: Your Pulse indicates Pain in the Belly, unless you have eaten such or such Meat: This Indisposition will last five Days, after which it will cease.* Thus they find-out, or prognosticate in all Maladies, pretty exactly, when they are expert in the Science.

Pulse, how
felt.

THEY feel the Pulse in such a Manner, as would make a Man smile, who is not accustomed to it. After they have applied their four Fingers along the Artery, pressing strongly and uniformly the Patient's Wrist, they relax them by Degrees, till the Blood, that was stopped by the Pressure, hath resumed its usual Course: A Moment after, they begin again to press the Arm close, which they continue a considerable Time: This done, as if they were going to touch the Frets of a musical Instrument, they rise and fall their Fingers successively one after another, pinching softly, or hard, sometimes slower, sometimes faster, till such Time as the Artery answers to the Physician's Touches, and the Strength, Weakness, Disorder, and other Symptoms of the Pulse be manifest.

Tricks of
Quacks.

WITHOUT Dispute, they have, in this Respect, something extraordinary, and even wonderful: However, a Man cannot be too much upon his Guard against them, because they make use of all Means imaginable to get themselves se-

cretly instructed concerning the Patient's Condition, before they visit him: Nay, they are so cunning as to feign a Kind of Distemper, which sometimes they themselves procure. The Author was assured, by a Person who having sent for a Physician, and a Surgeon, to cure him of a Wound, one of them told him the Malady was occasioned by a small Worm, which had gotten into the Flesh, and would infallibly produce a Gangrene, if it was not fetched-out: He added, that he was the only Man in all the Country who had this Arcanum, and that for a considerable Reward he would apply the Remedy. The sick Person agreed to give him his Demand, and paid him Part before-hand. Hereupon this cheating Sophister entangled a little Worm in his Plaister, which he pulled-out an Hour after in Triumph, as if it had come out of the very Wound. His Companion, who gained nothing by the Management of this Business, afterwards detected it; but it was too late to save the Patient his Money.

Physic, or
Medicine.

THEY are in a Manner also persuaded, that the Majority of Diseases are caused by malignant and corrupted Wind that hath slipped into the Muscles, and doth ill-affect all the Parts of the Body: The most sure Means to dissipate them is to apply, in different Places, red-hot Needles, or Buttons of Fire: This is their ordinary Remedy. When the Author seemed to be surprized at this Practice, a *Chinese* said, *They treat you in Europe with a Sword, alluding to Phlebotomy, but here they martyr us by Fire: This Mode will probably never alter, because Physicians feel not the Mischief they do to others, and are not worse paid for torturing, than for curing us*.

Cause of
Diseases.

THE *Chinese* Physicians do not employ Apothecaries for the Composition of their Medicines, but do it themselves. Their Remedies usually consist of Pills, which operate by Sweat, but seldom by Stool. They think it strange, that the *Europeans* should commit the principal Point of the Cure to Men, who are not concerned in curing them; nor solicitous about the Goodness of the Drugs, provided they get rid of them to their Advantage: Yet what is of worse Consequence, in *China* every-body is admitted to practise Physic, like other mechanic Arts, without Examination, or taking their Degrees; which multiplies Quacks, whom the Vulgar, though ill-served by them, have a mighty Opinion of. However, when they discover a Cheat, they know how to be revenged on him. Our Author remembers, that an Inhabitant of the City of *Sü-chew fü*, having lost his Daughter through the Ignorance of the Physician, was so enraged, that he caused a Paper to be printed, wherein

Physicians,
Apothecaries.A Quack
punished.* See Du Halde's *China*, p. 190, & seqq.b Le Comte's *Memoirs of China*, p. 215, & seqq.

Chinase Airs, from du Halde.



Chinese Learning.

the bad Conduct of the pretended Doctor was laid open, with several Reflections tending to decry him: He affixed Copies of it in all public Places, and caused them to be distributed to the principal Houses of the City. This Revenge, or, as he termed it, this Zeal for the public Good, had the Effect he promised himself. The Physician lost, together with his Reputation, all his Practice; and was reduced to so great an Extremity, that he quickly found himself in no Condition to kill any-body^a.

NAVARETTE says, there are good Physicians in China, who are all their own Apothecaries, and some very expert at discovering the Indisposition by the Pulse: Yet that the greater Part are mere Farriers, because there are no Examinations, nor Degrees to be taken for Physic; every-body, who will, being at Liberty to practise it.

Chief Remedy, Abstinence.

THEY never bleed, or vomit^b, give Glysters, or Purges. They know nothing there of Potions. Their greatest Cure is a regular Diet, which is agreeable to Galen; who says, that the Body of a Man is oftener found to fall into mortal Diseases through Excess, than Want. The first Thing they do, is to forbid Fish, Flesh, and Eggs: They allow Rice-Broth, Rice boiled thin, some Herbs salted, and, upon Recovery, Goose-Eggs salted; also Salt-Fish dried and roasted. The same Method is observed in Japan, Tongking, Kochinchina, and all other Countries as far as India, and the Mogul's Empire. Very little Rhubarb is used in China, although so plenty, that it is sold for half a Rial, or Three-pence a Pound. They use more of that called by them Fu-lin, and by the Europeans, China-Root.

Way of Cupping.

THEY never examine the Patient's Urine. In some slight Indispositions they use Cupping, whose Method the Author likes better than that practised in Europe. Their Cups are made of Brass, and have a little Hole at the Top, which they stop with Wax: Having put a small lighted Wick standing on the Part, they cover it with the Cupping-Vessel, which draws well; then taking the Wax off the Hole with a Needle, the Air goes out, and the Cup, of itself, gently comes-off the Flesh. He adds, that there are many good Surgeons, who do their Business very well, without all that Variety of Instruments used among the Europeans^c.

Chinese Herbal.

LE COMTE informs us, that Visdelou, one of the six Jesuits sent to China in 1685^d, was very intent in translating the Chinese Herbal, explaining the Virtues and Qualities of all their

a medicinal Plants. He adds, that the same Missioner, who had accomplished himself in the Knowledge of Books, designed to annex particular Remarks of his own^e: Probably this is the *Pen-tsau*, or Herbal, inserted by Du Halde, in his Description of China^f; to which he has joined a Book of Chinese Receipts, or Remedies, used in curing Diseases.

Music.

SECT. IV.

^b The Taste of the Chinese for Music, Poetry, and History.

^c The Chinese Music: Nature of it. Very imperfect. Academy established. Chinese Instruments. European Organs. Clocks and Watches. Chime of Bells. Their Poetry: Nature of it. Rhetoric and Logic. Their Novels. Their Plays, and Actors. Their Tragedies, Account of one. Their History: The Materials: Matters treated of, how preserved.

THE Chinese pretend to have been the first^d Inventors of Music, and boast of having formerly brought it to the highest Perfection: But if what they say be true, it must have strangely degenerated; for it is at this Juncture so imperfect, that it scarcely deserves the Name. It is certain, that in former Times it seems to have been in great Esteem; and Confucius himself undertook to introduce the Rules belonging to it into every Province, whose Government he was intrusted with. Their Histories speak much of the Excellence of their Music, and the Chinese, at this Day, greatly bewail the Loss of the ancient Books which treated of this Art. However that be, at present Music is seldom used but at Plays, Feasts, Marriages, and on such-like Occasions. The Bonzas employ it at Funerals.

Nature of it.

^e WHEN they sing, they raise and fall their Voice a Third and a Fifth, or an Octave; but never by Semi-tones. In like Manner, the Beauty of their Concerts does not consist in the Variety of Voices, or the Difference of Parts; but all sing the same Air, as is the Practice throughout Asia. They like the European Music well enough, provided there be only one Voice to accompany the Instruments: But as for the most curious Parts of Music, I mean the Contrast of different Voices, of grave and acute Sounds, Dives, Fugues, and Syncopes, they are not at all agreeable to their Taste, appearing to them a confused Discord.

^a Le Comte's Memoirs of China, p. 228, & seq. to be in Use lower down.

^c Navarette's Description of China, p. 54, & seq. titular Bishop of Claudiopolis.

^d Le Comte, as before, p. 220.

^e It is cup in the Translation; but Cupping appears

^f Vol. 2. p. 208, of the English

Chinese
Learning.
Very imper-
fect.

THEY have no musical Notes, nor any Symbols to distinguish the Diversity of Tones, the Raising or Falling of the Voice, and the other Variations that constitute Harmony: However, they have certain Characters that express the different Tones. Their Tunes, which played, or sung by a good Voice, have something agreeable in them, are learned almost wholly by Rote, or by the Ear; nevertheless they make new ones from Time to Time, and the late Emperor *Kang-hi* composed some himself. In the Year 1679, that Monarch sending for the Jesuits *Grimaldi* and *Pereira*, to play upon the Organ and Harpsicord, which they had formerly presented him; he seemed to take great Pleasure in the European Airs. Then he ordered his Musicians to play a *Chinese* Tune, and touched the Instrument himself in a very graceful Manner. Meantime *Pereira* taking his Pocket-Book, pricked-down the Tune; and when they had made an End, repeated it as perfectly as if he had practised long before.

Academy
established.

THIS so surprized the Emperor, that he could scarce believe it; admiring how the Missionary could, in so short a Time, have learned an Air, which had given him, and his Musicians, no small Trouble, and become a thorough Master of it, by Help of certain Characters: Nor could he be satisfied, till he had made several farther Trials, and sung many different Airs; which the Jesuit pricked, and repeated immediately, with the greatest Exactness. This Prince afterwards established an Academy for Music, composed of all those who were most skilled in that Science, and committed to the Care of his third Son, who was a Man of Letters, and had read a great deal. They began by examining all the Authors who had written on this Subject, causing all Sorts of Instruments to be made after the ancient Manner, and according to settled Dimensions. These Instruments appearing faulty, they were corrected by the more modern Rules; after which they compiled a Book in four Volumes, with this Title, *The true Doctrine of the Li-ti, written by the Emperor's Order*. To these they added a fifth, containing the Elements of European Music, composed by *Pereira* the Jesuit.

Chinese In-
struments.

THE *Chinese* have invented eight Sorts of musical Instruments, which they think come nearest of any Thing to a human Voice. Some are of Metal, like our Bells, others of Stone, and one among the rest has some Resemblance to our Trumpet: Others are made with Skins like Drums, of which there are several Kinds, and some so heavy, that to fit them for beating-on, they must be propped with a Piece of Wood. They have vast String-Instruments: But the

Strings are generally of Silk, seldom of Gut, such as the Cymbals, carried-about by blind People; and their Violins; each of which Kinds has but three Strings, and is played-upon with a Bow: But there is one with seven Strings, very much esteemed, and not disagreeable when played-upon by a skilful Hand. There are others also, but they are made wholly of Wood, being pretty large Tablets, which they clap against each other. The *Bonzas* use a little Board, which they touch with much Art, and in good Time. In short, they have Wind-Music: Such are their Flutes, which are of two or three Sorts, and an Instrument composed of several Pipes, which has some Resemblance of our Organ, and withal an agreeable Sound; but is very little, being carried in the Hand.

Musie.

THE Organ above-mentioned presented to European the Emperor, having been very small, and defective in many Things; *Pereira* made a larger, and placed it in the Jesuits Church at *Pe-king*. The Novelty and Harmony of this Instrument charmed the *Chinese*; but what astonished them most was, to hear it play of itself, *Chinese*, as well as European Airs, and sometimes making a very agreeable Mixture of both.

IT is well-known, that the Jesuit *Ricci* owed his favourable Admission into the Court, to a Clock and Repeating-Watch, which he presented to the Emperor; who was so charmed with it, that he built a magnificent Tower purposely to place the Clock in; and because the Queen-Mother had a Desire for a Watch of the same Kind, the Emperor, who was loth to part with it, had Recourse to a Stratagem, by ordering it to be shewn her, without winding-up the striking Part; so that not finding it according to her Fancy, she might send it back again; as in Effect she did. The Missioners did not fail afterwards to gratify the Emperor's Taste, by sending for great Quantities of this Sort of Works. The Christian Princes, who had the Conversion of this great Empire at Heart, assisted them very liberally; so that the Emperor's Cabinet was soon filled with all Sorts of Clocks, most of which were of very curious Workmanship.

Clocks and
Watches.

PEREIRA, who had a singular Talent for Music, placed a large and magnificent Clock on the Top of the Jesuits Church. He caused a Set of small musical Bells to be cast, and hung them in a Tower appointed for that Purpose: The Hammer of each was fastened to an Iron-Wire; which raising it, let it fall again upon the Bell. Within the Tower also was a large Barrel, upon which certain *Chinese* Airs were set with small Pegs; and just before the Hour, the

China of
Bells.

Chinese Actors, from Nieuhof.



Chinese Learning.

Barrel being disengaged from the Cogs of a Wheel, by which it was stopped, was presently set in Motion by a great Weight, the String whereof was wound about the Barrel: So that the Pegs raising the Wires of the Hammers, according to the Order of the Tune, each Bell rang in its Turn, and thus distinctly played one of the finest Airs of the Country; which was followed by the Hour, striking on a large Bell of a deeper Tone. This was a Diversion entirely new, as well to the Court as the City; both Great and Small running continually to hear these Chimes.

Their Poetry.

FROM their Music, let us proceed to their Poetry, and Eloquence. These Arts must be of great Antiquity in China, it being generally observed, that in all Countries Poetry and Oratory have been cultivated long before other Sciences were even thought of; and that the first Histories of all Nations were composed in Verse, as the best Way to hand them down to Posterity, especially when Writing was not in Use.

BESIDES the ancient Books of the Chinese, some of which are in Verse, the Poems of *Kyu-i-wen* are extremely delicate and sweet. Under the Dynasty of the *Tang*, *Li-tsau-pe* and *Tu-te-muey*, did not yield to *Anacreon* and *Horace*. In short, in China, as formerly in Europe, the Philosophers are Poets; and among all their celebrated Writers, *Tseng-nan-fang* is the only one who has not written in Verse; for which Reason he is compared to the Flower *Hay-tang*; which would be perfect, were it not insipid.

Nature of it.

To understand well in what the Excellency of the Chinese Poetry consists, it is necessary to be skilled in their Language; but as that is no easy Matter, we cannot give the Reader a very good Notion of it. Their Compositions of this Kind are somewhat like the Sonnets, Rondeaux, Madrigals, and Songs, of our European Poets: Their Verses are some long, some short; that is, have more or fewer Words in them, their Beauty consisting in the Variety of their Cadence and Harmony. They ought to have a Relation to each other, both in the Rhime and Signification of their Words, which have among themselves a Variety of Tones agreeable to the Ear. They have another Kind of Poetry without Rhime, which consists in the Antithesis, or Opposition of the Thoughts, inasmuch that if the first Thought relates to the Spring, the second shall concern the Autumn; or if the first concerns the Fire, the other shall relate to the Water; which Manner of Composition has its Difficulties, and requires some Skill. Nor are their Poets destitute of Enthusiasm: Their Expressions

are often allegorical, and they know how properly to employ the Figures that render the Style more lively and pathetic.

NEVERTHELESS, their Rhetoric is almost entirely natural; they being acquainted with very few Rules proper to adorn and embellish the Diction: They content themselves with reading the most eloquent Compositions; therein observing the Turns that are most likely to affect the Mind, and make such an Impression as they aim at.

THEIR Eloquence does not consist in a certain Arrangement of Periods, but in lively Phrases and noble Metaphors, as well as bold Comparisons; and, chiefly, in Maxims and Sentences taken from the ancient Sages; which being expressed in a sprightly, concise, and mysterious Style, contain a great deal of Sense, and Variety of Thoughts, in a very few Words.

THEIR Logic, which is refined to such a Pitch in Europe, is in no better a State. They have invented no Rules to bring Argumentation to Perfection, and shew the Method of defining, dividing, and drawing Consequences. They follow nothing but the natural Light of Reason; by which only, without any Assistance from Art, they compare several Ideas together, and draw Consequences sufficiently just.

WITH these Helps the Chinese have published a vast Number of Books on all Sorts of Subjects; as, Agriculture and Botany, the liberal, military, and mechanical Arts, Philosophy and Astronomy. But, they have been of most Use to them in composing their Histories, Plays, Books of Knight-Errantry, Romances, and Novels. These last are not unlike those to be met with in Europe; with this Difference, that ours generally consist of nothing but Love-Adventures, or ingenious Fictions, which corrupt the Mind at the same Time they divert the Fancy: Whereas, the Chinese Novels are commonly very instructive, as well as pleasant, containing Maxims for the Reformation of Manners, and almost always recommending the Practice of some Virtue. These Stories are often intermixed with four or five Verses, to enliven the Narration. *Du Halde* has inserted three or four Pieces of this Kind by Way of Specimen.

PLAYS must be very common in China, since, as hath been already observed, they are acted at every considerable Entertainment: But neither the three Unities, of Action, Time, and Place, nor the other Rules observed by the Europeans, to give Regularity and Grace to these Sorts of Works, are to be found in them. The whole Design of their Authors being to divert their Countrymen,

^a *Du Halde's China*, vol. 2. p. 127, & seq. of the English Translation. ^b *Du Halde's China*, vol. 1. p. 194. ^c The same, vol. 2. p. 146. ^d The same, p. 124. ^e The same, p. 147. ^f See before, p. 83. e. and

Chinese Learning.

and move their Passions; to inspire them with the Love of Virtue, and an Abhorrence of Vice; they think it sufficient if they succeed thus far. They make no Distinction between Tragedies, which do not differ from their Novels, excepting, that Persons are introduced speaking on a Theatre. In the printed Plays, the Names of the Persons are seldom set down; because they always begin by telling the Spectators who they are, and the Parts they are to act.

And Actors.

A COMPANY of Comedians consists of eight or nine Actors, who have each their proper Parts allotted, much like the *Italian* Comedians and *French* Strollers: Frequently, the same Player acts several different Parts; otherwise, as the *Chinese* represent every Incident, and in the Dialogue Form, the Company would be too numerous: But then the Spectator is liable to be puzzled. This might be remedied by a Mask; but Masks are seldom used, except in Interludes; and are worn only by Villains and the Chiefs of Robbers.

Their Tragedies.

THE *Chinese* Tragedies are intermixed with Songs; and they often break-off Singing, to recite two or three Phrases in the usual Manner of speaking. It shocks a *European* to see an Actor fall a-singing in the Middle of a Dialogue: But it must be considered, that among the *Chinese*, the Singing is to express some great Emotion of the Soul; such as Joy, Anger, Grief, or Despair: For Instance, a Man who is filled with Indignation against a Villain, sings; another, who animates himself to Revenge, sings; a third, who is ready to make himself away, likewise sings.

THE Songs in some Plays are difficult to be understood, especially by *Europeans*, because full of Allusions to Things unknown to them; and Figures of Speech which they have much ado to comprehend. The Airs belonging to the Songs of the *Chinese* Tragedies are but few, and, in the Impression, they are placed at the Head of the Songs; which are printed in large Characters, to distinguish them from Prose.

Account of one.

THE Tragedies are divided into several Parts, which may be called Acts: The first is named *Sye-tse*, and resembles a Prologue or Introduction: The Acts are called *Che*, which may be divided, if one will, into Scenes, by the Entries and Exits of the Actors.

FOR a Specimen of the *Chinese* Plays, the Author has inserted a Tragedy, intitled, *Chau-shi-ku-cul*, that is, *The little Orphan of the House of Chau*. It was translated by *de Premare* the Jesuit, from a Collection of an hundred of the best Plays composed under the Dynasty of the *Twen*, (or *Western Tartars*) and contains an

a hundred Volumes divided into four *Tau*. It is the eighty-fifth of the Collection, and begins the thirty-fifth Volume. There are but five Actors; although near a Dozen Persons speak, if we reckon the Guards and Soldiers.

Historiography.

As for History, no People have been more careful to write and preserve the Annals of their Empire. Those so much venerated Books contain every Thing considerable that passed during the Reign of the first Emperors who governed *China*: There you find the whole History and Laws of the Emperor *Tau*, with all the Care that he took to establish a Government in his Dominions: There you read the Regulations made by his Successors *Shun* and *Yu*, to improve Morality, and establish the public Tranquillity; the Customs in Force among the petty Kings, who governed the Provinces dependent on the Emperor; their Virtues, Vices, and Maxims of Government; their Wars with each other; the great Men who flourished in their Time, and all other Events, which deserve to be transmitted to Posterity.

Their History.

THEY have observed the same Method in recording the History of the following Reigns. But what the *Chinese* are remarkable for, is the great Care they have taken to free it from that Partiality which the Flattery of sycophantic Writers might have introduced. One of their Precautions consists in chusing a certain Number of disinterested Doctors, whose Business it is to observe all the Words and Actions of the Emperor; and, as fast as they come to their Knowledge, to set them down, unknown to each other, in a loose Sheet of Paper, which they put into a Chest through a Slit made for the Purpose.

The Materials.

THEY relate therein, with great Sincerity, every Thing, good or bad, that has been said or done: For Instance, such a Day the Emperor forgot his Dignity; he was not Master of himself, and gave Way to Passion: Another Day he hearkened to nothing but his Resentment and Anger in punishing such an Officer unjustly, or in disannulling an Act of the Tribunal without Cause. Again, in such a Year, and on such a Day, the Emperor shewed such a Mark of paternal Affection for his Subjects; he undertook a War for the Defence of his People, and the Honour of the Empire; and in the midst of the Applauses of the Court, who congratulated him for such an Action, conducive to the Good of the Empire, he appeared with an Air full of Modesty and Humility, as if insensible of so unjust Praises.

Matters treated of.

THE Chest, in which these Sheets are deposited, is never opened, either while the Prince is living, or any of his Family upon the Throne: How preserved.

Chinese
Sciences.

But when the Crown passes to another House, they collect all these Memoirs; and after comparing them together, in order to discover the Truth^a, compose the Annals of such an Emperor out of them.

THE Account which every City prints of whatever considerable happens in its District^b, contributes not a little to enrich the History of their Nation. In these local Histories are mentioned the extraordinary Events and Prodigies, with the Monsters that are born at certain Times: For Instance, the Serpent which a Woman was delivered of, and suckled, at *Fu-chew fu*; or the little Elephant with his Trunk, brought forth by a Sow at *King-te-ching*; although there are no Elephants in that Country: Which Facts are related in the Annals of these two Cities^c.

S E C T. V.

The Sciences peculiar to the Chinese.

I. Of their Moral Philosophy, Laws, and History.

Chinese Sciences: Original and Use. Five moral Duties: Duty of Children to their Parents: Of Subjects to Princes; and to each other: Of ancient standing. Chinese Laws. Their History. Their classical Books. The I-king, explained by Confucius, and others. Fo-hi's Fiction. The Shu-king. The Shi-king. The Chun-tsyu. The Li-ki.

Chinese
Sciences.

WE come now to those Parts of Knowledge which may be properly called the Chinese Sciences: These are their Language, and a good Stile; their History and Laws, Morality and Politics. We have already shewn the Reason why they prefer these practical Sciences to the speculative^e, which are in so much Esteem everywhere else: And as they have, for a long Succession of Ages, applied their Thoughts to the Improvement of them, it is no Wonder, if they have brought them to greater Perfection than all other Nations beside.

Original and
Use.

IT is certain, that Peace and good Order are the most desirable Objects of Society; and therefore the Chinese are most intent in cultivating the Studies most likely to promote those Ends. After having settled a good Form of Government, or System of Politics, their next Care was to support and preserve it. This, they judged, was

a best done two Ways; first, by regulating the Manners of the Nation in general, and introducing the Rules of Civility and good Behaviour amongst the different Ranks of People; secondly, by encouraging the Study of Morality, their Laws, their History and Language. As the most effectual Means of doing this, it has been ordained, that all Posts and Employments in the Government, both civil and military, should be conferred on those who are best qualified in this Sort of Learning, and on none else: At the same Time, the better to enable Persons, of all Conditions, to pursue their Studies, as well as to distinguish those who have made the greatest Proficiency therein, Schools and Halls, (which may be called Universities) have been erected in all Cities and Towns through the Empire; wherein Youth are educated at the public Expence, and undergo strict Examinations, in order to obtain the three Degrees of Literature, which intitle them to Honours and Preferments^c. Were none to be admitted into the Senates of *Europe*, without being qualified in the same Manner, the Legislators would never make bad Laws for want of Knowledge, nor be over-reached by the Artifices of wicked Ministers.

THE Chinese Philosophers, we are told, reduce all their Morality to five principal Duties, viz. The Duties of Fathers and Children; those of Prince and Subjects; of Husband and Wife; of elder and younger Brothers; and, lastly, of Friend to Friend. Almost all their Books treat only of the Obedience due from Children to Parents, and of Scholars to Masters; of the Loyalty of Subjects to the Prince; of the Respect due from the Wife to the Husband; of the Affection that ought to reign amongst Brethren; and of the reciprocal and inviolable Attachment amongst Friends.

With regard to the Duty of Children to Parents: Neither the adult Age of the Son, nor high Rank to which he is elevated, nor any bad Treatment which he might have received, can excuse him from the Respect, the Complaisance, and the Love which he owes to his Parents. This Sentiment is carried so far among the Chinese, that the Laws give to Fathers an absolute Authority over their Families; empowering them even to sell their Children to Strangers, if they are dissatisfied with their Conduct. A Father who accuses a Son, before a *Mandarin*, of any Failure, in Point of Respect, has no Occasion to bring Proofs; for the Son is always presumed to be culpable, and the Father to be in the right.

THE Case is different with regard to the Son; To their Parents.

^a This implies, that the Sincerity of some of the Authors is doubtful.

^b See before, p. 146. e.

^c Le

Comte's Memoirs of China, p. 261; and Du Halde's China, p. 146, & seq.

^d See before, p. 163. b.

^e The same, p. 114, & seq.

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Sciences.

he would be considered as a Monster who should pretend to complain of his Father; and there is even a Law which prohibits a Magistrate from hearing an Accusation of the Kind. Indeed, if the Petition of the Son be signed by the Grandfather, it may be admitted; but in case the least Article of it should be false, the Son runs the Hazard of his Life. *It is the Son's Duty, say they, to obey, and have Patience: With whom will he bear, if not with his Father?*

BUT if a Child shall proceed so far as to give his Father any opprobrious Language; or if he is so transported with Fury, as to strike, or to kill him; which, however, very rarely happens, such a Crime puts the whole Province in an Alarm; his Relations are punished^a, and the Governors frequently deposed: It being always presumed, that the unfortunate Child could never have reached to such a horrid Pitch of Guilt, but by Degrees; and that the Scandal might have been prevented, had those, who ought to have watched over his Conduct, punished the first Faults committed by a Person infected with such bad Dispositions. No Punishment is thought severe enough for so shocking a Crime: The Malefactor is condemned to be cut in a thousand Pieces, his House is destroyed, and a Monument reared to excite Horror for so execrable an Action^b.

Of Subjects
to Princes,

THE Reader has already seen an Instance of the great Veneration paid by Children to their Parents in the Article of Mourning for the Dead^c. This Obedience and Submission to their natural Fathers, in which they are educated from their Infancy, disposes them the more easily to the Observance of the next Duty, which regards their Princes, Governors, or Masters; and these two Principles are the chief Basis of the Chinese Morals and Politics.

THE two next Duties which respect Husband and Wife, elder and younger Brethren, contribute not a little to support the two first; and the great Advantage of them appears in that exquisite Harmony and Order, which generally reigns in private Families, where that Strife, Noise, and Broiling, which is found so commonly between Man and Wife, as well as Brothers and Sisters, in other Countries, is seldom heard of. The same happy Influence, which these two Principles have in private Life, is introduced into public Society by the fifth and last; which concerns the Obligations between Friends: Under which De-

And to each
other.

nomination are included all Sorts of People, who

a are not Relations, Strangers as well as Neighbours and Acquaintance. These Obligations consist in the Modesty and Circumspection that is to be observed in the Behaviour of every Body in particular, and the mutual Civilities and Compliments that are to be paid by all Persons to one another, according to their respective Ages, Qualities, and Merit.

THE Rules of Decorum, both as to Words and Gestures, of which some Account has been already given^d, have introduced into the Air and Manners of the Chinese, such a Reserve, Complaisance, and Disposition to Politeness, as prompts them to prevent one another in paying those Respects, which each has a Right to require; and to dissemble, or even to stifle, a Resentment. According to them, nothing conduces more to soften and polish Mankind, than this^e: While a Ferocity, natural to certain Nations, increased by a brutal Education, renders the People intractable, disposes them to Rebellion, and throws States into Convulsions^f.

THESE Principles of Morality among the Chinese, are almost as old as their Monarchy itself, they being taught in the ancient Books of their first Sages, all whose Maxims are founded upon these different Duties; by which, in all Ages, they have regulated their Manners and Actions. This appears from two moral Treatises written by Chinese Authors, and inserted by Du Halde, in his Description of China^g. The first and most ancient of these Treatises, was translated by Hervieu, under this Title, *A Collection of Maxims, Reflections, and Examples relating to Manners*: The other, which is a modern Composition, was done into French by Dentrecolles; both Jesuits already mentioned. From this last Piece, which is in great Reputation, it is evident, that the moral Philosophy of the Chinese is of a popular Nature, tending rather to reform the Manners of Mankind, than to increase the Number of its own Disciples^h.

THE Chinese Laws, which is the second Article to be considered, are all grounded on the same Principles of Morality, and right Reason, and fitted to support the Government, according to its original Constitution. These are to be found in their ancient classical Books, which we shall speak of presently; and in the Edicts, Declarations, Ordinances, and Instructions of the Emperors of the several Dynasties, or Races, which have reigned in China. Du Halde has

Their Laws.

Of ancient
Standing.Chinese
Laws.

^a This seems to be a very just Law: For generally speaking, the Faults of the Children are owing to the Neglect, or ill Example of the Parents. Nothing would go farther to reform the Manners of the People, than a Law of this Kind, with proper Limitations.

^b Du Halde's China, vol. 2. p. 37, & seq. See also Le Comte's Memoirs of China, p. 272.

^c See before, p. 91.

^d The same, p. 78.

^e See an Instance, vol. 3. p. 535. e. and several in Navarette's Travels, p. 497.

^f Du Halde, as before, p. 38. Le Comte, as before, p. 277.

^g Vol. 2. p. 39.

^h See Du Halde, as before, p. 39.

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Sciences.

published a curious Collection of these^a, together with the Remonstrances and Discourses of their most able Ministers, upon good or bad Government. It is intitled, *The imperial Collection*, having been made by the late Emperor *Kang-hi*, who added Remarks of his own to most of them. These Pieces well deserve the Perusal of such as would be acquainted with the *Chinese* Maxims of Government, or improve themselves in that Sort of sound Politics, which has the Interest of a Nation, rather than of Governors, for its Object.

Their History.

THE History of *China* is very voluminous, as well on Account of the long Succession of Emperors, for above four thousand Years, as of the Circumstantialness wherewith all Transactions and Events of any Consequence are related. They have also the particular Histories, or Annals, of the petty Kings, who formerly reigned in the Provinces, written with the same Minuteneß, and Impartiality, as that of the Emperors^b. There are several very copious Works of this Kind, particularly one, containing an hundred Volumes in Folio, which is in the King of *Prussia's* Library. The *Chinese* have also a great Number of Authors, who have written the Histories of their Times, or particular Reigns, those of Revolutions, like that of the *Tartars*, or other extraordinary Events. Hence this Study is laborious enough, and it requires a very good Memory, as well as great Application, to digest such a Multitude of Instances of a different Nature, in order to apply them according to the several Occasions that may occur; either to form a right Judgment, confirm their Reasonings, or support their Opinion in any Point relating to Government.

2. The classical, or canonical Books of the first Order.

Their classical Books.

THE ancient classical Books of the *Chinese* above-mentioned, contain the Morality, Laws, and History of the Empire in the earliest Ages. These, from their Number called *U-king*, or the five Volumes, are in Effect their sacred Writings, being held in no less Veneration by them, than the *Pentateuch*, or the *Old Testament*, is by the *Jews*, the *New Testament* by *Christians*, or the *Koran* by *Mohammedans*. The other Books, which are of the greatest Authority in *China*, are only Comments, or Interpretations upon them: The chief of which, are those written in four Books, by *Confucius*, and his Disciple *Meng-tse*. The *U-king* are called the *Classic*, or *Canonical Books of the first Order*; the Comments, those of the *second Order*. The Word *King* signifies a *Doctrine sublime, solid, and invariable*; because

a founded upon fixed Principles. The first of the five canonical Books is called *I-king*, or the *Book of Transmutations*, and purely symbolical, consisting in a Table of sixty-four Characters, or Figures, which are double, each composed of three Lines, some whole, others broken, or divided into two, and placed in a parallel Position. For Instance, one Figure consists of three whole Lines, another of three broken Lines, a third of two whole Lines and one broken into two, a fourth of two broken Lines and one whole Line; and so on, in Order, by their different Combinations, to express different Things, or Ideas, which their Inventor *Fo-hi*, the Founder of the *Chinese* Monarchy, annexed to them. These are more properly arbitrary Signs of Things, than Hieroglyphics, and were the Original of the *Chinese* Characters; which by augmenting the Number of the Strokes, and giving them a greater Variety of Forms and Positions, are capable of representing an infinite Number of Things: Whereas *Fo-hi's* being vastly more confined, could exhibit but a few.

Canonical Books.
The I-king.

Explained by Confucius.

THIS mysterious Work, we are told, exercised the ablest Men in *China*, till the Time of *Confucius*. The Emperor *Ven-vang*, who attempted it, lived eighteen hundred Years after *Fo-hi*: His Son *Chew-keng* proceeded in the same Design; but both Comments only perplexed this *Ænigma*, by *Ænigmas* equally obscure. The clear Explication of these puzzling Lines, it seems, was reserved for the above-mentioned Philosopher, who appeared four hundred Years after, and unriddled not only them, but the dark Interpretations of the two Emperors. He makes them to contain Doctrines relating partly to the Nature of Beings, especially the Elements, and their Properties; and partly to Morality, and the right governing of Mankind; being persuaded, that those symbolical Lines contained Mysteries of great Importance to the Welfare of States.

THESE are reckoned, by able Critics, the only Commentaries that were written by *Confucius*: And his Disciples affirm, that he was so little satisfied with them, that when he grew old, he wished to live some Years longer, that he might new-model his Work. After all, the Interpreters rather deserve the Name of Authors, than Interpreters; for the *I-king* is full of Obscurities, and Things hard to be understood: In Process of Time, this Obscurity occasioned a Multitude of Errors, and Superstitions; for falling into the Hands of certain Doctors in the corrupt Ages, they altered and falsified the Text, wresting the Sense to vain Prognostics, Divinations, and Magic; and hence they have been called the *Book of Lots*.

^a See his Description of *China*, vol. 1. p. 454.

^b See before, p. 182, and 186. e.

^c At least he was

judicious enough to give it that Term, and form an Explication agreeable to his Design.

Chinese
Sci. nces.
Fo-hi's Fic-
tion.

THE *Literati* have the utmost Esteem for this a Book, and many ancient Authors express their Regret for having lost the real Meaning of it, while they retain only a superficial ^a one. *Fo-hi*, by this Work, rendered himself the Father of Science, and good Government, in *China*. To give the greater Reputation to his Figures, he pretended, that he saw them on the Back of a Dragon, which arose from a Lake, and is since become the Arms of the Emperor. But what chiefly contributes to the great Authority of the *I-king*, is, first, the Tradition that it escaped the general Destruction by Fire, which all other literary Monuments underwent, by Command of the Emperor *Tsin-shi-whangti*, about two hundred Years after *Confucius*, and before Christ. Secondly, the great Encomiums bestowed on it by the best Writers in all Ages, who suppose it full of excellent, moral, and political Maxims ^b; though in Effect they know nothing of the Matter, and it might have been no more than a Kind of Drawing, or Experiment, in ranging two Sorts of Lines in as many different Manners as they would admit of.

The Shu-
king.

THE second of the five chief canonical Books is called *Shu-king*, otherwise *Shang-shu*, that is, the Book speaking of ancient Times. It is divided into six Parts, whereof the two first contain the most memorable Events in the Reigns of the ancient Emperors *Yau*, *Shun*, and *Yu*, who are looked-on as the Legislators and Heros of the Chinese Nation. *Yu* founded the first Dynasty of *Hya* two thousand two hundred and seven Years before Christ, which lasted four hundred and fifty-eight Years. The third Part contains the Transactions under the second imperial Family, which began in *Ching-tang* one thousand seven hundred and seventy-six Years before the Christian Æra, and lasted six hundred Years: Therein are recited the wise Ordinances of this Emperor, with the fine Instructions of the Minister *Tsong-why*, and wholesome Regulations of *Fuywe*, another *Ko-lau*. The Emperor *Kau-tsung*, having seen this Person in a Dream, caused him to be searched for; and he was found among a Company of Masons.

THE three last Parts of the *Shu-king* contain the History of the third Race, which was founded by *Vu-wang* eleven hundred and twenty-two Years before Christ, and continued eight hundred and seventy-three Years; intermixed with many excellent Maxims and Regulations, for the public Benefit. *Du Halde* has given some Extracts from this Book, made by *de Premare* the Jesuit ^c.

The Shi-
king.

THE third canonical Book of the first Order,

is called *Shi-king*, consisting of Odes, Songs, and Verses ^d, composed under the third Race; wherein the Manners, Customs, and Maxims of the petty Kings, subordinate to the Emperor, are described. *Confucius* bestows great Encomiums on them, and declares, that the Doctrine they contain is very pure and holy; but as some of the Pieces are extravagant and impious, several Interpreters suspect that they have been foisted in among the rest. These poetical Compositions (whose Style is very obscure, from their *Laconic* Style, and Number of old Proverbs) may be divided into five different Kinds. The first contains the Encomiums of Men, illustrious for their Virtues and Talents; with many Instructions accustomed to be sung in the Solemnities, Sacrifices, Obsequies, and Ceremonies, instituted in Honour of Ancestors. The second reports the Usages established in the Empire, in a Kind of Romances, composed by private Persons, not sung, but recited before the Emperor, and his Ministers; whose Defects, as well as those of the People, are freely censured. The third is stiled *Comparison*; because its Meaning is explained by Similies and Comparisons. The Manner of the fourth rises to the Sublime; because the Odes commonly begin with certain bold Strokes of the Marvellous, which prepare the Mind of the Reader to be attentive to what follows. The fifth comprizes the Verses that are suspected, and were reckoned by *Confucius* to be apocryphal. *Du Halde* has inserted some Odes from this Book, translated by the Missioner before-mentioned ^e.

THE *Chun-tyu*, or fourth canonical Book of the first Order, was not admitted into the Rank ^f of the *King*, till the Reign of the *Han* Dynasty. It was written in the Time of *Confucius*, and, consequently, much inferior to the other three. Some make that Philosopher the Author, but the Majority reject this Opinion: Many hold, that it contains the History of the Kingdom of *Lü*, at present the Province of *Shan-tong*, where *Confucius* was born. Others maintain, that it is an Abridgement of what passed in the different Kingdoms, into which *China* was divided, before united by *Tsin-shi-whangti* before-mentioned: For this Reason, some learned Men would have it degraded to the second Class of canonical Books: However, the *Chinese* have a peculiar Value and Fondness for it.

IN this Volume, the Actions of many Princes, with their Vices and Virtues, are described: Likewise the Rewards and Punishments attending them, are exhibited, as in a Mirror. The History begins with *In-kong* ^g, who possessed the

Canonical
Books.

^a He might have said, an imaginary one.

⁴⁰⁰, & seqq.

^b *Shi* signifies Verse.

to the forty-ninth Year of the Emperor *Ping-wang*, thirteenth of the Race of the *Chew*.

^d *Du Halde's China*, p. 399, & seq.

^e *Du Halde*, as before, p. 408, & seq.

^f The same, p.

^g This answers

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Books.

The Li-ki.

Kindom of *Lü*, and ends with *Ngay-king*, the twelfth Prince, comprizing the Space of two hundred and forty-one Years under ten Kings: This Book is intitl'd *Spring and Autumn*, in Allusion to the flourishing State of an Empire, under a virtuous Prince, and its declining Condition under a vicious one. *Ko-shi*, a Disciple of *Confusius*, compos'd a learned Commentary on this Work, call'd *Que-yu*, or *the Maxims of Government*.

THE *Li-ki*, or *Memorial of the Laws, Duties, and Ceremonies of a civil Life*, the fifth canonical Volume, contains twelve Books, which *Confusius* compos'd from the different Works of the Ancients: It is believed, that its principal Author was *Chew-kong*, Brother to the Emperor *Vu-vang*, already mentioned: It comprehends likewise the Works of several of that Philosopher's Disciples, as well as other Writers, more modern, and less to be depended on. The Customs and Ceremonies, both sacred and profane, are there treated of; together with the Usages of all Kinds that were practis'd, especially in the Times of the three first Dynasties of the *Hya*, *Shang*, and *Chew*: It treats likewise of the Duties of Children to their Parents; of Wives to their Husbands; of the Rules of true Friendship; of Civilities at Feasts; of Hospitality, Funeral-Honours, War, Music, and many other Things proper to preserve Society: But as three hundred Years after this Compilation was made by *Confusius*, all the Copies were burnt by *Tsin-shi-whang*'s Order, already mentioned, and no more of the Book could be recovered, than a few Leaves saved from the Flames, and what the old Men had been able to retain by heart; it is suspected of being mix'd with several spurious Matters: Besides, many Usages are found in it not received at present; for which Reason the Chinese own, that it ought to be read with a great deal of Caution^a.

3. The classical, or canonical Books of the second Order.

The *Tay-hyo*. The *Ching-yong*. The *Lun-yu*. The *Meng-tse*. The *Hyau-king*. The *Syau-hyo*.

The Tay-
hyo.

THE canonical Books of the second Order are four; which were compos'd by *Confusius*, or his Disciples: To these there are added two more, which are almost of equal Reputation with the rest. *Noël* the Jesuit-Missioner, famous for his astronomical, and other Observations, relating to *China*, and the *Indies*, made a Latin Translation of these Books, printed at *Prague* in 1711; from which *Du Halde* has given Extracts, which will be mentioned in their respective Places.

THE first Book of this second Order is the

^a *Du Halde's China*, p. 414, & seq. Le Comte's *Memoirs of China*, p. 190, & seqq.

Tay-hyo, or *grand Science*; because designed for the Instruction of Princes and Noblemen in well-governing. *Confusius* is the Author, and his Disciple *Tsong-tse*, the Commentator. It treats first of the Care they ought to take in governing themselves, that they may be able afterwards to govern others; and of Perseverance in the sovereign Good, which, according to him, is nothing else but the Conformity of their Actions with right Reason. To succeed herein, *Confusius* says, that it is necessary to examine well into the Nature of Things, and endeavour to acquire a true Knowledge of Good and Evil; to fix the Will towards the Love of this Good, and the Hatred of this Evil; to preserve Integrity of Heart, and regulate the Manners: That when a Man is thus renewed, he will find no Difficulty to renew others, and Peace will soon flourish in the Empire, as well as private Families. The Doctor *Tsong*, to give his Master's Doctrine its full Scope, explains it in ten Chapters.

THE second Book is named *Chong-yong*, or *The Chong-yong*, the *immutable Medium*: It is the Work of *Confusius*, and treats of the Medium that ought to be observed in all Things; and that all, especially those intrusted with the Government of Nations, ought to follow this Middle, or Mean, in which Virtue, he says, consists. The Book is divided into thirty-three Articles, in which he insists, that the Law of Heaven is engraven in the Nature of Man; and that the Light of Reason is the Guide he ought to follow: He deplors the unhappy State of Mankind, whereof so few follow this middle Path; and explains what is the Mean of several Virtues: He shews, that this Science is difficult in Speculation, but easy in Practice; and that it extends to the most common Actions of Life: He confirms his Doctrine by Examples of Princes, who have observed this Medium; and shews the great Advantages arising from thence. Lastly, that to acquire this Perfection, it is not necessary to undergo Austerities, and perform difficult Things; it sufficing to apply one's self simply to the Pursuit of this Virtue.

LUN-YU, or *the Book of Sentences*, is the third Volume of this second Order, divided into twenty Articles; ten are taken-up with the Account given of *Confusius* by his Disciples; the other ten consist only of Questions, Answers, or Sayings, of the Philosopher, or his Disciples, on the Virtues, good Works, and the Art of governing well. This Collection abounds with as fine Maxims, and Sentences of Morality, as any ascribed to the seven wise Men of *Greece*. Among the rest, he says, that it is impossible a Flatterer should be virtuous: That a wise Man does not grieve for being little known to Men, but because they are not sufficiently known to

him:

Chinese
Science.

him: That he who approves of the evil Sects, such as those of the *Ho-shang*, and *Tau-tse Bonzas*^a, does Hurt to himself, and Injury to the Empire; and that there is no true Doctrine but what they received from the ancient Sages, which teach them to follow right Reason: That the wise Man has nothing in view, but the Beauty of Virtue; and the Fool thinks of nothing, but the Conveniencies and Pleasures of Life. *Du Halde* has given several Extracts from this Volume.

The Meng-
tie.

THE fourth Book is stiled *Meng-tse*, or the *Book of Doctor Meng*, called by Europeans *Mencius*. He was related to the Kings of *Lü*, and the Disciple of *Tse-tse*, Grandson of *Confucius*, whose Sense and Energy he expressed best of all that Philosopher's Followers. His Work is divided into two Parts, the first containing six Chapters, the second eight; and treats of good Government almost throughout: As at that Time the whole Empire was involved in civil Wars, he proves, that Peace and Tranquillity were not to be restored by Force of Arms, but by Examples of Virtue: These Discourses are connected in Form of Dialogues, or Conversations, which he had either with his Disciples, or with Princes; and to illustrate what he advances, makes use of Similitudes agreeable to the ancient Custom. *Du Halde* has inserted an Abridgement of the Whole.

The Hyau-
king.

THE fifth Book is intitled *Hyau-king*, or of *filial Respect*: It is a small Volume, and contains only the Answers of *Confucius*, to his Disciple *Tseng*, concerning the Duty of Children towards their Parents, which he makes the Foundation of the wise Government of the Empire: In this Tract therefore, filial Duty is carried to the greatest Pitch: No Virtue is made so sublime and necessary, as the Obedience of a Son; or Crime deemed so enormous, as that of filial Disobedience. The Obligation is equally laid on Princes with the meanest People; and those are reckoned to have attained to the Perfection of Virtue, who, by their own Example, have propagated filial Love and Respect: Yet, it is acknowledged, that neither the Son ought to obey his Father, nor the Minister the Prince, in case they should command any Thing contrary to Justice, or Civility.

The Syau-
hyo.

THE sixth, and last classical Book, is named *Syau-hyo*, or the *School of Infants*: It was composed by *Chu-hi*, a Doctor, under the *Song* Family, about the Year of Christ 1150: It is a Collection of Maxims and Examples both an-

cient and modern, divided into Chapters and Paragraphs: It treats more particularly of public Schools, of the Honours due to Parents, Kings, Magistrates, and aged Persons; of the Duties of Man and Wife; of the Manner of regulating the Heart, the Gestures of the Body, Food and Raiment; the Design of the Author being to instruct Youth, and reform their Manners. *Du Halde* has given an Extract of the Maxims added by the Compiler, to those found in the ancient Books^b.

Life of Con-
fucius.

4. The Life of Kong-fü-tse, or Confucius, the great Chinese Philosopher.

Time of his Birth. Idea of God. His Parentage, Studies, and Marriage. Proposes a Reformation. His Preferment. Resigns his Places. His Disciples numerous. His virtuous Aims. Courage and Firmness. His great Modesty. Pernicious Mistake. His last Sickness, and Death. His Sepulchre. His Person. His Morality excellent. Honours paid him. Halls and Festival. Ceremony of the Sacrifice. Emperor's Offering.

CONFUCIUS^c was born in a Town^d of the Kingdom of *Lü*, now the Province of *Shantung*, in the twenty-first Year of *Ling-vang*, twenty-third Emperor of the *Chew* Race, five hundred and fifty-one Years before Christ, and two before the Death of *Thales*, one of the seven Sages of *Greece*. He was contemporary with the famous *Pythagoras*^e, and somewhat earlier than *Socrates*: But *Confucius* has had this Advantage above the other three, that his Glory has increased with the Succession of Years, and still subsists throughout the greatest Empire in the World, which thinks itself indebted to him for its Duration and Splendor.

Time of his
Birth.

THIS wise Philosopher, without being solicitous to search into such impenetrable Secrets as the Origin of the World, like *Thales*, or the Nature of future Rewards and Punishments, like *Pythagoras*; solely confined himself to speak concerning the Principle of all Beings; to inspire a Reverence, Fear, and Gratitude for him; to inculcate, that nothing, not even the most secret Thought, escapes his Notice; that he never leaves Virtue without Reward, nor Vice without Punishment, whatever the present Condition of both may be. These are the Maxims scattered throughout his Works, and on which he endeavoured a Reformation of Manners.

Idea of God.

^a These Sects were not in *China* for several Centuries after *Confucius*; perhaps, they are put in by the Missioner, by Way of Explanation; but they could not possibly be meant by *Confucius*. ^b *Du Halde's China*, p. 418, and 441. ^c This is a Corruption of *Kong-fü-tse*, his true Name. ^d Called *Kyo-few hyen*. See before, p. 50. ^e The Author might have added, and with *Solon*, the celebrated Philosopher and Legislator.

Chinese
Sciences.
His Paren-
tage.

CONFUSIUS was but three Years old when he lost his Father *Sho-lyang-be*, who died about the Age of seventy-three. This old Man enjoyed the highest Offices of the Kingdom of *Song*, yet left no other Inheritance to his Son, but the Honour of descending from *Ti-ye*, the twenty-seventh Emperor of the second Race of the *Shang*: His Mother, whose Name was *Shing*, and who drew her Pedigree from the illustrious Family of the *Yen*, lived twenty-one Years after the Death of her Husband.

Studies, and
Marriage.

IN his most tender Age, he was observed to have the Wisdom of a discreet Man; Play and childish Amusements were not at all to his Liking: A grave, modest, and serious Air gained him the Respect of those who knew him: He had scarce attained his fifteenth Year, when he applied himself seriously to the Study of the ancient Books. At the Age of nineteen he married, and had but one Wife; by her he had a Son, called *Pe-yu*, who died at the Age of fifty: This latter left an Heir, called *Tsü-tsü*, who treading in the Steps of his Grandfather, by his Merit obtained the chief Employments of the Empire.

Proposes a
Reformation.

WHEN *Confusius* was more advanced in Years, and thought he had made considerable Progress in the Knowledge of Antiquity, he proposed to restore the Form of a wise Government, and thereby procure a Reformation of Manners in the several little Kingdoms, of which the Empire was composed: For then each Province was a distinct Kingdom, had its particular Laws, and was governed by its own Prince, who levied Taxes and imposed Tribute, conferred Dignities and Employments, declared War, when they thought proper, against their Neighbours; and, though dependent on the Emperor, often became formidable to him by their Power. As Ambition, Corruption, and Luxury prevailed in all these little Courts, *Confusius* undertook to banish those Vices, and to introduce the opposite Virtues in their Stead, by his Preaching and Example.

His Prefer-
ment.

HIS Integrity, extensive Knowledge, and the Splendor of his Virtues, soon causing him to be known, several Places in the Magistracy were offered him; which he accepted of, solely with a View of propagating his Doctrine, and reforming Mankind. When he found his Success did not answer his Expectation, he presently threw up his Employments, to go in Quest of a more tractable People. Of this he gave several Proofs, especially in the fifty-fifth Year of his Age; for having been promoted to the chief Posts in the Kingdom of *Lü*, his native Country, in less than three Months the King, the Grandees, and the

People, were become quite different from what they were before. This sudden Change alarmed the neighbouring Princes, who concluded, that the King of *Lü* would become too powerful, if he continued to follow the Counsels of so wise a Man. By Advice, therefore, of the King of *Tsi*, it was concluded, under Pretence of an Embassy, to send a Present to the King of *Lü*, and the great Lords of his Court, of a considerable Number of beautiful Girls, who had been educated in Singing and Dancing^a, and had all the Charms requisite to captivate the Heart. This Stratagem succeeded, for the Present was received with Joy, and thenceforward the Business of the State gave Way to Pleasure. *Confusius* endeavoured, by Remonstrances, to bring back the deluded Prince to his Reason; but when he found it was to no Purpose, he laid down an Employment, which could be of Use no longer to the People, and left the Court.

Life of Con-
fusius.

Refuses his
Places.

He from thence passed through the Kingdoms of *Tsi*, *Ghey*, and *Tsü*, to no Effect. The Austerity of his Morals made his Politics dreaded; nor were the Ministers of those States willing to countenance a Rival, who was able quickly to ruin their Authority. Thus wandering from Province to Province, he came at last into the Kingdom of *Shing*, where he was reduced to the greatest Indigence, without laying aside his Greatness of Soul, and usual Constancy. He had so often in his Mouth the Maxims and Examples of *Yau*, *Shun*, *Yu*, *Ching-tang*, and *Yen-wang*, that those Heroes of Antiquity seemed to be revived in him. Hence it is not surprizing, that he had such a Number of Disciples, who were inviolably attached to him; for they reckon three thousand, of whom five hundred possessed with Honour the highest Trusts in several Kingdoms; and among these there were seventy-two still more distinguished than the rest, for the Practice of Virtue. His Zeal inspired him even with a Desire of crossing the Sea, and propagating his Doctrine in the most distant Climates.

His Disciples
numerous.

He divided his Disciples into four different Classes. The first consisted of those who were to cultivate their Minds by Meditation, and to purify their Hearts by the Care of acquiring Virtue. The most eminent of this Sort were *Meng-tse-kyen*, *Jen-pe-myew*, *Shun-kong*, and *Yen-ywen*: This last died at the Age of thirty-one, to the great Affliction of his Master. The second Class was of those whose Business it was to reason justly, and to compose persuasive, as well as elegant Discourses. The most admired among these were *Tsay-ngo*, and *Tsü-kong*. The Employment of the third Class was to study the Rules of good Government, to give the *Mandarins* an Idea of

^a Persons in several Cities make a Trade of this, particularly at *Yang-chew*. See before, p. 27.

Chinese
Sciences.

it, and to teach them to acquit themselves worthily in the public Offices. The most eminent, in these Respects, were *Ten-yeu* and *Ki-lu*. In short, to write, in a concise and elegant Stile, the Principles of Morality, was the Province of the Disciples of the last Class; among whom, *Tsu-yen*, and *Tsu-hya*, deserved great Commendations. These ten choice Disciples were the Flower and chief of *Confucius's* School.

His virtuous
Aims.

THE whole Doctrine of this Philosopher tended to restore human Nature to its primitive Lustre and Beauty, received from Heaven; which had been obscured by the Darkness of Ignorance, and Contagion of Vice. The Means he proposed to Mankind for obtaining it, was to obey, honour, and fear the Lord of Heaven; to love their Neighbours as themselves; to conquer irregular Inclinations; never to take their Passions for the Rule of their Conduct; but to submit to Reason, and listen to it in all Things; so as neither to act, speak, nor think contrary to it, on any Account whatever.

Courage and
Firmness.

As his Actions never contradicted his Maxims; and as by his Gravity, Modesty, Mildness, and Frugality, his Contempt of earthly Enjoyments, and a continual Watchfulness over his Conduct, he was himself an Example of the Precepts he taught in his Writings, and Discourses, each of the Kings strove to draw him into his Dominions. The Prince of *Chew* was a great Admirer of his; but after his Death, the Philosopher became of a sudden, through the Envy of his Courtiers, the Ridicule of the senseless Populace, who made satirical Songs on him: Yet this unworthy Treatment gave him no Uneasiness. At this Time his Resolution was conspicuous; for when a great Officer of the Army, who hated *Confucius*, though he had never offended him, held-up his Sword to give him a mortal Blow, he did not discover the least Concern, or Emotion, though his Disciples dispersed through Fear. On the contrary, when some of those who had most Affection for him, pressed him to make haste away, to avoid the *Mandarins* Fury, *If* Tyen, replied he, *protect us, of which he has just given a very evident Proof, what Harm can the Rage of Whan-ti do us, notwithstanding he is President of the Tribunal of the Army?* This shews he held a particular Providence, or the Interposition of Heaven in the Affairs of this World.

His great
Modesty.

THE Virtues of this *Chinese* Philosopher were still more heightened by his charming Modesty. He was never heard to praise himself, and could hardly bear the Encomiums others bestowed on him: To which he answered only by reproaching himself, for taking so little Care in watching-over his own Actions, and neglecting to practise Virtue. When any one admired his Doctrine, and the sublime Principles of Morality which he

taught; far from assuming the Honour to himself, he confessed, that it was derived from those wise Legislators, *Tau* and *Shun*, who lived fifteen hundred Years before him.

Life of Con-
fucius.

ACCORDING to a Tradition universally received amongst the *Chinese*, he was frequently heard to repeat these Words, *Si-fang yew-shing-jin*, importing, that, *in the West, the true Saint was to be found*. It is not known who the Per-

Pernicious
Mistake.

son was, concerning whom he spoke: But it is certain, that sixty-five Years after the Birth of Christ, *Ming-ti*, the fifteenth Emperor of the *Han* Family, equally affected with the Words of this Philosopher, and the Image of a Man who appeared to him in a Dream, as coming from the West, sent *Tsay*, and *Tsin-king*, two Grandees of the Empire, into those Parts, with Orders not to return till they had found the holy Person, whom Heaven had revealed to him, and had learned the Law which he taught: The Messengers terrified with the Dangers and Fatigues of the Journey, stopped somewhere in the *Indies*; for the Place is uncertain, where they found the Image of a Man named *Fo*, who had infected those Parts with his monstrous Doctrine, about five hundred Years before the Birth of *Confucius*; and having informed themselves in the Superstitions of this Country, on their Return to *China*, they propagated that Idolatry.

CONFUCIUS having finished his philosophical Labours, and in particular the historical Work of *Chun-tyu*, died in the Kingdom of *Lü*, his native Country, aged seventy-three, in the forty-first Year of the Reign of *King-wang*, the twenty-fifth Emperor of the Race of the *Chew*. A few Days before his last Sickness, he told his Disciples, with Tears in his Eyes, that he was pierced with Grief, to see the Disorders which reigned in the Empire, adding, that *the Mountain was fallen, the high Machine destroyed, and the Sages were no more to be seen*. His Meaning was, that the Edifice of Perfection, which he had endeavoured to raise, was almost overthrown. He began, from that Time, to languish; and at length turning himself towards his Disciples, *The Kings*, said he, *refuse to follow my Maxims; and since I am no longer useful on the Earth, it is necessary that I should leave it*.

His Sicknefs,

HAVING spoken these Words, he fell into a Lethargy, which continued seven Days; at the End whereof he expired, in the Arms of his Disciples. When *Ngay-kong*, who then reigned in the Kingdom of *Lü*, heard of the Death of the Philosopher, he could not refrain from Tears. *Heaven is not satisfied with me*, cried he, *since it has taken Confucius from me: In Effect, the Sages are precious Gifts, which Heaven bestows on the Earth; and their Worth is most known by the Loss of them*.

And Death.

THEY

Chinese
Sciences.
His Sepul-
chre.

THEY built his Sepulchre near the City *Kyow*^a, on the Side of the River *Su*, in the same Spot where he used to assemble his Disciples: It has since then been inclosed with Walls, and at present looks like a small City. He was lamented by the whole Empire^b, but especially by his Disciples, who went in Mourning, and bewailed him, as if he had been their Father. These Sentiments, full of Veneration which they had for him, increasing with Time, he is at present considered as the great Master, and chief Doctor of the Empire.

His Person.

HE was tall, and well-proportioned: His Breast and Shoulders were broad, his Air grave and majestic, his Complexion olive, his Eyes large, his Beard long and black, his Nose a little flat, and his Voice strong and piercing: On the Middle of his Forehead there was a Swelling, or Kind of Wen, which disfigured him a little, and caused his Father to call him *Kyew*, that is, *little Hill*: A Name he sometimes gave himself out of Modesty and Humility^c.

LE COMTE, from whom *Du Halde* has taken almost all his Account of this eminent Philosopher, relates some farther Passages of his Life, particularly a Discourse between his Grandfather and him, when but a Child; and his Defence of the *Chinese* canonical Books, at the Age of sixteen, against a great *Mandarin*, who reflected on them as obscure, and unprofitable: On which Occasion the young Philosopher read his Superior so severe a Lecture, that he ran the Danger of his Life^d: But as he is represented saying, that the Sense of them ought to be understood only by the Learned; that the People would undervalue them, if they comprehended the Meaning of them; and that they ought to submit their Judgments to the Learned; it seems rather to be an Invention of the Jesuit to support the same Doctrines taught in the *Romish* Church by the Authority of this *Chinese* Sage, and the rather because *Confucius* himself afterwards took no small Pains to explain those Books, and render them intelligible to all.

His Morality
excellent.

THIS Author declares, that scarce any Thing can be added either to his Zeal, or the Purity of his Morality, they were so superlative: He thinks, he sometimes speaks like a Doctor of the new Law, rather than a Man who was brought-up in the Corruption of the Law of Nature^e; and that which persuades him, that Hypocrisy had no Share in what he said, is, that his Actions

never belied his Maxims. In fine, his Gravity^f and Mildness in the Use of the World, his rigorous Abstinence (for he passed for the soberest Man of the Empire) his Contempt of the good Things of the World, that continual Attention and Watchfulness over his Actions, and then (which we find not among the Sages of Antiquity) his Humility and Modesty would make a Man apt to judge, that he was not a mere Philosopher formed by Reason, but a Man inspired by God, for the Reformation of this new World.

THE whole Empire, from the very Time of his Death, have honoured him as a Saint^g, and influenced Posterity with a Veneration for him; which, in all Probability, will never have an End, but with the World. Kings, after his Decease, built Palaces for him in all the Provinces; whither the Learned, at certain Times, go to pay him Honours. There are to be seen, in several Places, these Titles of Honour, written in large Characters; *To the great Master, To the head Doctor, To the Saint, To him who taught Emperors and Kings*. However, which is very extraordinary, the *Chinese* did never deify him, although they have given the Quality of God, or, as they speak, of pure Spirits, to many *Mandarins*, much inferior to him; as if Heaven, says *Le Comte*, was unwilling, that the Person to whom it had given Birth for the Reformation of Manners, should after his Death administer Occasion of Superstition and Idolatry^h.

IN every City a Palace is erected, which serves for the Assemblies of the *Literati*, who have given it several Names; as *Pwan-king*, or the *Royal Hall*; *Ta-shing-tyen*, the *Hall of Wisdom, or Perfection*; *Ta-hyo*, the great College, or School; *Qua-hyo*, the College of the Empire. On the Walls are hung divers small Boards, gilt and japanned, inscribed with the Names of the most famous Philosophers, and such as have distinguished themselves in the Sciences, *Confucius* being at their Head.

To this great Man the Emperors have ordered, that the Doctors and *Literati* should annually celebrate, as it were in the Name of the Empire, a Festival, according to the Ceremonial. Every Thing is prepared the Evening before; a Butcher comes, and kills a Hog, and the Servants of the Tribunal bring Wine, Fruits, Flowers, and Herbs, which they place on a Table, set with Wax-Candles, and Perfuming-Pans. On the Morrow the Governors, Doctors, and Bache-

^a Where he was born.

^b Who, *Le Comte* says, honoured him as a Saint.

^c *Le Comte's* Memoirs

of China, p. 193, & seq. *Du Halde's* China, p. 415, & seq.

^d *Le Comte*, as before, p. 198.

^e Is not this an Argument, that the Light of Reason is sufficient to restore the Law of Nature, at any Time, to its full Purity and Lustre, however degenerated, corrupted, or obliterated, by the Craft of Men?

^f It was observable, according to the same Author, that he never eat any Thing but he first prostrated himself on the Ground, and offered it to the Lord of Heaven.

^g *Le Comte*, as before, p. 199, & seq.

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Sciences.

lors, repair with Drums beating, and Hautboys a sounding, to the Feast-Hall; where the Master of the Ceremonies commands them sometimes to bend forwards, sometimes to kneel-down, sometimes to bow to the very Earth, and sometimes to stand-up.

Ceremony of

WHEN the Hour for beginning the Ceremony is come, the chief *Mandarin* takes, successively, Meat, Wine, Pulse, and presents them before the Tables of *Confusius*; the Music playing all the while to Verses sung in Honour of this great Philosopher. They afterwards repeat his Encomium, which is seldom more than eight or ten Lines, in Praise of his Knowledge, Wisdom, and good Morals. The Formula is the same throughout all the Cities of the Empire; and these Honours, which are in effect paid to all the Learned in the Person of *Confusius*, inspire the Doctors with great Emulation. The Ceremony is concluded with repeated Bows and Reverences at the Sound of Flutes and Hautboys, and with reciprocal Compliments among the *Mandarins*. Last of all, they bury the Blood and Hair of the Animal that has been offered; and burn, in Token of Joy, a large Piece of Silk, which is fastened to the End of a Pike, and hangs to the Earth in Manner of a Streamer. They afterwards go into the second Hall, to pay certain Honours to the ancient Governors of Cities and Provinces, who are famous for behaving well in their Employments. Then they pass into a third Hall, where the Names of Citizens, illustrious for their Virtues and Talents, are exhibited; and there perform some farther Ceremonies.

The Sacri-
fice.Emperor's
Offering.

It is reported, that the *Chinese* Emperor *Kyatsing*, before he began his Studies, went to the Palace of *Confusius* to offer before his Tablet Praises and Presents, as Marks of his Respect for all the ancient Doctors of the Nation; especially for the Prince *Chew-kong*, and that Philosopher. He likewise made a Speech, promising to apply himself assiduously to read over, repeatedly, the Works left by these great Men, and sage Masters of Antiquity, containing the Maxims, according to which Posterity ought to regulate their Manners^a.

S E C T. VI.

Of the Chinese Language.

Differs from all others. Sense of Words varied by several Means. Do not sing their Words. A Character for every Word. Their Dictionaries. Egyptian Hieroglyphics: Chinese more convenient: When first invented. Style of the Chinese: Esteem for their Characters. Dia-

lects of the Chinese. Mandarin Dialect: That used in Books: Another Sort. The Chinese Language easy to learn: The Characters compared with the European: Difference whence: Not fit for writing with in other Languages. Chinese Words not to be written by Europeans. The Vowels. English Orthography best. Certain Words, how pronounced.

THE Knowledge of the *Chinese* Language, *Differs from all others.* and to write a very fair Hand, is, as hath been before observed, a Part of the *Chinese* Learning; and as all, who will, may aspire to Employments, the very meanest of the People learn to write and read.

THE *Chinese* has no Resemblance with any dead or living Language that we are acquainted with: All others have an Alphabet of a certain Number of Letters, which, by their various Combinations, form Syllables and Words: Whereas this has no Alphabet, but as many Characters, and different Figures, as there are Words and Changes; which makes the Number so very great, that some reckon them to amount to fifty-four thousand four hundred and nine^b, others to fourscore thousand: While the Number of their Words does not exceed three hundred and thirty, which are all Monosyllables, indeclinable, and, excepting a few, end with a Vowel, or the Consonant *N*, or *Ng*.

THESE few Syllables are, notwithstanding, *Sense of Words varied* sufficient to treat of all Manner of Subjects; because, without multiplying Words, the Sense is varied, almost to Infinity, by the Difference of Accents, Inflections, Tones, Aspirations, and other Changes of the Voice: It is true, this Variety of Pronunciation, to those who are not well versed in the Tongue, is a frequent Occasion of mistaking one Word for another: For Example, the Word *chu* sounded by drawling out the *u*, and raising the Voice, signifies *Lord* and *Master*; but pronounced in an even Tone, with *u* long, means *a Hog*: When expressed quick and light, it signifies a *Kitchen*; but sounded in a strong and masculine Tone, remitted towards the End, it intends a *Column*. In like Manner, the Syllable *Po*, according to its different Accents^c and Ways of Pronunciation, has eleven different Meanings. It signifies, *Glass*, to *boil*, to *winnow Rice*, *prudent*, *liberal*, to *prepare*, an *old Woman*, to *break Means*, or *cleave*, *inclined*, as little as may be, to *water*, a *Slave*, or *Captive*. Whence we may conclude, that this Language, which appears so barren, and confined by the small Number of Monosyllables that compose it, is nevertheless copious and significant.

^a Du Halde's China, p. 295, & seq.

^b So Magalbaens.

^c These Accents the Missioners have marked on the Words to facilitate learning the Language. *Mogalbaens* illustrates his Account of the Language, both by giving the Words accented, with eleven Marks invented by *Lazaro Cataneo* the Jesuit, and in *Chinese* Characters.

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Sciences.

AGAIN, the same Word variously compound-
ed, denotes an Infinity of different Things: *Mù*,
for Instance, by itself, signifies a *Tree*, or *Wood*;
but when compounded, has many other Senses;
Mù-lyau, stands for *Wood prepared for building*;
Mù-lan, *Bars*, or *wooden Grates*; *Mù-hya*, a
Chest; *Mù-lyang*, a *Press*; *Mù-tyang*, a *Car-*
penter; *Mù-ul*, a *Mushroom*; *Mù-nu*, a *Kind*
of small Orange; *Mù-fing*, the *Planet Jupiter*;
Mù-myen, *Cotton*, &c. This Word may be
joined to several others; and has as many differ-
ent Significations as Combinations. Thus the
Chinese, by differently ranging their Monosylla-
bles, make set Discourses, and express themselves
very clearly and gracefully. In short, they, by
Habit, distinguish the several different Tones of
the same Monosyllable so well, that they com-
prehend its various Senses, without the least re-
flecting on the Accents that determine it.

Do not sing
their Words.

WE must not imagine, as some Authors have
related, that they sing in speaking, and make a
Sort of Music; for this would be very disagree-
able to the Ear: On the contrary, these different
Tones are so nicely founded, that Strangers would
find it difficult to perceive their Difference;
especially in the Province of *Kyang-nan*, where
the Accent is most perfect. We may form a
Judgment of it from the guttural Pronunciation
in the *Spanish* Tongue, and by the different Tones
in the *French* and *Italian*; which, though hardly
distinguishable, have different Meanings, that
gave Rise to the Proverb, *The Tone is all*.

A Character
for every
Word.

As the *Chinese* have no written Accents to
vary the Sound, they are obliged to have as many
different Figures or Characters for the same Word
as there are Tones, which vary its Meaning.
Besides, there are Characters which stand for two
or three Words^a, and sometimes entire Sen-
tences: For Instance, to write these Words,
Good-morrow, *Sir*, instead of joining the Cha-
racters for *Good* and *morrow* with that of *Sir*, a
different one must be used; which, by itself, ex-
presses these three Words: These Things are
what so greatly multiplies the *Chinese* Characters,
and makes the Art of joining the Monosyllables
very difficult. After all, the barely joining them
in this Manner, though sufficient to write so as
to be understood, is yet but mean, and used only
by the Vulgar. In Composition, though the
Words are the same, the polite and masterly
Stile is quite different from what is used in Dis-
course; which, in a Man of Letters, would look
ridiculous. It is no difficult Matter to judge
how many Years must be required to learn such
a vast Number of Characters, to distinguish them

when they are compounded, and to remember
their Shape and Meaning. However, the Person
who is Master of ten thousand, may express him-
self in this Language, and read a great Num-
ber of Books; he who knows most, is the most
learned: But the generality understand not above
fifteen or twenty thousand; and few Doctors
more than forty thousand.

Their Lan-
guage.

THIS prodigious Number of Characters is col-
lected in their Vocabulary, called *Hay-pyen*; and
as in *Hebrew*, there are radical Letters which
shew the Origin of Words, and how to find
those derived from them, when looked for in
Dictionaries; so likewise the *Chinese* have their
radical Characters: For Instance, the Characters
of Mountains, Trees, Man, the Earth, and a
Horse. And, farther, you must learn to distin-
guish in every Word those Strokes or Figures,
which are above, beneath, on the Sides, or in the
Body of the radical Figure. There was a Dic-
tionary made by Order of the late Emperor,
which, at the first compiling, contained ninety-
five Volumes^b; most of them very thick, and
in a small Character: Yet this Work did not
comprehend all the Language, since it was found
necessary to add a Supplement to it, in twenty-
four Tomes. No other Language in the World
would take-up near so many Volumes; and, con-
sequently, is more abundant^c.

BESIDES this great Vocabulary there is a
shorter, containing only eight or ten thousand
Characters, which is used in learning to read or
write, to understand or compose Books: When
this smaller is defective, they have Recourse to
the larger. The Missionaries, in like Manner,
have collected all the Terms, that may serve to
instruct the People in their Religion, that are
used in Conversation, and found in common as
well as difficult Books.

CLEMENT of Alexandria attributes three
Sorts of Characters to the *Egyptians*; the first
Epistolary, or fit for writing Letters, like those
of our Alphabet; the second Sacerdotal, proper
only for the sacred Writings, in the same Man-
ner as the Notes for Music; and the third Hier-
oglyphical, used only for public Inscriptions on
their Monuments. This was done two Ways;
one by proper Images, or something that came
near the Things they would represent; as when
they expressed the Moon by a Crescent: The
other by ænigmatical Figures and Symbols; as a
Serpent bent round with the Tail in its Mouth,
to signify the Year, or Eternity. The *Chinese*
have always had a like Variety of Characters.
In the Beginning of their Monarchy, they com-

Egyptian
Hierogly-
phics.

^a They can, by combining thus, form new Characters at any Time, to express new Words and Ideas.
^b Perhaps, this may be the *Hay-pyen*. ^c But this may be questioned, if what the *Arab* Authors tell us be
true, of a Dictionary made for a King of *Arabia*, which required a Team of forty Horses to draw it.

Chinese
Science.

communicated their Ideas by drawing on Paper the natural Images of the Things they would express: For Instance, a Bird, Mountains, Trees, wavy Lines, in order to express Birds, Mountains, a Forest, and Water ^a.

THIS Method of explaining their Thoughts was very imperfect, and required Volumes to express a few Things: Besides, an infinite Number of Objects could not be represented by Drawing; such as the Soul, the Thoughts, the Passions, Beauty, Virtues, Vices, the Actions of Men and Animals, and many others which have neither Body nor Shape: For this Reason, they changed by Degrees their old Manner of Writing; and composed more simple Figures, inventing many others to express those Things that do not come within the Verge of the Senses.

Chinese more
convenient.

NEVERTHELESS, these more modern Characters are truly hieroglyphical ^b; first, because they consist of simple Letters which retain the Signification of the primitive Characters: Formerly, for Instance, they represented the Sun, called *Je*, by a Circle $\odot$; now they represent it by two upright Strokes crossed by three transverse. Secondly, because human Institution has affixed to these Figures the same Ideas that the first Symbols naturally represented; and every Chinese Letter has its proper Signification, which it always preserves, though joined with others. *Tsay*, for Instance, which signifies Misfortune, Calamity, is composed of the Letter *Myen*, a House; and the Letter *Ho*, Fire; because it is the greatest Misfortune to see one's House on Fire. However this be, the Characters of *Kochinchina*, *Tong-king*, and *Japan*, are the same as the Chinese, and signify the same Things. Those Nations, though their Languages are so very different, that, in speaking, they do not in the least understand each other, yet they very well understand each others Writing; and their Books are in common. Their Characters are in this respect like the numerical Figures ^c, which are used by several Nations under different Names; but their Meaning is every-where the same ^d.

When first
invented.

As to the Original of the Chinese Characters, before the Commencement of the Monarchy, little Cords with sliding Knots, each of which had its particular Signification, were used in transacting Business. These are represented in two Tables by the Chinese, called *Ho-tu*, and *Lo-shu*. The first Colonies who inhabited *Se-chwen*, had no other Literature besides some arithmetical Sets of

Counters made with little knotted Cords, in Imitation of a String of round Beads; with which they calculated and made up all their Accounts in Commerce: These they carried about with them; and, sometimes, used as Belts for girding-in their Cloaths. In short, for want of Characters, there is no Account of what passed in those Times, either from Annals, or any written Tradition. Afterwards, *Fo-hi*, the first Emperor, invented Lines to express his Ideas, as is supposed, of certain natural Things; and being taught the Art of Combination, by Means of the two ancient Tables above-mentioned, drew-up his Linear Table ^e, as his first Essay. These Lines not being sufficient to express every Thing, he set about inventing more extensive Characters. His Successors, *Shin-nong* and *Whang-ti*, increased their Number: And when they had formed, one after another, a sufficient Quantity, they then attempted to make Books ^f.

Their Lan-
guage.

THE Style of the Chinese, in their Compositions, is concise, allegorical, and sometimes obscure to those not well versed in the Characters. It requires Skill to make no Mistakes in reading an Author: They say many Things in a few Words: Their Expressions are lively, animated, and intermixed with bold Comparisons and noble Metaphors. To express, for Instance, *Let none dare think of destroying the Christian Religion which the Emperor has approved of by an Edict*: They would write, *The Ink that wrote the Edict of the Emperor, in favour of the Christian Religion, is not yet dry, and you go about to destroy it*; they affect, especially, to insert in their Writings, Sentences and Passages taken from the five canonical Books; and, as they compare their Compositions to a Picture, they also compare those Sentences to the five principal Colours used in Painting; in this their Eloquence chiefly consists. Lastly, they value themselves extremely in writing neatly, and drawing their Characters truly; and there is great Regard had to this, in examining the Compositions of Candidates for Degrees.

Style of the
Chinese.Esteem for
their Characters.

THEY even prefer a beautiful Character to the most finished Picture; and it is common to see a Page of old Writing, if well performed, sold very dear. They honour their Characters in the most common Books; and if by chance they find any printed Leaves, they gather them up with Respect: They think, it would favour of ill Breeding to tread on them, or even throw them away in a careless Manner. Joiners and Masons,

^a Du Halde's China, vol. 1. p. 363, & seqq. and Magalhaens's Relation of China, p. 69, & seqq. ^b We think not. They appear to us to be real Characters, as before observed, but not hieroglyphics; for those latter had either some natural, or symbolical Resemblance of the Things they represented: These have none, but are arbitrary Characters, to which the Inventors have annexed certain simple Ideas, and by joining two or more together form compound Ideas, and express their Thoughts. ^c It is in Effect a real, or universal, Character, such as Bishop Wilkins has invented and published in a Book under that Title. ^d Du Halde, as before, p. 364, & seq. Magalhaens, as before, p. 69. ^e See before, p. 185. ^f Du Halde, as before, p. 399.

Chinese
Sciences.

Dialects of
the Chinese.

Mandarin
Dialect.

That used in
Books.

for the generality, will not venture to tear a printed Sheet, which they find pasted against the Wall or Wainscot, for Fear of committing a Fault.

FROM what has been said, the *Chinese* Language may be distinguished into three Sorts^a; that of the common People, that of polite Folks, and that of Books. The first, though not so elegant as the two others, is yet not so much inferior to the *European* Languages, as may be thought; since it has none of those Defects that are sometimes ascribed to it. The Missioners, who come to *China*, and are not yet Masters of the Language, find equivocal Meanings, where there is not the least Shadow of any: For Want of taking sufficient Pains at first, to pronounce the *Chinese* Words with their Aspirations and Accents, they are able to understand but imperfectly what the *Chinese* say, and find it difficult to make themselves understood: But the Fault is apparently in themselves, and not in the Language. We are told, in some Relations, that the Learned, in conversing, often trace Characters with the Finger, or their Fan, upon their Knees, or in the Air^b: If they do so, it must be out of Vanity, or Custom, rather than Necessity; or because the Word they would express, may be seldom used, like our Terms in Navigation, Music, and Surgery.

NEXT above this vulgar and rude Language, which varies according to the different Provinces, is pronounced a hundred Ways, and used in Compositions of the lowest Class, there is a more polished and refined Dialect, called the *Mandarin Language*; which is nearly what the *Latin* is in *Europe* amongst Ecclesiastics, and the Learned. This Language is properly what was formerly spoken at Court, in the Province of *Kyang-nan*; from whence it was, by slow Degrees, propagated all-over the Empire; but it is best spoken in the Provinces adjoining to that. They have an infinite Number of Histories and Novels, written in this Dialect with the utmost Elegance, which may be easily read and understood; and through them all is a Purity and Politeness, equal to the best Writings of *Europe*.

THE third Sort of Language is that of Books, which are not written in a familiar Style: This is not used in Discourse, but only written; nor could it be easily understood without Help of the Letters; but it is read with Pleasure, running in a neat and flowing Style: Each Thought is generally expressed in four, or in six Characters:

One finds nothing to shock the nicest Ear; and the Variety of Accents, artfully managed, affords a Sound altogether soft and harmonious. The Difference between the Books written in this Dialect, and those called *King*, consists in the Matter they treat of, which is neither so solemn, nor elevated; and in the Style, which is neither so concise, nor so grand; there being many Degrees of Superiority before one can arrive to the majestic and sublime Brevity found in those Writings. In sublime Subjects, no Pointing is used: The Learned, for whom only these Compositions are designed, are left to judge where the Sense concludes; and the Skilful among them, are never mistaken in this Particular.

THE *Chinese* have, moreover, an ancient Sort of Language, and Character, in which there are some Books, that the Learned must understand; but it is used at present only for Titles, Inscriptions, Seals, and Devices. They have also a common Running-Hand, in which they engross Deeds, Contracts, Obligations, and Acts of Justice; as the *Europeans* have a particular Character for Law-Business. Lastly, they have a Letter, which requires a particular Study, on Account of the Variety of Strokes and Abbreviations^c, or Interweavings, which render it difficult. The chief Use of this Character, is to write any Thing for Dispatch^d.

NOTWITHSTANDING the seeming Difficulties of the *Chinese* Language, and that some Missioners have represented the Learning of it as extremely tedious, painful, and almost insuperable; yet others speak of it in a very different Manner. *Magalhaens*, for Instance, affirms, that it is easier to attain, than the *Greek*, the *Latin*, or any other Languages of *Europe*; and much less difficult than the Languages of those other Countries, where the Jesuits are employed in Missions. He lays it down as a Thing certain, that a Person who applies himself industriously to study the *Chinese* Language, by a good Method, may be able, in a Year's Time, to understand and speak it very well: And affirms, that the Missioners, in two Years Time, became so perfect in it, as to be able to confess, catechize, preach, and compose, with as much Ease, as in their native Tongue, although they are generally Persons far-advanced in Years; adding, that they could never attain to the same Perfection in the *European* Languages, although they have generally a Dependence upon one another^e.

^a The Author makes three Sorts of Languages, which is not so exact. There are indeed two Sorts, the *Chinese*, and that spoken by the Inhabitants of *Fo-kyan*, which he does not mention. That this last is essentially different, appears, among other Things, from hence, that it has the Letter or Sound *r* in it, which is wanting in the *Chinese*. ^b So says *Le Comte*. Why does not the Author name him? ^c A Sort of Short-Hand.

^d *Du Halde's China*, p. 365, & seq. ^e *Le Comte*, p. 177, wonders *Magalhaens* should write thus. He thinks some Missioners had better have laboured in the Mines. He denies that learning the *Chinese* depends on the Memory, but the Imagination and Ear, on Account of the Tones. He adds, that a Word, though pronounced ill, may be understood; but the Accent must be exactly hit to make the Sense intelligible.

Chinese
Sciences.
Easy to
learn.

To confirm this by Reason, he observes, that as the acquiring a Language depends greatly on the Memory; so one which has so few Words as the *Chinese*, must be far easier to learn, than any of the others above-mentioned, which comprize many Thousands, as it requires only a Memory to retain the Accents^a. How far this Argument is conclusive, we shall not pretend to say, since the Accent may be as difficult to remember, as a new Word. If we consider every Word, simple, or compound, in the *Greek*, *Latin*, or any other *European* Language, as a single Character, consisting of a Combination of various Letters, in the same Manner as the *Chinese* Characters do of Strokes; perhaps it may be found to contain as many different Characters as the *Chinese*, and, consequently, may be as difficult to learn.

The Characters compared

THE great Difference between the *Chinese* and *European* Characters, has been, in some Measure, explained in the Article of Printing^b: The only Conformity they have together is, that as our Alphabet is made-up of twenty-four Letters, formed out of seven Strokes^c; so all the *Chinese* Characters are formed out of six^d. The *Chinese* is the very Reverse of all other Languages, in having an infinite Number more of Letters, as we may say, than Words; and not a great many more Words, than some other Languages have Letters. It is true, though in the *European* Alphabets they reckon but about twenty-four Letters, yet in Effect there are great Numbers more, if it be considered, first, that they are diversified into Capitals, *Roman*, *Italick*, &c. that there are several Variations of them for Writing, as in Round-Hand, Secretary, Court, Text, *German*, and the like^e: That there are several Sorts of Punctuations, as the Period, the Comma, the Apostrophe, the Accents, the Parenthesis, the Points of Interrogation and Admiration, with many others: That Arithmetic has its Cyphers, or Figures; and Astronomy, Geometry, and Music, their respective Signs, Marks, or Characters. In a Word, that there are few Arts, or Sciences, which have not some characteristical Figures proper to them, that serve to express certain Ideas more conveniently than by Words at Length^f: Yet all these put together fall infinitely short of the Number of Characters, which the Nature of the *Chinese* Writing obliges them to make use of.

Difference, however,

HOWEVER, if *Europeans* are surprized at this great Number of Characters, the *Chinese*, we are told, admire no less how with so few Letters

the *Europeans* can express all their Words, when theirs require so many: But this will be no Matter of Wonder, if it be only considered, that Words are composed by a Combination of a few simple Sounds, formed by the Organs of Speech, and that the *European* Characters are contrived to express Sounds, but the *Chinese* to signify Words, and, consequently, must be infinitely more numerous. How they came to think of one Method, and not the other; or, in case they thought of both, why they preferred one to the other, is hard to determine: Only this we know, that but for this Preference we should have had no Instance in the World of a whole Language represented in a verbal or real Character: For though the *Egyptians*, *Mexicans*, and other Nations, had Characters of the same Nature^g, yet very few of them are remaining; neither do they appear to have been, in any Respect, so judiciously contrived, so uniform, or so capable of expressing all the Varieties of compound and simple Ideas, as the *Chinese*.

Their Language.

IT is difficult to express the *Chinese* Words in *European* Characters; but impossible to express the *European* in *Chinese*; not only on Account of its wanting several Sounds to be found in the other Languages, but also because the *Chinese* Characters express Words instead of simple Sounds, at hath been before observed, or the Sounds of two or more Letters together instead of one: The Vowels however must be excepted; each of which has a particular Character. Now as all the Words in this Language are single Syllables, and those not exceeding three hundred and thirty, it is evident, that no greater a Number of Syllables in any other Language can be expressed in *Chinese* Characters; and that as one-fourth Part of them are of such a Nature as to be found no-where else, consequently, not above two hundred and fifty foreign Syllables can be expressed by them. Thus, although a *Chinese* may write the *English* Words *Sing-song*, or *New-king*, in his own Characters, yet he could not write *fine Wool*, or *old Count*; because, as appears from the following Tables, there are no such Words in his Language. When they would write or pronounce any *European* Words, the Syllables of which are not to be found among their three hundred and thirty Words, they make use of those which come nearest them. Thus, instead of pronouncing *Holland*, they would say *Go-lan-ki*; for *Holstein*, *Ho-eul-se-te-in*; for *Stockholm*, *Se-tyau-ko-eul-ma*; and for *Alexowitz*, *O-li-she-ye-fi-she*.

Not fit for writing with

In other Languages.

^a *Magalhaens's* Relation of *China*, p. 77, & seq.

different Strokes, two and three of the seven being the same Strokes placed in different Positions.

four or five at most.

^c To these we may add Short-hand, which affords a great Number of Characters.

^d *Du Halde's* *China*, p. 365, & seq.

^e This seems to prove, that the Thought of expressing Words by Characters more naturally occurred, than that of expressing Sounds.

Chinese
Sciences.

As the *Chinese* want the Sounds of *b, d, r, x,* and *z,* which frequently occur in the *European* Languages, the Difficulty is increased. The *d,* as well as *t,* they commonly express by *ki,* as appears from the Word *Holland*; for *b* they use *p*: Yet, both the *d* and *z* seem to be sounded in this Word *I-tsié,* which some pronounce *I-dse*: But the *Chinese,* who can say distinctly *I-dse,* cannot say *da, de, di, do, du*; nor *za, ze, zi, zo, zu.* Instead of *r* they use *l,* or, rather, a Word beginning with *l*; as in *Fu-lan-tsu-se, France*; for *x,* *she,* as in *O-li-she-ye-fi-she, Alexowitz,* above-mentioned.

Chinese
Words not
to be

In like Manner, we are told, it is in vain to attempt the *Chinese* Words in *European* Characters: For not only many of them would be ill expressed, but, after a Person had gotten to the Bottom of a Page, he would not be able to understand what he had written. This is a Circumstance not peculiar to the *Chinese* Language, but common to all; there being scarce any one but what hath some Sounds peculiar to it, that cannot be expressed by the Letters or Characters of other Nations. Thus, the *English* have no Letter answering to the *French* *ŷ* Consonant^a; nor the *French* any corresponding with that of the *English.* However, there are few Sounds or Words, either in the *Chinese,* or any other Language, but what may be expressed by the *English* Letters, either simple or compound. But it is not the same with the *French*; whose Alphabet is the most scanty and imperfect of all the *European* Nations: For, besides the *ŷ* Consonant, they want the *Ch, K, Q* and *W,* of the *English,* Sounds which occur in most other Languages; especially those called the *Oriental*. Nor can they with any Justness supply the Defect by joining two or three Letters together. And this is the Reason why, as *Du Halde* observes, many Words can neither be pronounced nor written by them, rather than that which he assigns, *viz.* That the Teeth of the *Chinese* are placed in a different Manner from ours; the upper Row standing-out, and, sometimes, falling upon the under Lip, or, at least, on the Gums of the under Row, which lies inward; the two Rows scarce ever meeting together, like those of the *Europeans.*

Written by
Europeans.

The Vowels.

ALL the *Chinese* Words, written in *European* Letters, terminate either with one of the five Vowels, *a, e, i, o, u,* or with an *n*^b; which is sometimes single, producing *an, en, in, on, un*; and sometimes followed by a *g*^c, making *ang, eng, ing, ong, ung*^d. Their Vowels also have different Sounds, like the *European*; or, rather,

^a Yet they can express it perfectly by *zh.*

^b To these we may add *l, w,* and *y*: As in the Words *ul, chiao, may,* and the like, to be found in the following Table.

^c No *Chinese* Word, in Reality, ends with *g*; which was added by the *Spaniards* and *French,* to distinguish the sounding *n* from the mute *n*, in Place of the *m,* which the *Portuguese* use.

^d *Du Halde's China,* vol. 2. p. 140. This Author has taken a great deal of what he says of the Language from *Magalhaens,* as well as *Le Comte.*

we have not Letters enough to express all the open Sounds and Divisions of them, which we call Vowels, that are to be found either in the *Chinese* Language, or our own.

Their Lan-
guage.

WITH regard to the following Table the Reader may observe three Things: 1. That the Words contained under the several Letters, are formed agreeably to one common Rule in the *Chinese* Language; though they are not equally numerous under each. 2. That, according to the *Portuguese* and *French* Way of Writing, many of them appear to be of two or three Syllables; and must be so pronounced, if the common Way of Reading be followed: Whereas, according to our own Way of writing them, they are all Monosyllables, agreeably to the Genius of the *Chinese* Language. 3. That the Change of Orthography, from the *Portuguese* and *French* to the *English,* is natural as well as necessary.

English Or-
thography
best.

THE chief Difficulty is in pronouncing certain Characters consisting of double Consonants, which are not used in our Language; but as we have several other double, and even some treble Consonants, a little Practice must make this easy. For Instance, it cannot be very difficult for an *Englishman,* who can say *bran, fling, prong,* *fwing, strong,* &c. to pronounce in one Sound, *Swen, ywen, Syang, Kyang, Hyang, Sven, lwi, tŷen*; for the same Rule is to be observed in pronouncing *Sw, yw, Sy,* &c. together, that is observed in pronouncing, *br, fl,* &c. that is, to pronounce them as if they were but one Letter; which is learned by putting a Vowel between, and pronouncing it very quick, so as by Degrees to throw it quite out.

Certain
Words, how
pronounced.

An Alphabetical TABLE of all the Words which compose the *Chinese* Language, according to the *English, Portuguese,* and *French* Pronunciation.

English.	Portuguese.	French.
Ch	Ch	Tch
Cha	Cha	Tcha
chan	chan	tchan
chang	cham	tchang
chau	chao	tchao
chay	chai	tchai
che	che	tche
chen	chen	tchen
cheng	chem	
chew	cheu	tcheu
chi	chi	tchi

chin

VOYAGES and TRAVELS

Chinese Sciences.	English.	Portuguese.	French.	a	English.	Portuguese.	French.	Their Lan- guage.
	Ch	Ch	Tch		H	H	H	
	chin	chin	tchin		hya	hia	hia	
	ching	chim	tching		hyang	hiam	hiang	
	cho	cho	tcho		hyau	hiao	hiao	
	chun	chun	tchun		hyay	hai	hai	
	chung	chum	tchun		hye	hie	hie	
	chwa	chua	tchua		hyen	hien	hien	
	chwang	chuam	tchuang		hyew	hieu	hieu	
	chwe	chue	tchue		hyo	hio	hio	
	chwen	chuen	tchuen	b	hyu	hiu	hiu	
	chwi	chui			hyun	hiun	hiun	
	chyau	chiao			hyung	hium	hiung	
	chyen	chien						
	F	F	F		I Vowel	Y	I	
	Fa	Fa	Fa		In	Yn	In	
	fan	fan	fan		ing	ym	ing	
	fang	fam	fang		J Conf.	G	J	
	few	feu	feu		Je	Ge		
	fi	fi	fi	c	jen	gen		
	fo	fo	fo		jeng	gem		
	foy		foi		jew	geu		
	fu	fu	fu		jin	gin		
	fung	fum	fung		K	C	C	
	fwen	fuen	fuen		Ka	C	Ca	
	G	G	G		kan	can	can	
	Gan	Gan			kang	cam	cang	
	gang	gam		d	kau		cao	
	gau	gao			kay	cai	cai	
	gay	gai			ke	ke	ke	
	gho	guo			ken	ken	ken	
	ghey, or gwey	goei, or guei	guei		keng	kem	keng	
	go	go			kew	kew	keu	
	gu	gu			ki	ki	ki	
	H	H	H		kin	kin	kin	
	Han	Ham	Hang		king	king	king	
	hang	han	han		ko	co	co	
	hau	hao	heo	e	ku	cu	cu	
	hay	hay	hai		kung ^b	cum	cung	
	he	he	he		kve	kiue	kieue	
	hen	hen	hen		kven	kiuen	kieuen	
	heng	hem	heng		kya	kia	kia	
	hew	heu	heu		kyang	kiam		
	hi	hi	hi		kyau	kiao	kiao	
	hing	him	hing		kyay	kiai		
	ho	ho	ho		kye	kie	kie	
	hu	hu	hu		kyen	kien	kien	
	hun	hun	hun		kyew	kieu	kieu	
	hung	hum	hung	f	kyo	kio	kio	
	hve ^a	hiue	hiue		kyu	kiu	kiu	
	hven	hiuen	hiven		kyun	kiun	kiun	
					kyung	kium	kiung	

^a This Word and the next may be pronounced *hiu*, *hiun*; but as the *v* is of the obscure Kind, and the other Letters, which are not obscure, are pronounced clearly, *hve* and *hven* seem to be the true Orthography.

^b This is also written *kong*; the like happens in other Words of this Form, where the *o* and the *u* are used promiscuously by the Missionaries.

VOYAGES *and* TRAVELS

Chinese Scientist.	English.	Portuguese.	French.	a	English.	Portuguese.	French.	Their Lan- guage.
Q	K	Q	Sh	X	Ch			
kuang	kuam	quouang	shwa		chua			
quay	kuai	quoi	shwe		chue			
que	kue	quoue	shwen		chuen			
quey	kuei	quouei	shwi					
quen	kuen	quouen	shyau					
queng	kuem		shyew					
quo	kuo	qouo						
quon	kuon	qouon						
S	S	S	T	T	T			
Sa	Sa	Sa	Ta	Ta	Ta			
fan	fan	fan	tan	tan	tan			
fang	fam	fang	tang	tam	tang			
fau	fao	fao	tau	tao	tao			
fay	fai	fai	tay	tai	tai			
fe	fe	fe	te	te	te			
fen	fen	fen	teng	tem	teng			
feng	sem	feng	tew	teu	teu			
few	feu	feu	ti	ti	ti			
fi	fi	fi	ting	tim	ting			
fin	fin	fin	to	to	to			
fing	fim	fing	tu	tu	tu			
fo	fo	fo	tun	tun	tun			
fu	fu	fou	tung	tum	tung			
fun	fun	fun	twi	tui	tui			
fung	fum	fung	twon	tuon	tuon			
fve	fiue	fiue	tyau	tiao	tiao			
fven	fiuen	fiuen	tye	tie	tie			
fwi	fui	fui	tyen	tien	tien			
fwon	fuon	fuon	tyew	tieu	tieu			
fyang	fiam	fiang						
fyau	fiao	fiao	Tf or df	C	Tf			
fye	fie	fie	Tfa	Ca	Tfa			
fyen	fien	fien	tfan	can	tfan			
fyew	fieu	fieu	tfang	cam	tfang			
fyo	fio	fio	tfau	cao	tfao			
fyu	fiu	fiu	tfay	cai	tfai			
fyun	fiun	fiun	tfé	ce	tfé			
Sh	X	Ch	tfeng	cem	tfeng			
Sha	Xa	Cha	tfeu	ceu	tfeu			
shan	xan	chan	tfi	ci	tfi			
shang	xam	chang	tfin	cin	tfin			
shau	xao	chao	tting	chim	tting			
shay	xai	chai	tsu	cu	tsu			
she	xe	che	tsun	cun	tsun			
shen	xen	chen	tsung	cum	tsung			
shew	xeu	cheu	tsve	ciue	tsiue			
shi	xi	chi	tsven	ciuen	tsiun			
shin	xin	chin	tswe	coe or cue				
shing	xim	ching	tswi	cui	tsui			
sho	xo	cho	tswon	cuon	tsuon			
shu	xu	chu	tsyang	ciam	tsiang			
shun	xun	chun	tsyau	ciao	tsiao			
shung		chung	tsye	cie	tsie			
shwa	xoam	choua	tsyen	chien	tsien			
shwang	xoam	chouang	tsyew	ciieu	tsieu			
			tsyo	cio	tsio			
			tsyu	ciu	tsiu			
			tsyung	cium	tsiung			

U Vowel

Religions.	English.	Portuguese.	French.	a	English.	Portuguese.	French.	The Estab- lished, or Natural.
	U Vowel	U	U		W	ho	ho	
	u		ou		whey	hoci	hoci	
	ul or eul	ul	lh		whe	hue	hue	
	ung	um	oum		when	hoen	hoen	
					whon ^a	huon	huon	
	V Conf.	V	V		Y	Y	Y & I	
	Va	Va	Va		Ya	Ya	Ya	
	van	van	van		yang	yam	iang	
	vang	vam	vang	b	yau	yao	iao	
	vay	vai	vai		yay	yai	yai	
	vey	vei	ve		ye	ye	ie	
	ven	ven	ven		yen	yen	ien	
	vi	vi	vi		yeng	yem		
	vin	vin			yew	yeu	ieu	
	vo	vo	vo		yin	yin		
	von	von	von		yo	yo	io	
	vû	vu	vu		yu	yu	iu	
	vung	vum	vum		yun	yun	iun	
	W	ho	ho	c	yung		iung	
	Whâ	hoa	hoa		ywe	yue	iue	
	whân	hoan	hoan		ywen	yuen	iuen	
	whâng	hoam	hoang		ywei	yui		
	whay	hoai	hoai		ywin	yuin		
	whe	hoe	hoe					

CHAP. V.

The RELIGIONS of CHINA.

INTRODUCTION.

IN China, like other Countries, the Inhabitants are divided by different Religions: The principal are four. The first is that of Nature, which is properly the established Religion, being professed by the *Literati*, and all Persons concerned in the Government. The second is that broached by *Lau-kyun*, a Philosopher; which seems to be a Corruption of the Law of Nature, restored afterwards by *Confucius*. The third is the Religion of the Imposter *Fo*, which consists of the grossest Idolatry, or Saint and Image-Worship, being the very Counter-part of the *Romish*. The fourth is that called *Ju-kyau*, which seems to be a Refinement on the first, and is professed by a Sect among the *Literati*. To these may be added the *Jewish*, *Mohammedan*, and *Romish* Religion, which have gained some Footing in the Empire.

THE Knowledge we have of the first four Religions^b, is owing chiefly to the Jesuit Missioners, who, to their own Observations, have added several Extracts from the *Chinese* Authors. But whether it proceeds from their Negligence, to enquire into Things, or a strong Propensity of misrepresenting other Religions, they have treated of them all, but the first, very imperfectly, inaccurately, and, it is to be suspected, in many Instances contrary to Truth. It is remarkable, with Regard to the Religion of *Fo*, that they suppress some Things, and disguise others, as if with Design to conceal the exact Resemblance it has with their own. But the Translator of *Du Halde* has drawn the Parallel; which it would be criminal to omit, especially at this Juncture. On the other Hand, they charge the Sect of *Ju-kyau* with Atheism, possibly to free the established Religion, from

^a In the Words of this Form, which generally come at the End of each Letter, the *o* is so obscure, or mute, that it seems to be an *e*. Hence some pronounce *when*, *hoon*, or *bun*. ^b The Missioners reckon three Sects, viz. those of *Confucius*, *Lau-kyun*, and *Fo*.

Religions.

which they have borrowed some Things in their own Worship, from that Imputation thrown on it by their Adversaries: However this be, we seem still to be very little acquainted with the real Systems of those three Sects.

S E C T. I.

Of the Established Religion of China, which is agreeable to the Law of Nature.

Chinese Worship of the Deity. Emperor, high Priest. Sacrifices established. Temple built. Separate Worship. Future State. Free from Idolatry, to what owing. Principal Fasts in use.

IT is the common Opinion of Authors, that some of the Descendants of *Noah*, after the Dispersion, having penetrated into *China*, about two hundred Years after the Deluge, there founded this vast Monarchy, and established natural Religion; of which many Traces are to be found in their canonical Books of the first Order, already spoken of ^a.

Chinese Worship

THE chief Object of Worship amongst the *Chinese*, is the supream Being, and Principle of all Things; whom they adored under the Name either of *Shang-ti*, that is, *supream Emperor*, or *Tyen* ^b, which with them signifies the same Thing: *Tyen*, say the Interpreters, is the Spirit that presides in Heaven, because Heaven is the most excellent Work produced by this first Cause. It is taken also for the material Heavens, the Sense being to be determined by the Subject to which it is applied. The *Chinese* say, that the Father is the *Tyen* of the Family; the Vice-Roy, the *Tyen* of the Province; and the Emperor, the *Tyen* of the Kingdom, &c. They likewise honour, but with a subordinate Worship, inferior Spirits, depending on the supream Being; which, according to them, preside over Cities, Rivers, Mountains, &c.

Of the Deity.

IT appears, especially from the *Shu-king*, that this *Tyen*, or first Being, is the Creator of all Things, solely independent, Almighty, Omniscient, knowing even the Secrets of the Heart; who watches over the Conduct of the Universe, so that nothing whatever happens but by his Orders; who is holy, without Partiality, and only affected with the Virtue of Mankind; superlatively just, punishing Wickedness in the most signal Manner, even in Kings, whom he deposeth: That public Calamities are his Warnings for beginning a Reformation of Manners, and are still followed by Acts of Mercy and Good-

ness: That Prodigies, or extraordinary Appearances, are sent to give Notice of the Miseries wherewith the State is threatened, that Men may reform their Manners, as the surest Way to appease the Anger of Heaven: Of these several Passages are produced as Instances.

The Effects, blisssed, or Natural.

THE Emperors have always thought themselves chiefly obliged to observe the primitive Rites, the solemn Functions of which belong to them alone, as being the Heads of the Nation: Thus they are Emperors to govern, Masters to teach, and Priests to sacrifice, for the greater Honour of the Deity. *Fo-hi*, who is supposed to have been one of the Heads of the Colony ^c, which came to settle in this extream Part of the East, bred, in a domestic Park, six Sorts of Animals, to serve as Victims in his Sacrifices; which he solemnly offered twice a Year, at the two Solstices, called the *Festivals of Gratitude* to *Tyen*; at which Time the Tribunals, as well as the Shops, were shut-up; nor were the People even permitted, on those Days, to undertake any Journey. *Shin-nong*, his Successor, appointed two others at the Equinoxes: The first in Spring, in Favour of Agriculture; the other in Autumn, after Harvest; the First-fruits of which he offered to *Shang-ti*: He likewise cultivated the Field, which furnished the Corn and Fruits for the same Sacrifice.

WHANG-TI, who succeeded *Shin-nong*, exceeding the rest in Zeal, built a large Temple, for offering the Sacrifices under Shelter, and instructing the People in their principal Duties. *Shau-hau*, Son of *Whang-ti*, increased the Pomp of the Sacrifice with Concerts of Music: But the last Years of his Reign were disturbed by the Conspiracy of nine *Chew-hew*, or feudatory Princes. Their Design being to substitute the Fear of Spirits to that of *Shang-ti*, they had Recourse to Magic; by which Means they disturbed Houses with evil Spirits, and so terrified the People with their Delusions, that they tumultuously required Sacrifice should be offered to those Spirits: But *Chwen-hyo*, his Nephew and Successor, extirpated the Race of the nine Enchanters, and restored Order in the Sacrifices.

HAVING reflected on the Inconvenience of assembling an active, restless People, in the same Place where the Emperor performed those Rites, he separated the Place of Instruction from that of Sacrifices, and established two great *Mandarins* as Presidents, chosen from among the Sons of the deceased Emperor; one of whom was charged with the whole Ceremonial, and the other took Care of the Instruction of the People. He also

^a See before, p. 185.

^b *Tyen* is properly Heaven, and *Tyen-chu*, Lord of Heaven; which last Title the Missioners, for better Certainty, gave the Deity.

^c But this is a mere Chimera. See *Universal History*,

vol. I. p. 126, in the Note.

Religion. settled Rules for chusing the Victims, ordering, that they should neither be lame, nor defective, nor of any other Sorts of Animals, but the six appointed by *Fo-hi*: Likewise, that they should be well-fed, and of a Colour agreeable to the four Seasons wherein the Sacrifices were made ^a.

Future State. It is true, that although the canonical Books, especially the *Shu-king*, place the Souls of virtuous Men near *Shang-ti*; yet it does not appear, that they have spoken clearly of everlasting future Punishments. In like Manner, though they affirm, that the supream Being created all Things out of nothing; yet they have not treated of it so distinctly as to judge, whether they mean a Production of all Things out of nothing: However, they have not denied the Possibility thereof; nor, like certain *Greek* Philosophers, asserted, that the Matter of the Universe is eternal. Again, the Missioners do not find, that they have treated explicitly concerning the State of the Soul; on the contrary, they seem only to have confused Notions of it, no Way agreeable to the Truth: Yet it cannot be doubted, but that they believe the Soul exists after its Separation from the Body, as well as the Certainty of Apparitions ^b.

Free from Idolatry. It is observable, that there is not to be found, in the canonical Books, the least Footstep of idolatrous Worship, till the Image of *Fo* was brought into *China*, several Ages after *Confucius*: That from the Time of that Philosopher, Magic, and divers other Errors, had infected the Minds of many: But the Learned, adhering to the Doctrine which they received from their Forefathers, had no Share therein.

THAT which has contributed greatly to the Preservation of the Religion of the early Ages in *China*, and preventing its being wholly destroyed, is, that the supream Tribunal of Rites has been established in the Empire, almost from the Time of its Foundation, with full Authority to condemn, or suppress any Superstitions that might arise. The Missionaries, who read the Decrees of the *Mandarins* composing this Tribunal, have observed, that though they sometimes in private practised certain Superstitions ^c; yet when they assembled in a Body to deliberate about them, they openly condemned them.

To what owing. *CHINA*, for many Ages, was a Stranger to the Superstitions to be met with in other Nations; who having but a very gross and imperfect Idea ^d

of the Deity, fell by Degrees to honour the Heroes of the Country with the Title of Gods. Whatever Veneration the *Chinese* have had for their greatest Emperors, they never paid Adoration to any but the supreme Being; and though they have discovered their Esteem and Respect for the Memory of great Men, who have been distinguished by their Rank, their Virtues, and Services, yet they have rather chosen to preserve their Memory by Tablets, (like those hung up in Honour of good Magistrates) inscribed with their Names and short Encomiums, than by Pictures or Images.

HOWEVER, the Troubles that happened in the Empire, the civil Wars which divided it, and the Corruption of Manners, which became almost general, had entirely banished the ancient Doctrine: But *Confucius* revived it, by giving fresh Reputation to the ancient Books ^d.

MAGALHAENS observes, that the *Chinese* ^{Principal Fasts.} have four principal Fasts, generally answering to the four Seasons: For when they design to perform their solemn Sacrifices, they fast the three preceding Days; and when they would implore the Favour of Heaven in Time of Famine, Pestilence, Earthquakes, extraordinary Inundations, or any other public Calamity, during these Days, the *Mandarins* live apart from their Wives; and, remaining Day and Night in their Tribunals, neither eat Flesh, drink Wine, nor discourse of any Business, especially in criminal Matters. The Emperor also keeps himself solitary in his Palace, upon the East Side of the supreme imperial Hall ^e.

WHAT relates to the moral Part of this established Religion, may be found in the Account already given of the canonical Books ^f.

SECT. II.

Sect of the *Tau-tse* ^e.

The Sect's Original: Of the Epicurean Kind. Liquor of Immortality: Emperors deluded by it: Yet support and honour this Sect. Folly of one. Impiety of another. Sacrifice to the Devil. Juggling Tricks. History of *Lau-tse*: His Course of Life and Death: Vanity and Folly.

L AU-KYUN ^h, is the Name of the Philosopher who gave Rise to this new Sect: His ^{The Sect's Original.}

^a Du Halde's *China*, vol. 1. p. 64, & seqq.

^b To prove this, the Author produces nothing but a Parcel of Dreams; only, one of them alcribed to *Confucius*, was judged by a learned Man to have been a real Apparition.

^c Le Comte says, this is owing to their being sprung, for the most Part, from idolatrous Families.

^d Le Comte's *Memoirs of China*, p. 316, & seqq. and Du Halde, as before, p. 646, & seq.

^e Magalhaens's *Relation of China*, p. 304. ^f See before, p. 185. ^g *Tau-tse* is the Name of a Book written by *Lau-kyun*.

^h He is also called *Li-lau-kyun*, and commonly *Pe-yang*, or *Lau-tan* [*P. Couplet. Scient. Sinens. proem. Declar.* p. 24.] His Name was *Li*, and his Surname *Eul*; but as he came into the World with white Hair, he was called *Lau-tse*, or the old Boy. See Du Halde, vol. 2. p. 167.

Religious.

Disciples, to make his Birth extraordinary, affirm, that he lay fourscore Years in his Mother's Womb, and came into the World by making his Way through her left Side, which killed her. His Books are still extant; but supposed to be much altered by his Followers: Nevertheless, they contain several Maxims and Sentiments worthy of a Philosopher, concerning the moral Virtues, and avoiding Honours, the Contempt of Riches, and that Elevation of the Soul, which, raising itself above terrestrial Things, believes, that it has a Sufficiency in itself. Amongst his Sentiments, there is one which he often repeated; especially when he spoke of the Production of the World: *Tay*, says he, (that is, the Law or Reason) *bath produced one, one hath produced two, two have produced three, and three have produced all Things* ^a. By this, says the Author, he seems to have had some Knowledge of the Deity ^b; but it was a very gross one.

Of the Epicurean Kind.

THE Morality of this Philosopher, and his Disciples, nearly resembles that of the *Epicureans*; it consists in putting-away vehement Desires and Passions, capable of disturbing the Peace and Tranquillity of the Soul. According to them, it ought to be every wise Man's Care to pass his Life free from Anxiety and Uneasiness; and to this End, never to reflect on what is past, nor be inquisitive after what is to come. They affirm, that to be agitated with ruffling Cares, to be busied about great Projects, to give one's self up to Ambition, Avarice, and other Passions, is to toil more for Posterity than ourselves; and, that it is Madness to purchase the Happiness of others, or pursue even our own, at the Expence of our Repose: Because, whatever we look upon as Happiness, ceases to be so, if it is accompanied with Trouble, Distaste, and Inquietude, and the Peace of the Soul be ever so little disturbed.

Liquor of Immortality.

FOR which Reason, these Sectaries affect a Calm, that suspends, as they say, all the Functions of the Soul: But as this Tranquillity must needs be disturbed with the Thoughts of Death, they boast of having found out a Liquor called *Chang-seng-yo* ^c; by Means whereof they may become immortal. They are addicted to Chymistry, and much infatuated with the Notion of the Philosophers Stone. They are likewise fond of Magic; and persuaded, that, by the Assistance of the Demons whom they invoke, they can succeed in their Designs. The Hope of escaping Death, induced a great Number of *Mandarins* to study this diabolical Art: The Women especially, being naturally curious, and exceeding

a fond of Life, madly gave into these Extravagancies. At length, certain credulous and superstitious Emperors brought this impious Doctrine in Vogue, and greatly multiplied the Number of its Followers.

The Rhapsodized, or Natural.

THE Emperor *Tsin-shi Whang-ti*, the Book-burner ^d, was persuaded by these Impostors, that they had actually found the Liquor of Immortality. *Vu-ti*, the sixth of the *Han* Dynasty, addicted himself wholly to the Study of magical Books, under a Leader of this Sect, (which he had embraced) named *Li-shau-kyun*. Hereupon, the Court was immediately filled with an innumerable Croud of these false Doctors. About this Time one of his Queens died; and being inconsolate for her Loss, one of these Impostors, by his Inchantments, caused her to appear before that Monarch. And this Apparition, with which he was surprized and terrified, more strongly attached him to the Sect. He several Times drank the Liquor of Immortality: But, at last, perceived he was as mortal as ever; lamenting too late his foolish Credulity.

HOWEVER, the new Sect suffered no Prejudice by the Emperor's Death; for it found Protectors in his Successors. Two of their most famous Doctors having been authorized to propagate the Worship which was paid to the Demon in a great Number of Temples already erected through the Empire, they sold every-where, at a high Price, little Images, representing the Croud of Spirits of Men, whom they had ranked among their Gods, and named *Syen-jin*, that is, *Immortals* ^e. This Superstition increased to such a Degree, that, under the Emperors of the *Tang* Dynasty, they gave its Priests the Title of *Tyen-tse*, that is, *Heavenly Doctors*. The Founder of this Race erected a stately Temple to *Lau-kyun*; and *Huen-tsong*, the sixth Emperor of the same Dynasty, caused his Statue to be brought with great Pomp into the Palace ^f.

THE Successors of the Head of this Sect were always honoured with the Dignity of great *Mandarins*, and reside in a Town of the Province of *Kyang-fu*, where they have a magnificent Palace. Crouds of People flock thither from the neighbouring Provinces, to procure Remedies for their Diseases, or to learn their Destiny, and what is to happen in the Course of their Lives. They receive of the *Tyen-tse* a Billet filled with magical Characters, and go-away well satisfied with the Sum they pay for it.

BUT the *Tau-tse* gained Ground chiefly under the Dynasty of the *Song*; whose third Emperor,

Honour this Sect.

^a See *Complet. Scient. Sinen. proæm. Declar.* p. 24. *Chang*, eternal; *Seng*, Life.

^d See before, p. 186.

^b He means the Trinity.

^c *Yo*, Medicine;

^e Here the Author unfairly represents their Matter, misrenders *Syen-jin Immortals*, instead of *immortal Men*. *Du Halde's China*, p. 648, & seq. *Le Comte's Memoirs of China*, p. 324, & seq.

Religious Folly of one. *Chin-tsong*, was ridiculously led-away with their Tricks and Forgeries. These Impostors, in a dark Night, hung-up a Book on the principal Gate of the imperial City, filled with Characters and magical Sentences for invoking Demons, giving out, that it had fallen from Heaven: Hereupon, the credulous Prince, out of great Veneration, went on-foot to fetch it; and after receiving it with the most profound Respect, carried it in a triumphant Manner into the Palace; where he inclosed it in a gold Box, and kept it with abundance of Care. These Cheats were the Men who introduced that Multitude of Spirits, till then unknown; whom they worshipped as independent Deities, and honoured with the Name of *Shang-ti*: They even deified some of the ancient Kings, and prayed to them.

Impiety of another.

WHEY-TSONG, the eighth Emperor of the same Line, carried the Superstition to such a Pitch, as to give the Name of *Shang-ti*, or Supreme Lord, to a Doctor of this Sect called *Shang-i*; who had acquired a great Reputation under the Dynasty of the *Han*. Till that Time, the Idolaters themselves had distinguished *Shang-ti* from other Deities. Thus a famous *Ko-lau*, who had written on this Subject, attributes the Ruin of the *Song* intirely to this ^b Impiety. In short, this Sect got Footing by Degrees, partly through the Protection of the Princes above-mentioned, partly by flattering the Passions of the Grandees, and partly by the Impressions of Wonder and Terror which they made on the Minds of the People. The Compacts of their Priests with Demons, the Lots which they cast, and the surprizing Effects of their magical Arts, infatuated the Multitude, still extremely prejudiced in Favour of these Impostors; who are generally called to heal Diseases, and exorcise ^c Demons.

Sacrifice to the Devil.

THEY sacrifice to this Spirit of Darkness three Sorts of Victims; a Hog, a Fish, and a Fowl: They drive a Stake in the Earth as a Kind of Charm, and trace upon Paper odd Sorts of Figures, accompanying the Stroke of their Pencil with horrible Cries and Grimaces. They make a frightful Din with Kettles and little Drums: And though often they do not succeed, yet they know how to procure Respect and Authority by

their Inchantments. They buy great Numbers of profligate Fellows, who follow the Trade of Divination. Though they have never seen the Person who consults them, they tell his Name, and all the Circumstances of his Family, in what Manner his House is situated, how many Children he has, their Names and Age; with an hundred other Particulars, which may be naturally enough supposed known to the Demons, and are strangely surprizing to weak and credulous Minds ^d among the Vulgar.

The Established, or Natural.

SOME of these Conjurers, after invoking the Demons, cause the Figures of the chief of their Sect, and of their Idols, to appear in the Air. Formerly they could make a Pencil write of itself, without any-body touching it, upon Paper or Sand, the Answers to Questions. They likewise cause all the People of any House to pass in Review in a large Vessel of Water; wherein they also shew the Changes that shall happen in the Empire, and the imaginary Dignities to which those shall be advanced who embrace their Sect. In short, they pronounce mysterious Words without any Meaning; and place Charms on Houses, as well as Mens Persons. Nothing is more common than to hear of these Sorts of Stories; and though, says our Author, it is very likely that the greater Part of them are only Illusions, yet it is not credible, that all should be so: For, many Effects ought, in Reality, to be attributed to the Power of the ^e Devil.

Juggling Tricks.

CHIN, a Philosopher of the Sect of modern *Literati* gives the following Account of the Birth, Death, and Doctrines of *Lau-kyun*, or *Lau-tse*. This Person, says he, was born towards the End of the Dynasty of the *Chew*, near the City of *Lin-pau*, in the District of *Ho-nan*. His Father, surnamed *Quang*, was a poor labouring Peasant, and seventy Years old before he could meet with a Wife; when having gained the Affections of a Country Wench, of the Age of forty, he married her. This Woman being one Day in a solitary Place, of a sudden conceived by the simple Commerce and Union of the vivifying Virtue of Heaven and Earth, and went with Child fourscore Years. The Master, whom she served, vexed that she should be so long without being delivered, turned her out of Doors; upon which

History of Lau-tse.

^a And have not the Popes been called Gods by some of the *Romish* Doctors, which is equally impious? ^b And yet both the Sect itself, as well as the Popes, are still in being; which shews such Conclusions to be groundless.

^c One Imposture naturally begets another; and why may not the Priests of *Asia* make Gain of them as well as the Priests of *Europe*? ^d Is not *Du Halde* himself one of these weak and credulous Persons, since he believes all the imposing Stuff which the *Tyen-tse* give out to bring Gain and Veneration to themselves?

^e *Du Halde*, in a Note, observes, the wiser Sort of People in *China* say, that these are false Reports spread by those Impostors; and that there is nothing real in them. The wise and honest Sort of People in *Europe*, doubtless, will say the same: Notwithstanding, the Jesuit, to keep-up Priestcraft, and the Influence of the *Romish* Clergy, over the Ignorant, impiously ascribes Power to the Devil, as if he would propagate Manicheism, or the Belief of two Principles.

^f *Du Halde*, as before, p. 649. ^g Part of his Book, translated by *Dentrecolles* the Jesuit, often before mentioned, is inserted in *Du Halde's China*, vol. 1. p. 665.

Religious.

she was constrained to wander about the Country, till, at length, under a Plum-Tree, she brought forth a Son^a, with Hair and Eyebrows as white as Snow. The Mother, who was ignorant of her Husband's Family Name, and knew only his Surname, called the Infant after the Tree under which it was born: Then, observing that the Tips of his Ears were exceeding long, she took from thence his Surname, and called him *Li-eul*, *Plum-Tree Ear*; but the People, who saw him so very white, called him *Lau-tse*, or *The old Boy*.

His Course of Life

WHEN he had attained a certain Age, he became Library-keeper to an Emperor of the *Chew*; by whose Favour he obtained a small Government. He made himself a Proficient in ancient History, and the Knowledge of the Rites of the early Ages: It was that which induced *Confucius* to go and discourse him about the Ceremonial, and the Talents of a good *Mandarin*^b. *Lau-tse*, in his old Age, foresaw the approaching Downfall of the *Chew* Dynaſty. He got on the Back of a black Cow, and, bending his Course Westward, arrived at the Entrance of a dismal Valley: This Passage was guarded by an Officer, named *I-bi*. The Book *Tau-tse*, containing five thousand Sentences, was composed by him in the City of *Chew-she*, in the District of *Tsin-chuen*. At length he died, and his Tomb is to be seen at *U*. This was the Beginning and End of *Lau-tse*: He could not, while he was living, prevent the Ruin of the Race of the *Chew*, whose Subject and *Mandarin* he was; and yet they would have us believe all the Fables which are confidently reported about his pretended Merit; and, among the rest, that, after his Death, he was placed at the Top of all the Heavens in Quality of the three Purities.

And Death,

WITH regard to his Doctrine, the same Author, whose Name is *Chin*, asks, what a fine System it is which has nothing for its Principle, and only teaches Indolence and Inactivity? To shew the Delicacy of his Reasoning, he cites a Passage from the Instructions he gave his Disciples; wherein, speaking in Praise of whatever is soft and contrary to the canonical Books, which extol Firmness, he says, *Consider my Tongue, does it not subsist whilst it is soft and flexible? On the contrary, is not that which destroys our Teeth their own Hardness?*

Vanity and Folly.

THE same Philosopher also contemns his Arrogance, in affirming, that he had found Means

to steal from Nature the vivifying Virtue, and could dispose of it just as he pleased. He adds, after such Pretences as these, he who had the most, vast, and ambitious Desires of all Men, is so silly as to tell us, that all is Vanity; that we ought to set our Hearts on nothing, though he himself was more fond of Life than any other Person; that there is nothing commendable, but a State of Inactivity and Indolence; yet he himself was always vigorous in his Pursuits. *Chin* farther ridicules him for pretending to make others immortal, and yet dying himself before he was an hundred. Lastly, he makes a Comparison between the Doctrines of *Lau-tse* and *Fo*; of which some Account will be given in the next Section.

S E C T. III.

Of the Sect of *Fo*, or *Fwe*.

I. Account of it from the Missioners.

Origin of this Sect. Strange Birth of Fo: Transformed to a God: Teaches contrary Doctrines: Fables invented of him: Is invoked. Bonzas moral Precepts. Arts to fleece People. An Instance. Story shewing how they gull the Credulous. Knavish Tricks. Priests, how propagated. Pilgrimages. Passports for Heaven. Images. Sanctified Cheats. Imposing Tricks. A knavish Mendicant. Sneer on a Jesuit. Their Sway in Families. Consecrated Trifles, for the other World. Assemblies of Men. Fasting, and Abstinence: A trick to get Money; and Cloak for Vice. Arts to keep their Followers stanch. Interior Doctrine of Fo: In what it consists. Quietism: Stupidity, Perfection: Its Progress opposed.

ABOUT sixty-five Years after the Birth of Christ, the Emperor *Ming-ti* introduced a new Sect in *China*, which is still more dangerous than the former, and has made a much more rapid Progress. This Prince, on Occasion of a Dream which he had, calling to Mind a Sentence said to be often in the Mouth of *Confucius*^c, viz. *That the holy One was to be found in the West*, sent Ambassadors into the *Indies* to discover who this Saint was, and search for the true Law which he taught. The Ambassadors supposing they had found it among the Worshipers of the Idol *Fo*, or *Fwe*^d, carried it into *China*, with

^a The monstrous Birth is here turned into a monstrous Pregnancy. ^b One of the Sect had alledged, that the Desire of long Life was the End of his Visit.

^c *Du Halde's China*, p. 669, & seq. ^d Couplet says, it has infected all the Chinese Books and Sects, excepting the Mohammedan. *Proæm. Declar. ubi sup.* p. 27. This and the following Notes are, for the general, those of the Translator of *Du Halde*. ^e See before, p. 190. a.

^f Called also *Fwe-kyen*, *Fo-tse*, and *She*, or *She-kye*, (corruptly *Shaka* by the Japanese;) by which last Name, *Couplet* observes, p. 28, that the whole Body of the *Bonzas*, (or Clergy) as well as their Religion, is understood.

Religious. the Fables and Superstitions, the Doctrine of the *Metempsychosis*, and the Atheism wherewith the Indian Books were filled. The Author says, that if the extraordinary Things, which his Disciples relate of him, are not so many Inventions, he should be apt to believe with St. Francis Xavier, that he was rather a Spirit than a real Man.

Strange Birth of Fo. THEY relate, that he was born ^b in that Part of the Indies which the Chinese call *Chung-tyen-cho*: That his Father (named *In-fan-wang*) was the King of this Country; and his Mother, called *Mo-ye*: That she was delivered of him through her right Side ^c, and died soon after he was born: That when she conceived, she almost constantly dreamed she had swallowed an Elephant ^d; and that hence arose the Honours paid to white Elephants by the Kings of the Indies, who often make War upon each other to procure this Sort of Animal: That he stood upright upon his Feet as soon as he came into the World; and walked seven Paces, pointing with one Hand to the Heaven, and the other to the Earth: Nay, that he even spoke, and pronounced distinctly the following Words, *There is none, either in Heaven or on Earth, who ought to be adored but I alone.*

Transformed to a God. AT the Age of seventeen he married three Wives, and had a Son, called by the Chinese *Mo-beu-lo* ^e. At nineteen he forsook his Wives, and all earthly Cares, to retire into a solitary Place, under the Guidance of four Philosophers, called by the Indians, *Jogbi*. At thirty, he was of a sudden transfused by the Divinity, and become *Fo*, [or a Deity] called by the Indians, *Pagod*. Henceforward looking upon himself as a God, he minded nothing else but propagating his Doctrine, doing the most wonderful Things ^f; and, by the Novelty of his Miracles, procured the Peoples Veneration. The Chinese (of the *Bonzian* Sect) have described these Prodigies, and represented them in Cuts in several large Vo-

lumes. It is scarcely credible how many Disciples this chimerical God gained: For they reckon fourscore thousand who were employed by him in propagating his impious Tenets through the East. Among this great Number there were ten most distinguished for their Rank and Dignity, who published five thousand Volumes in Honour of their Master. The Chinese call his Followers, (or rather Priests) *Seng* and *Ho-shang*; the *Tartars*, *Lamas*, or *La-ma-seng*; the *Siamese*, *Talapins*; and the *Japanese*, (or rather the *Europeans*) *Bonzas*.

HOWEVER, this new God found himself mortal as other Men; for he died at the Age of seventy-nine. Finding Death approach, he declared to his Disciples, that, till that Moment, he had spoken to them solely in Parables and Figures; under which, for forty Years, he had concealed the Truth: But, that being about to leave them, he would communicate his real Doctrine; which was, that there is no other Principle of Things but Emptiness and Nothing; that from Nothing all Things proceeded, and to Nothing all will return; this being the End of all our Hopes. But his Disciples adhered to what he first taught; and their Principles are directly opposite to Atheism.

His Disciples did not fail to spread a great Number of Fables after his Death ^g, and easily persuaded credulous People, that their Master had been born eight thousand Times: That his Soul had successively passed into different Animals; and that he had appeared in the Form of an Ape, a Dragon, a white Elephant, &c. This was plainly done with Design to establish the Worship of this false God, under the Shape of various Animals: Accordingly these different Creatures, through which the Soul of *Fo* was said to have passed, were adored in several Places; the Chinese themselves built many Temples to all Sorts of Images, which multiplied exceed-

^a Could the *Bonzas* themselves believe any Thing more stupid than these Jesuits, who yet are every Moment ridiculing the Stupidity of the *Bonzas*? ^b *Le Comte* says, a thousand Years before Christ.

^c On Occasion of his monstrous Birth, *Couplet* observes, that this Saviour of Mankind, as his Followers call him, had more of the Nature of a Viper than a Man; and, that the Name *Foe*, (as he writes it) being compounded of *Non* and *homo*, intimates as much.

^d *Couplet* has it, that the Mother dreamed, a white Elephant passing down her Throat, entered into her Womb; whence she was reported to have conceived by an Elephant: But that others more rightly conjectured, that the Devil, stealing human Seed, got her with Child in the Shape of that Beast. (*Coupl. ubi supr. p. 28.*) This is Philosophy, and Divinity, truly worthy of the Jesuits.

^e According to *Couplet*, *Lo-beu-lo*. ^f The Author says, by the Assistance of the Devil. He had better have denied he did any such Things.

^g Our Author omits several very material Things related by others. *Couplet* tells us, that his Body was burned with odoriferous Wood, according to the Custom of the Country; and his Ashes, as they say, distributed among Men, Spirits, and Dragons of the Sea: That one of his Teeth was sent as a Present to the King of the Island of *Ceylan*, where it was worshipped, till *Constantine*, the Duke of *Braganza*'s Brother, having taken it with other Spoil, burnt it, and scattered the Ashes, refusing to release it for a vast Sum: And, that the *Portuguese* Historians, in calling it the Tooth of an Ape, have not erred, since *Fo* is worshipped in *Ceylan* in the Figure of an Ape, as he is worshipped in other Places under various Forms and Names. (*Coupl. ubi supr. p. 29.*) By this Passage, it appears, that the Religion of the *Bonzas* has a great Connection with that of the *Indians*, if it be not at Bottom the very same: Yet the Missioners take little or no Notice of this Conformity.

Religions. ingly throughout the Empire. *Mo-o-kye-ye*, a Disciple more dear to him than all the rest, he trusted with his greatest Secrets, and charged more particularly to propagate his Doctrine^a: He enjoined him not to make use of Proofs and Arguments to support his Tenets; but only to put, at the Head of his Works, which he should publish, these few Words: *It is thus that I have learned.*

Is invoked. THIS *Fo*, in one of his Books, speaks of a Master more ancient than himself, called by the *Chinese*, *O-mi-to*, and corruptly by the *Japanese*, *Amida*: This Person appeared in the Kingdom of Bengal, and the *Bonzas* pretend, that he attained to such a high Degree of Sanctity, and had acquired such abundant Merit, that it is sufficient, at present, to invoke him to obtain Pardon for the greatest Crimes^b. On this Account, the *Chinese* of this Sect have continually in their Mouths these two Names, *O-mi-to*, *Fo*^c: They think, that after the Invocation of these pretended Deities, they are effectually purified, and may give a Loose to their Passions afresh, since to wipe-off the Score they have nothing to do, but to invoke them again^d. The last Words of *Fo*, when he was dying, gave Rise to a Sect of Atheists among a few *Bonzas*. A third Sect endeavoured to reconcile the two Doctrines, by the Distinction of the exterior, and the interior: The first being more suitable to the Capacity of the People, prepared their Minds to receive the second; which was fit only for elevated Minds, and remains like the Arch, after the Center-Frame, on which it was built, is taken away.

Bonzas moral Precepts. THE Morality, which the *Bonzas* are very careful to inculcate, is contained in the exterior Doctrine: They say, there is great Difference between Good and Evil; that after Death there will be Rewards for the Well-doers, and Punish-

ments for those who have done Evil: That there are Places appointed for the Souls of both, wherein they are stationed according to their Merit: That the God *Fo* was born for a Saviour to Mankind, and to bring back those to the Way of Salvation who had strayed from it: That it was he who expiated their Sins, and procured them a happy new Birth in the other World: That there are five Precepts to be observed; the first, not to kill any living Creature; the second, not to take what belongs to others; the third prohibits Impurity, the fourth Lying^e, and the fifth drinking of Wine.

BUT, above all Things, they must not be wanting in the Practice of certain charitable Works, which their Guides prescribe: "Use the *Bonzas* well, say they, and furnish them with every Thing necessary for their Subsistence; build them Monasteries and Temples, that by their Prayers, and their Penances, they inflict on themselves for the Expiation of your Sins, they may deliver you from the Punishments you are liable to^f. At the Funeral-Obsequies of your Relations, burn gilt and silver Paper, together with Garments and Silks; all which, in the other World, shall be changed into Gold, Silver, and real Garments: By this Means your departed Kindred will be supplied with the Things they want, and have wherewithal to gratify the eighteen Guardians of the infernal Regions; who without these Bribes would be inexorable, and treat them with great Rigour. If you neglect these Commands, you must expect nothing after Death, but to be delivered over to the most cruel Torments: Your Soul, by a long Course of Transmigrations, shall pass into the vilest Animals; and you shall appear again in the Form of a Mule, a Horse,

^a But it does not appear, that ever he thought of laying Claim to a Supremacy on these Words; as the European Popes have done on Words not so strong.

^b Here these Asiatic Catholics have gotten the Doctrine of Merits and Supererogation: And, indeed, the European Catholics seem to have copied almost all their Religion from them.

^c This is like the Papists *Jesu Maria*. ^d This answers to the Popish Confession, and Invocation of Saints at privileged Altars, &c. whereby the most atrocious Sins are pretended, in like Manner, to be expiated and done away.

^e It being absolutely necessary for every Religion to have the Appearance of Goodness, the *Bonzas* have taken Care to teach the moral Doctrines; but, as a due Observance of them, is utterly inconsistent with their Views of becoming rich and powerful, they have taken no less Care to set them aside by other Doctrines; which, to the unthinking or major Part of Mankind, may appear equally good and necessary. And this is the very Course taken by the Church of Rome. They admit the Decalogue; but, by their sanguinary Laws against Heretics, (made to secure their Usurpations) they have first repealed the Command against Murder; whence have arisen their Crusades, Massacres, Persecutions, solemn Executions, Dragoonings, Confiscations, Banishments, &c. By decreeing no Faith is to be kept with Heretics, they authorize Perjury, and dissolve one of the chief moral Bonds of Society; and, by making it lawful to spoil Heretics, and seize their Possessions, they have abrogated the Command which forbids Robbing and Stealing: By the Doctrine of the deposing Power in the Pope, they violate the Obedience due to Sovereigns, and overturn civil Government. Thus, after admitting the moral Principles, which are of an universal Nature, they teach their Followers to violate them with respect to all Mankind; excepting those of their own Persuasion, who make but a small Part of the Whole.

^f Can the Author be angry with the *Bonzas* for this, or think they do amiss? Do not the *Romish* Clergy inculcate the very same Doctrine among the Laity?